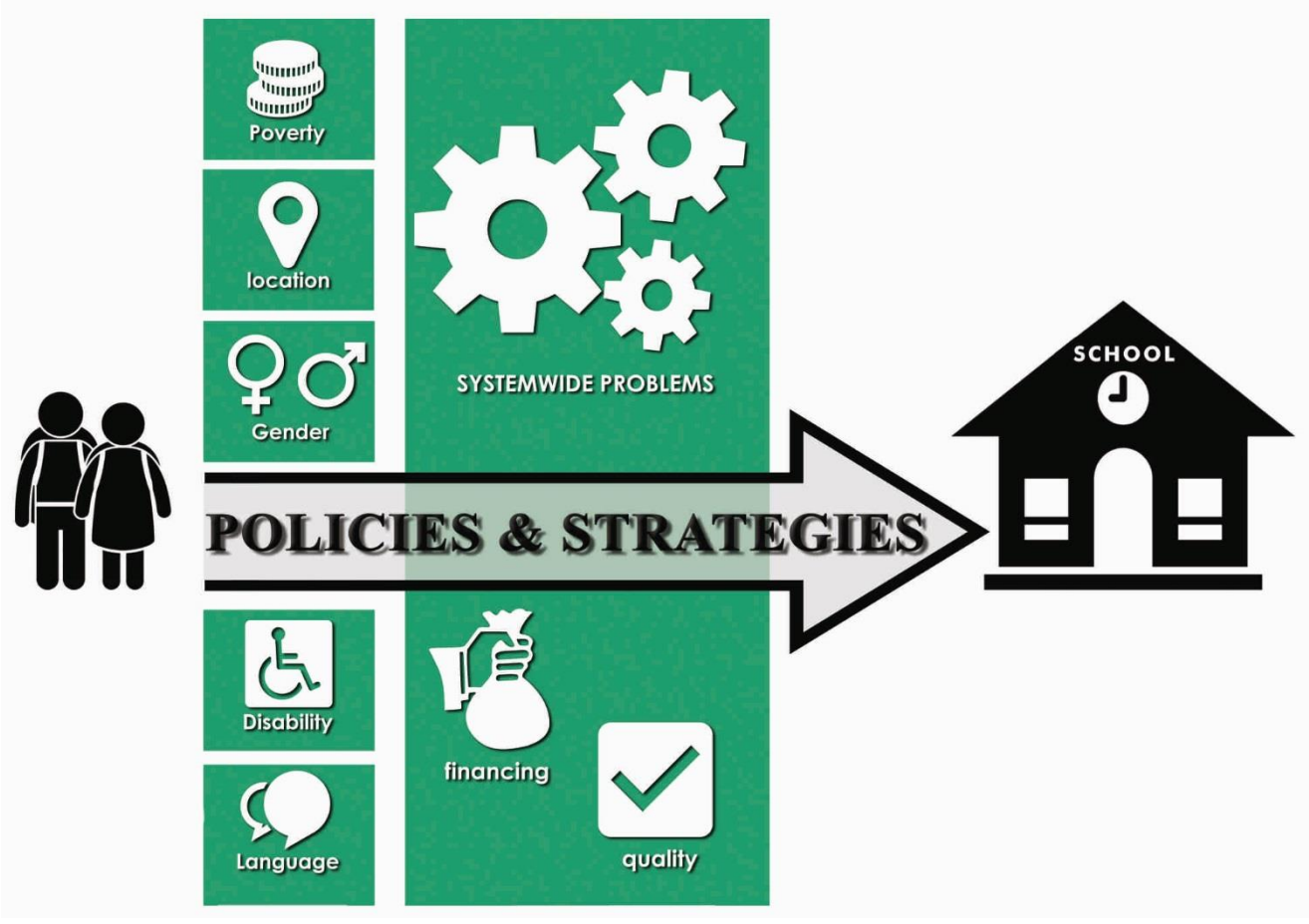
Standing Committee
for Economic and Commercial Cooperation
of the Organization of Islamic Cooperation (COMCEC)

Education of Disadvantaged Children in the OIC: The Key to Escape from Poverty



COMCEC COORDINATION OFFICE
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EXECUTIVE SUMMARY

This report is prepared for COMCEC to tackle the issue of access to quality education for disadvantaged children across OIC countries. It aims to provide a comparative overview and situation analysis in OIC member countries by employing a desk review, microdata analysis and in-depth interviews.

Conceptual Framework and Methodology

Education is strongly linked with poverty. Higher levels of education lead to better life outcomes in terms of health, life skills, job skills and earnings. However, inequality of opportunities in access to education put children at a disadvantage from the beginning of their lives by decreasing their chances to access education. Starting life with poor education outcomes later turn into a higher likelihood of being poor.

Children may be prevented from access to education due to a number of circumstances that they have no control of which became barriers for them in front of access to quality education. These could be child or household related circumstances like poverty, gender or disability. Apart from child or household related circumstances system wide problems also prevent children from accessing schools or even when they have access their achievements could stay low due to low quality of education. Yet these barriers could be overcome by policies and strategies of governments.

The barriers that are focused on in the report are i) poverty (ii) location of residence, iii) gender, iv) having disability and special needs, v) language and being minority. In addition to these barriers, system wide problems such as low level of financing of the education system and lack of quality education are also added as barriers that affect education outcomes of all children in the country.

In the report first an overview of the status and trends in access to education in the world and in the OIC countries is presented. Secondly the report provides information on barriers and bottlenecks to access and policies and programs that are in place to address these barriers in the world and in the OIC. Next, the same conceptual framework is also applied to case countries (Senegal, Turkey, Pakistan and Jordan) in more detail while making use of microdata from Demographic and Health Surveys (DHS) at the household level.

Overview of education in the OIC Member States

In the last two decades, OIC member countries improved access to education. However, universal primary education has not yet been achieved in a large number of the member countries. In 24 countries (out of 50 with data available), net enrolment rates at the primary level are lower than 90 percent.

Country income is positively with enrolment rates for the OIC countries. This correlation is weaker for primary enrolment rates since primary enrolment rates are already generally high while for pre-primary, lower secondary and upper secondary education enrolment rates are more

strongly correlated with country income. Yet some countries manage to perform better than predicted by their income levels.

Poor children have difficulty in reaching education in the OIC member countries compared to their wealthier counterparts. Poor children are also more disadvantaged in access to lower secondary education compared to primary education. Even when they have access to education poor children are left behind in terms of their achievements signalling that the quality of the education that they receive might be lower. On average poor children score less in participating member countries in PIRLS and TIMSS tests compared to rich children.

Living in rural areas also puts children at a disadvantage in the OIC member countries in access to primary education. The older the children get the wider the gap becomes. Children living in rural areas in the OIC are again more disadvantaged in their access to lower secondary education. These children are also at a disadvantage in access to quality education as evidenced by their lower average scores in international assessment tests compared to their urban counterparts.

In most of the member countries large gaps between girls and boys do not exist in access to education. Rather than gender alone, gender together with poverty is a more important predictor of lack of access to education. In fact gender inequality in access to primary education turns out to be a problem mainly for poor children.

Disabled children are at a disadvantage in access to education. In countries like Sudan, Chad and Indonesia, disabled children were found to be more likely to be out of school compared to their counterparts without a disability. Furthermore disability type also affects access.

Children not speaking the language of instruction in the country are also found to be disadvantaged in access to education. An analysis of DHS surveys for 23 countries including a number in the OIC shows that even controlling for socioeconomic background, gender of the child and urban status, language continues to determine children's attendance in school in these countries.[1]

Apart from these barriers, low levels of financing and low quality education prevent children from accessing schooling and learning what they are supposed to. Education is not a priority in most member countries' budgets. Teacher shortages, teachers' levels of education and their absence from the classrooms are problems seen in the OIC. More than half of the OIC countries spend less than 15 percent of their government budget on education.

[1] Smits, Huisman, & Kruijff (2008)

In the OIC there is a widespread problem of quality in education. Low quality education is observed as indicated by low learning achievements in comparative assessment tests like PIRLS, TIMSS and PASEC. OIC member countries generally perform worse compared to other participating counties in these tests. While in fact, participating member countries should actually be achieving better outcomes given the level of government expenditure on education.

Recommendations

While country contexts are different and each country should tailor their response to answer their own needs, a number of interventions are underlined here to help policymakers learn about what is being applied and what works well in different country contexts. Ultimately, government will, planning, budgeting and efficient spending are the most fundamental strategies to follow for all governments.

Looking at the interventions applied across the world, in the OIC and in case countries, the responses that have been employed and that have worked could be listed as follows[2]:

- **For the alleviation of the poverty barrier**, abolishing school fees coupled with conditional cash transfers and school feeding programmes seem to work well.
- **For the alleviation of the location barrier**, setting up schools in existing buildings in difficult to reach areas or building new schools works well. Another approach is to provide free transportation to children to allow them to reach the schools that are closest.
- **For the alleviation of the gender barrier**, putting gender equality in education as a priority in national strategies and plans works well. Targeting girls specifically or having a gender perspective in the programmes is also important. Lastly, public awareness campaigns can be implemented to change the attitudes of households.
- **For the alleviation of the disability barrier**, national planning and having legislation that promotes inclusive education with clear steps to be followed is important. To ensure that these goals work in practice, infrastructure development to accommodate disabled children and teacher training to increase awareness surrounding disabilities are important complementary measures.
- **For the alleviation of the language barrier**, bilingual education programmes or non-formal education programmes supporting children can be adopted. Alternatively, these children can be better prepared for the formal education system by attending pre-primary education in the country's instructional language.
- **For making the education system work better to deliver higher quality results**, first it is necessary to finance the system adequately (at least 15 percent of the government budget is recommended to be allocated to education). Next it is important

[2] These interventions are outlined in more detail in Chapter 1 for the world in general, in Chapter 2 for the OIC countries and in Chapter 3 for the case countries. Chapter 4 summarizes recommendations emerging from these interventions as good examples.

to make schools more accountable for the results that they achieve. This could be done by making schools' education outcomes more transparent to parents. Public-private partnerships can also work well. Yet the most effective interventions for improving quality seem to be those that target teachers. In particular, pedagogical interventions, repeated teacher training and providing performance incentives for teachers seem to work well in improving education outcomes.

INTRODUCTION

Poverty remains an issue for OIC member countries. On average poverty -as defined as living under 1.90$ poverty line- is 25.2 percent in OIC member countries in 2010s (in 37 countries with available data) as opposed to 10.7 percent in the World in year 2013.[3] Especially among lower middle-income and low-income member countries poverty is a more persistent problem. On average poverty rate is 2.2 percent among upper middle-income member countries, 18.4 percent among lower middle-income member countries and 45.7 percent among low-income member countries.[4]

Education is strongly linked with poverty. Higher levels of education lead to better life outcomes in terms of health, life skills, job skills and earnings. However, inequality of opportunities in access to education put children at a disadvantage from the beginning of their lives by decreasing their chances to access education. Starting life with poor education outcomes later turn into a higher likelihood of being poor. In fact, even ensuring a basic level of education for all children would decrease poverty considerably. It is shown that if all children in low-income countries learned basic reading skills when they are leaving school a g percent decrease in world poverty could be observed.[5]

While OIC member countries improved access to education in the last two decades inequalities remain in many countries in access to education due to the bottlenecks and barriers. Overall gross enrolment rate in primary education is 101.5 percent on average in the OIC member countries in 2014. Yet this average, masks the intercountry differences as well as the differences in access to education of children born into different circumstances. Poor children, children living in rural areas, girls (and sometimes boys), children not speaking the instructional language in the country and disabled children are generally left behind.

Due to these circumstances that the children are born into and on which they have no control of inequality of opportunities in access to education could be the case for children. Inequality of opportunities is observed when these circumstances turn into barriers and bottlenecks for children's access. Effective policies and strategies developed by governments is key to overcoming these bottlenecks and barriers and ensuring that all children could have an equal start in life.

3 Data is obtained from World Bank World Development Indicators. The latest data for member countries is used in calculating the averages.
4 Data is obtained from World Bank World Development Indicators. The latest data for member countries is used in calculating the averages. No data was available for high-income countries while data is available for 8 upper middle-income member countries (out of 16), 15 lower middle-income member countries (out of 18) and 14 low-income member countries (out of 16).
5 UNESCO (2014a)

IMPORTANCE OF EDUCATION AND ITS LINK WITH DEVELOPMENT PROCESS

Education is recognised as a *"catalyst for development"*[6] not only because it paves the way for economic empowerment and growth, but also because it is the key to building healthy and prosperous lives. Recognising education as a fundamental human right, the United Nations concentrated on improving access to and quality of education both in the Millennium Development Goals (MDGs) and in its post-2015 agenda via the Sustainable Development Goals (SDGs). When formulating the MDGs, United Nations Development Programme (UNDP) defined MDG number 2 as "Achieve universal primary education". The target was specified as, by 2015, ensuring that all children complete primary school education.[7] Despite all the efforts, this target was not completely accomplished. While the target was to ensure that all children complete primary education, the number of out-of-school children were only halved from 2000 to 2015, and, as of 2015, 57 million school-age children were still not enrolled in school.[8] Going from the MDGs to the SDGs, a more comprehensive goal on education namely *Goal 4 – Quality Education* has been targeted in the post-2015 agenda. While access to primary education and successful completion are still goals, the SDGs also incorporate quality, equality, and pre-primary education as areas of focus.[9] However, even though great attention has been drawn to the social and economic returns of educational investments, progress in attainment in education seems to be stagnant, and challenges such as access to education, inequity, gender inequality, and quality education still remain.

Poor educational attainment and poverty reinforce one another. A low level of education increases the likelihood of being poor. A recent report by UNICEF shows a negative correlation between average years of education for adults aged 25-34 in a country and percentage of people living under 2$ a day poverty line with poverty rate decreasing by 9 percent for each additional year of schooling.[10] In the same vein UNESCO (2014a) calculates that if all children in low-income countries learned basic reading skills when they are leaving school 171 million fewer people would live under 1.25$ a day poverty line which is a 12 percent decrease in world poverty. While this is the case when children are born into poor families they generally start their lives at a disadvantage. On a global level, average results show that playing field is tilted in favour of richer children. On average 76 percent of the poorest children of primary or lower secondary school age go to school as opposed to 93 percent of the richest children.[11] Moreover, children of wealthier families are more likely to complete more quality and higher level of schooling whereas children coming from disadvantaged backgrounds are more likely to leave

6 UNESCO (2014b)
7 United Nations (2015a).
8 (United Nations, 2015b)
9 (United Nations, 2016).
10 (UNICEF, 2015)
11 According to the results obtained by Hattori (2014) which uses 63 countries MICS and DHS datasets conducted between 2008 and 2012.

school early or receive poor quality education.[12] This kind of inequality of opportunity leads to wider inequality of outcomes later in life putting people in a vicious circle of poverty.

Higher levels of education is positively correlated with labour market outcomes and earnings. According to the analysis conducted in the report Education at a Glance 2016 by OECD it is shown that in OECD countries unemployment rate is 12.4 percent among adults with less than upper secondary education while it is 7.3 percent for adults with upper secondary or post-secondary non tertiary education degree and 4.9 percent for adults with tertiary education.[13] According to the same report, adults with higher education levels are also more advantaged with regards to labour market earnings. In OECD countries, on average, adults without an upper secondary education degree earn 19 percent less for full-time employment compared to adults having an upper secondary education degree.[14] This is also the case in other country contexts. In fact a study of 139 countries show that returns to schooling is highest in Rwanda, South Africa, Ethiopia, Namibia and Burundi which are all in Sub-Saharan Africa.[15]

Education has substantial positive effects on health outcomes. There is strong empirical evidence showing that education is at least as important as income when comparing their effects on health outcomes.[16] The effects and benefits of education on health outcomes are multidimensional, and can be found at the individual, community and larger social/cultural levels.[17] At the individual level, research shows that morbidity rates are lower for persons who completed a higher level of education. More educated individuals are also less likely to suffer from chronic diseases and their physical and mental status are more likely to function efficiently.[18] Evidence also suggests that an additional four years in education decreases under-5 mortality of their children by 1.8 percentage points, reduces risk of cardiovascular diseases and diabetes by 2.16 and 1.8 percentage points, respectively. Moreover, more educated individuals are found to have fewer lost days at work due to sickness or poor health.[19]

Starting from pre-primary education, access to quality education builds a solid foundation for a more inclusive society where every individual is provided opportunities for life-long learning. Pre-primary education becomes a child's first encounter outside of their immediate environment. Taking into account that the first years in life are crucial, ensuring a safe, secure, high quality brain stimulating environment would enable children to thrive. Newly conducted research finds that children who received quality early childhood education reached significantly better outcomes compared to those who did not receive centre-based child care or received lower quality care.[20] Investing in children at early ages narrows down the gap between

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[12] Cutler & Lleras-Muney (2006); Heckman (2011)
13 (OECD, 2016a)
14 (OECD, 2016a)
15 (Montenegro & Patrinos, 2014)
16 (Feinstein, Sabates, Anderson, Sorhaindo, & Hammond, 2006)
17 (Zimmerman, Woolf, & Haley, 2015)
18 (Cutler & Lleras-Muney, 2006)
19 (Cutler & Lleras-Muney, 2006).
20 Garcia, Heckman, Leaf, & Prados (2016)

wealthier children and children from disadvantaged backgrounds. Evidence suggests that when disadvantaged children are provided high quality education from age 0 to 5, the rate of return for every dollar spent on this education reaches 13 percent per annum.[21]

Education can serve as an equalizer in society by closing the deficit emerged as a result of gender-based differences and discriminations. Provision of equal opportunities in terms of access, attendance, equity and equality for both boys and girls starting from the early years contributes to their future opportunities. While investing in both boys' and girls' education is crucial, educating girls pays off in greater terms. When girls' education is assured, their economic productivity and family income increase. Higher educated women have more control in their own life and they are more likely to delay marriages, have lower fertility rates, and have better health outcomes.[22] For instance, if women in sub-Saharan Africa or South and West Asia had completed secondary school education, it is estimated that teenage pregnancies would drop by 59 percent, from 3.4 million to 1.4 million.[23] Moreover, the rate of return in secondary schooling is higher for girls than boys, 18 percent vs. 14 percent, respectively.[24]

Education also has potential to create awareness on environmental protection, resilient cities, sustainable agriculture, consumption and climate change and can be a tool for achieving sustainable development goals. As urbanisation is a fast-growing trend in the world, life in cities creates various opportunities along with social, economic and environmental challenges. Education is one of the main reasons people migrate to big cities. As the education industry is mainly driven in urban cities, economic development and innovation also accrue there. While more crowded cities bear more problems, such as traffic congestion or air pollution, innovations responding these problems also are born in these urban havens. More educated people are more likely to be concerned about the environment and become advocates of sustainable development solutions.[25]

BACKGROUND ON THE REPORT

OIC is an inter-governmental organization composed of 57 countries from diverse geographic locations and income groups. These countries are spread over four continents; Africa, Asia, Europe and South America. OIC countries are also diverse with respect to their income groupings. Overall out of the 57 member countries 7 of them are high-income, 16 of them are upper middle-income, 18 of them are lower middle-income and 16 of them are low-income countries.

The Standing Committee for Economic and Commercial Cooperation (COMCEC) of the Organization of Islamic Cooperation (OIC) adopted poverty alleviation as a cooperation area in 2012. In this regard, the Working Group on Poverty Alleviation publishes studies on

21 Garcia, Heckman, Leaf, & Prados (2016)
22 (UNESCO, 2014b; USAID, 2008)
23 (UNESCO, 2014b).
24 (G Psacharopoulos & Patrinos, 2004).
25 (UNESCO, 2014b; World Values Survey, 2014)

various topics around the theme of poverty across OIC countries, identifying challenges and developing recommendations. This report is prepared for COMCEC to tackle the issue of access to quality education across OIC countries. It aims to provide a comparative overview and situation analysis of disadvantaged children's access to education in OIC member countries by employing a desk review, microdata analysis and in-depth interviews.

This report is structured in six chapters. This report continues with the introduction describing the link between education and development and poverty and continues with a general overview of access to education in the world. The chapter then continues with presenting the conceptual framework. Conceptual framework outlines the effects of different bottlenecks and barriers and the interventions that are applied from all around the world that are used to alleviate these bottlenecks and barriers in access to education are summarized. Chapter 2 gives the overview of OIC countries with respect to access to education in general and continues showing the effect of bottlenecks and barriers in the OIC. After presenting the persistence of barriers in the OIC the chapter continues with presenting policies and strategies used to alleviate these problems in the OIC countries. Chapter 3 presents the same issues using an in-depth analysis of four case countries; Pakistan, Jordan, Senegal and Turkey. Chapter 4 presents the recommendations that could be adopted by the countries to improve education outcomes. Chapter 5 concludes the report.

1. CONCEPTUAL FRAMEWORK AND METHODOLOGY

Children may have difficulties in access to education due to a number of barriers and bottlenecks which need government attention for developing special policies and programs. Not all children have equal access to quality education around the world and lacking access is not random. Circumstances that children are born into often determine their chances of accessing quality education. Children from disadvantaged backgrounds may have no control over these circumstances that systematically turn into barriers and bottlenecks in front of access to education.

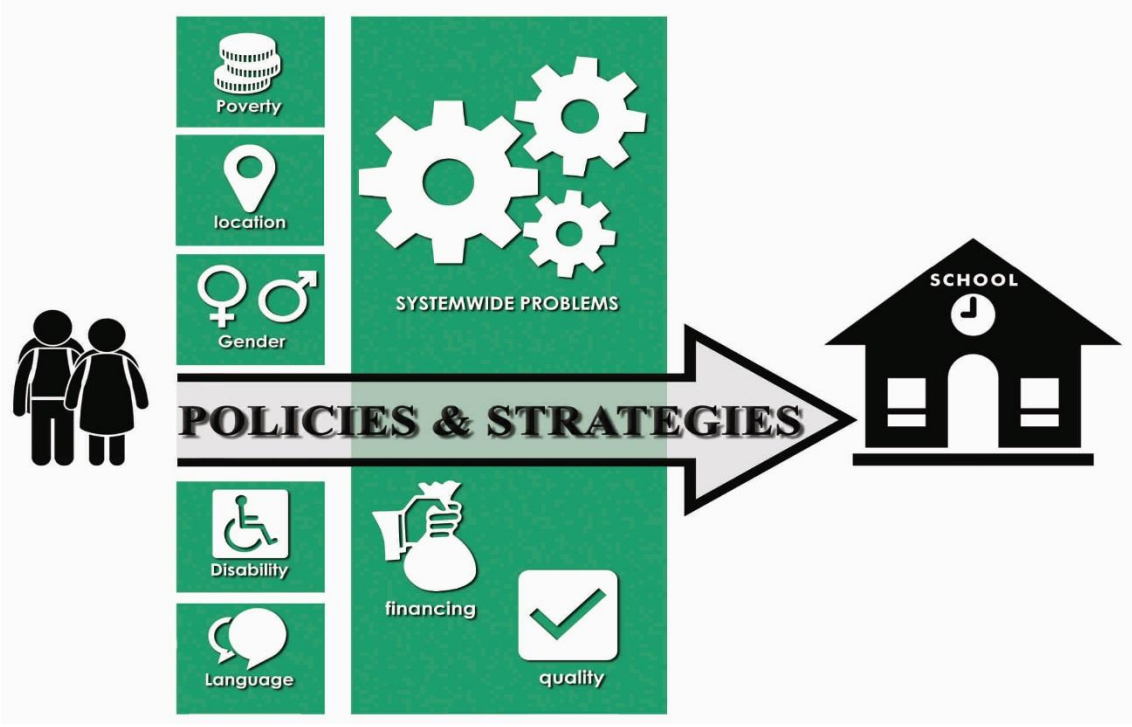
This report firstly takes an overview in the world and in OIC countries into the status and trends in access to education. Secondly the report considers barriers and bottlenecks to access and policies and programs that are in place to address these bottlenecks. In this conceptual section of the report the status of access to education and barriers to access are generically defined for the whole world. Policies and programs that address these bottlenecks are also exemplified with programs from across the world. In the next section, the conceptual framework is applied to OIC countries in particular looking at status of access to education, bottlenecks and barriers to access and policies and programs that improve access in these countries.

In the second part of the report where we consider case countries in detail, we apply the same conceptual framework in more detail and take the framework to microdata at the household level. These barriers are analysed in the country case studies at the household level using microdata coming from Demographic and Health Surveys (DHS) carried out in case countries. Using these micro datasets, the report looks at the link between circumstances (opportunities) and access to education services over time for four case countries: Jordan, Pakistan, Senegal and Turkey.

In each of the case countries, Human Opportunity Index for access to education at the primary and secondary levels is calculated over time looking at a decomposition of the index between increases in coverage and redistribution of services to the poor. A decomposition of changes in the human opportunity index over time and the components of what contributes to inequality of opportunities is also calculated using a Shapley decomposition in these cases. Hence the microdata analysis in each case study provides the main bottlenecks to access for the case countries as can be evaluated using household level data.

Figure 1 illustrates the conceptual framework of the report. Children may be prevented from access to education due to a number of circumstances which turn into barriers. Apart from child or household related circumstances like poverty, gender or disability system wide problems also prevent children from accessing schools or even when they have access their achievements could stay low due to low quality of education. Yet as depicted in the figure these barriers could be overcome by policies and strategies of governments.

Figure 1 Conceptual framework



Source: Authors' elaboration.

The barriers that are focused on in the report are i) poverty (ii) location of residence, iii) gender, iv) having disability and special needs, v) language and being minority. In addition to these barriers, system wide problems such as low level of financing of the education system and lack of quality education are also added as barriers that affect education outcomes of all children in the country. When these barriers are not addressed by the governments then children become disadvantaged and they could be left behind and prevented from realising their potential in thriving in life through education. However these barriers and bottlenecks can be overcome with governments' efforts and with good policies and strategies.

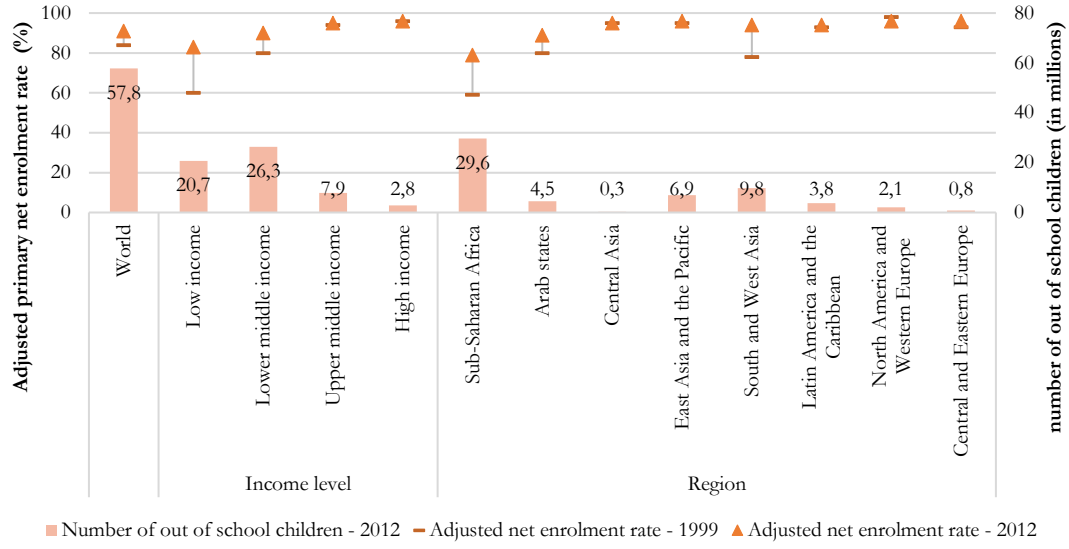
1.1 STATUS AND TRENDS IN ACCESS TO EDUCATION IN THE WORLD

Overall the world is close to achieving universal primary enrolment but there are disparities in between regions and in between income groups of countries. As of 2012, 91 percent of primary school age children in the world were enrolled in school (See Figure 2).[26] Primary school enrolment improved in the last decades. Adjusted primary net enrolment rate was at a lower rate in 1999 with 84 percent. However, regional disparities and disparities based on countries' income group continue to remain. In 2012, 83 percent of primary school age children were enrolled in school in low-income countries on average as opposed to 96 percent

26 UNESCO (2015)

in the high-income group (See Figure 1). In Sub-Saharan Africa the adjusted primary net enrolment rate increased from 59 percent in 1999 to 79 percent in 2012. Yet it remains the most disadvantaged region in the world in terms of school enrolment rates. Overall, progress in enrolment rates has stalled in the last decade. According to UNESCO estimates, this signals that the universal primary education goal in the SDGs may not be reached by 2030.[27]

Figure 2 Adjusted primary net enrolment rate (left axis) and number of out of school children of primary school age (right axis), by income group and region



Source: UNESCO (2015)

Currently millions of primary school age children are out of school across the world. About 58 million children of primary school age were out of school in the world as of 2012 (See Figure 1). A great majority of out-of-school children live in Sub-Saharan Africa where 30 million children were out of school as of 2012. The number of out of school children is high in other regions as well with South and West Asia having 10 million and East Asia and the Pacific having 7 million out of school children. In some countries, over 1 million primary school age children are out of school. In Nigeria, Pakistan, India, Sudan, Ethiopia, and Indonesia the number of out of school children are 8.7, 5.6, 2.9, 2.7, 2.1, and 2.0 million, respectively.[28]

27 (UNESCO, 2016b)
28 (UNESCO, 2016d)

1.2 BOTTLENECKS AND BARRIERS

This section will continue with outlining the effect of each barrier on children's access in the World and continue with policies and strategies that are applied in general to overcome them.

Poverty

Poverty puts children at a disadvantage in access to education. Poor children are more likely to be out of school compared to rich children. A study using the latest Multiple Cluster Surveys (MICS) and Demographic and Health Surveys (DHS) conducted between 2008 and 2012 of 63 countries finds that on average 7 percent of children of primary or lower secondary school age who are from the richest households are out of school as opposed to 24 percent of children in the poorest households.[29] Looking at the marginal impact of poverty and controlling for age, gender, household head's education and location of the household, the same study found that in 56 of the 63 countries household wealth is a significant determinant of access to education.[30] Studies carried out in Brazil[31], Ghana[32], Pakistan[33], China[34], Turkey[35] provide further evidence that household income and parental education are strongly linked with a child's access to education.[36] In other words, children from poor economic backgrounds are more likely to be out-of-school, start school over-age, or drop out.

Poverty is a barrier to children's access to education for a number of reasons. Firstly, education incurs direct financial costs. Even when school attendance is free, additional spending on books, uniforms, transportation, and informal fees may make education unaffordable for poor families.[37] Secondly, the opportunity cost of education may be too high for poor families. They may prefer this time to be spent on income-generating activities to create additional income for the household. Child labour is prevalent in the world with 15 percent of children aged 5 to 14 estimated to be participating in some kind of labour activity.[38] Children who stay out of school often remain in a vicious cycle of low education low earnings and a low socioeconomic status.

Poverty also hinders children's learning outcomes. Poverty not only blocks access to education, but also hampers children's learning abilities. Research shows that children from low socioeconomic backgrounds tend to be low performers in mathematics.[39] Children living in poorer households not only have limited access to educational materials but they also might have a lower access to educated individuals in the household who could nurture them

29 Hattori (2014)
30 (Hattori, 2014)
31 (George Psacharopoulos & Arriagada, 1989)
32 (Lavy, 1996)
33 Burney and Irfan (1995)
34 (Brown & Park, 2002)
35 (Tansel, 2002)
36 (Clemens, 2004)
37 UNESCO (2008)
38 (UNESCO Institute of Statistics (UIS) & UNICEF, 2015)
39 (OECD, 2008)

academically. Research shows that parents from higher socioeconomic backgrounds tend to spend more quality time with their children, have lower levels of stress and that parental attitudes can be significant in ensuring a better home environment. As a result of this, children from higher socioeconomic backgrounds are likely to perform better at school.[40]

Location of residence / distance to school

Location, in terms of living in urban or rural areas, is another strong determinant of educational disparity. Distance to school is a problem in many different places from Latin America to South Asia.[41] Due to absence of schools in rural areas and distance required to travel to reach the schools, children have difficulties in access to schools. Hattori (2014) in his study of 63 countries finds that on average 9 percent of children in primary or lower secondary school age are out of school in urban areas as opposed to 18 percent of children living in rural areas. Yet the same study finds that when household wealth and other factors like age and gender of the child and household head's education are controlled for, the marginal effect of location (a negative effect of living in rural areas) is only significant for 22 countries out of 63 countries, pointing to the fact that poverty is a stronger determinant of access to education in general.

In general, the negative impact of distance and location increases in the later years of the education process. This is the result of a lack of schools offering higher levels of education in the disadvantaged areas. In China, for instance, around 38 percent of rural children were not able to complete 9-years of compulsory education whereas all urban students enrolled completed compulsory education. The disparities in enrolment and completion in higher levels of education become even more dramatic. Out of every 100 rural students, only 6 of them can enter senior high school and of those students only 3 of them can graduate from senior high school. In contrast 63 for every 100 urban students enter senior high school, and all of those who enter graduate.[42]

Apart from having a difficulty in access, children in rural areas are also disadvantaged with respect to school quality. Schools in rural settings tend to be underdeveloped, lack necessary materials and equipment and suffer from low teacher quality or a shortage of teaching staff. Research suggests that rural students underperform in mathematics and literacy compared to their urban counterparts pointing to a lower quality of education in these schools. This finding is almost always accurate in any countries regardless of the level of development.[43]

Lack of availability of a school nearby particularly negatively affects girls' education.[44] When walking distance to school is high and there is no public transportation available families have a higher tendency not to send their children to school and this is especially the case for girls. In Uganda for instance for secondary schools when schools are further away from 45 minutes walking distance the probability of enrolment was found to drop significantly for girls

40 (Brooks-Gunn, Duncan, & Britto, 1999; Gupta, Wit, & McKeown, 2007; Noble et al., 2015).
41 (UNICEF-UIS, 2015)
42 (Zhang, Lin, & Xue, 2015)
43 (Williams, 2005)
44 (UNICEF-UIS, 2015)

while the effect was not significant for boys.[45] In a similar vein living closer to schools or public transportation were found to have positive effects for children's enrolment in Mali, Niger and Senegal and the effects were slightly larger for girls.[46]

Location of residence is a determinant of socioeconomic status, and this affects children's access to education, the quality of education received, and achievements in various ways. Evidence finds a link between neighbourhood characteristics such as socioeconomic status, crime records, residential turnover and access to quality education.[47] Services provided in a neighbourhood and the quality of these services differ in poor and wealthy neighbourhoods. Even though public policies may provide a basis for delivery of basic services, the wealth of the neighbourhood is likely to shape the services provided and their quality. In fact in some countries like Pakistan and Bangladesh after controlling for household wealth, living in urban areas was found to be negatively associated with the schooling of poor children. This suggests that in problematic urban areas like slums in these countries, access to education can be more difficult than in rural areas.[48]

Gender

While gender disparities in educational attendance have narrowed globally, girls are still more likely to be out of school. Around the world 8.1 percent of boys are out of school as opposed to 9.7 percent of girls at the primary school age.[49] Gender gaps are also wider in regions Sub-Saharan Africa, Oceania and West Asia.[50] Gender disparities are more visible among the poorest groups and this is the case especially for higher levels of education. In Sub-Saharan Africa, gender disparities in primary school completion is 20 percent between poorest male and female students and this rate increases to 83 percent in upper secondary school completion. While Southern Asia, Northern and Western Africa follow a similar path, in the case of Latin America and the Caribbean, boys in the poorest groups have lower levels of primary education completion. However, their completion follows an upwards trend through higher levels of education whereas girls fall behind after completing lower secondary school.[51]

Investing in girls' education is a key to escape from poverty. Providing equal opportunities for male and female students is a smart and long-lasting investment for economic and social development as well as innovation and technological growth. In fact, half of the progress in economic growth in the OECD countries in the last 50 years is attributed to the increase in female educational attainment.[52] In a similar vein, a recent study finds that if girls were provided equal opportunities in Ghana and Kenya, the disparity in informal employment would fall by 50 percent and 35 percent, respectively.[53] Apart from the positive impact on economic growth and

45 (Wodon, 2016)
46 (Wodon, 2016)
47 (Pebley & Sastry, 2003)
48 (Hattori, 2014)
49 (UNESCO, 2016d)
50 (UNESCO, 2016d)
51 (UNESCO, 2016a)
52 (OECD, 2015).
53 (Chua, 2016)

employment outcomes, women's education has positive effects for society in general. Female education (as well as male education) contributes to a better home environment for child development.[54] More educated women tend to follow a better diet which also ensures children are well-nourished.[55] Children of better educated parents (especially mothers) are also more likely to attain higher levels of education. In sum, investing in girls' education eventually creates a greater good at the individual, household and society level.

Disability and Special Needs

Five per cent of children in the world under the age of 14 have some kind of disability on a degree from moderate to severe.[56] Children with disabilities are more likely to be marginalised and discriminated in almost every aspect of life, specifically in education and employment. The likelihood of a disabled child being out-of-school is substantial. According to a study on DHS surveys of 14 countries from around the world, disabled children of ages 6-17 years old are significantly less likely to attend school and being disabled generally has a larger impact compared to gender, location or economic status for these children.[57] Among those who attend education, disabled children tend to drop out early compared to their non-disabled counterparts.[58] These problems are seen in low and middle-income countries in a larger scale.

When poverty is combined with a disability, the effects on a child's educational development are particularly severe. Lack of availability of disability-appropriate services obstructs disabled children's participation in social life, continuing school, and eventually, developing the necessary skills for labour market participation. This disadvantage begins early and continues throughout the life of a disabled person. Research demonstrates that disabled people are more at risk of being worse off in terms of education, employment, living conditions, and health. They tend to have low-income, and living below the poverty line is a strong possibility.[59]

Disabled girls are at a double disadvantage. Research suggests that disabled girls are more likely to be left out and not be taken care of compared to boys.[60] Traditional gender roles double the inconvenience for girls and young women with disabilities. Girls with disabilities are not only more marginalised than their non-disabled fellows but also compared to boys with disabilities.

Language and minority children

Mismatch of the language spoken at home and school creates a barrier in access to education. Research shows that in regions where the predominantly spoken language is different from the official language of the country, the chance of being marginalised in education

54 (Davis-Kean, 2005).
55 (Nyaradi, 2013)
56 (UNICEF, 2013)
57 (Filmer, 2008)
58 (Plan International, 2013)
59 (UNICEF, 2013)
60 (UNICEF, 2013)

increases.[61] Children coming from ethnic minorities are usually the ones who encounter language barrier problems. These racial and ethnic discrepancies may cause higher repetition and drop-out rates, lower grades and poor academic achievement.[62] According to an analysis of DHS datasets conducted in late 1990s or early 2000s for 23 countries, for most of the countries significant disparities could be found for educational attainment of adults and educational attendance of children depending on the language that they speak at home.[63]

The negative consequences of ethnic disparities might hit harder when combined with poverty. When these two causes of inequality are experienced together, marginalisation might be inevitable. For example, in Nigeria 97 percent of girls coming from poor Hausa-speaking backgrounds have less than 2 years of schooling.[64]

Another group of minority children who are at a disadvantage are those in lower castes in countries where the caste system could be observed. In countries like India or Pakistan where the caste is a significant factor, low-caste children are more likely to face disadvantages throughout their lives. They are more deprived both economically and educationally. Research shows that in India these disparities translate into larger gaps later in labour market outcomes.[65]

Language can also be a barrier for refugee children who do not speak the language of instruction in the host country. It is estimated that 50 percent of refugee children are out of school in the world.[66] While difficulty in access to education for refugee children has more than one reason, differences in language spoken in the host and sending country is one of these barriers. The practices on the ground vary across countries but the UNHCR's policies focus on including refugee children in national education systems. This, again, requires an in advance preparation prior to regular primary school. In other words, the earlier refugee children have a chance to learn the host country's official language, the easier the transition becomes.

System wide problems

In addition to household and individual level barriers in access to education, system wide problems also create barriers for children. These problems could be a low level of financing from the side of the government and a low level of quality that may drop household demand for education or create inefficient outcomes in which children go to school but do not learn effectively. In countries where the problem of being out of school is endemic, these problems often occur concurrently. Yet low level of quality could also occur even when financing of education is at an adequate level.

Inadequate government financing remains a problem for improving access to quality education in the world. As a result of their 2007 meeting in Dakar, The High Level Group on Education for All, a group that is composed of high-level representatives from national

61 (EFA Global Monitoring Report, 2010)
62 (American Psychological Assocation Presidential Task Force on Educational Disparities, 2012)
63 (Smits, Huisman, & Kruijff, 2008)
64 (EFA Global Monitoring Report, 2010)
65 (Rawal & Kingdon, 2010)
66 (UNESCO, 2016a)

governments, development agencies, UN agencies and the private sector, agreed that between 15 percent and 20 percent of government budgets should be allocated to education.[67] Yet in the world, overall, the share of the budget that the governments spend on education remained mostly stagnant with 13.8 percent in 1999 and 13.7 percent in 2012.[68] An adequate financing of education is important in providing children with necessary learning environment and materials. Inability of schools to provide a good environment for children could affect household demand negatively. Moreover students' performance is also affected by the socioeconomic status of the school. Large differences are found in children's learning outcomes between schools of low and high socioeconomic levels.[69]

Spending on education is positively correlated with learning outcomes up to a certain point starting from which the way money is spent matters more. According to the analysis of PISA test results up to a threshold of 35,000 USD of cumulative education spending per student from age 6 to 15, spending is found to be positively correlated with countries' average PISA test scores.[70] However after this threshold is reached more spending does not bring better results and how the resources are spent becomes more important in achieving better learning outcomes.[71]

Lack of adequate financing could lead to teacher shortages. Inadequate number of teachers lower the quality of education since overcrowded classrooms make it difficult for teachers to pay attention to the needs of children. While overall, pupil teacher ratio has been on a decline at the primary level for the majority (83 percent) of the countries in the world with data available, it continues to be a problem in regions like Sub-Sharan Africa or South and West Asia.[72] In countries like Chad, Central African Republic or Democratic Republic of Congo number of students per teacher in grade 1 continue to exceed 80 on average.[73]

Teacher quality is important in achieving a quality education and higher learning outcomes. Evidence indicates the positive association between teachers' academic skills, teaching experience, attitudes and students' academic achievements.[74] Competent teachers play a significant role in guaranteeing that school time is being used efficiently and children are learning in the school. When teachers are not competent enough and could not meet students' expectations the demand for education also deteriorates.[75]

67 UNESCO (2007)
68 (UNESCO, 2015)
69 (OECD, 2008)
70 (OECD, 2012)
71 (OECD, 2012)
72 (UNESCO, 2015)
73 UNESCO Institute for Statistics (UIS). 2014. Available at: data.uis.unesco.org
74 (Ballou, 1996; Darling-Hammond, 2000; UNESCO Institute for Statistics, 2006; Wenglinsky, 2000)
75 UNESCO Institute for Statistics (2006)

1.3 POLICIES AND STRATEGIES RELATED TO EDUCATION IN THE WORLD

Various interventions are being introduced around the world in order to accomplish the global targets in access to "quality" education. These programmes often try to provide a solution to the problems which occur as a result of poverty, distance/location, language, gender and disabilities discussed in the previous section. Although the scope and impact of these interventions differ, in many cases they focus on a specific matter such as school attendance or educational outcomes. That is because even though they aim to address a larger set of problems, they commonly only impact one of the targeted issues. Since these interventions usually take place in areas with certain levels of disadvantage it would be an over-expectation to wait for an all-round response shaped out of one programme.

The following part of this section will provide a set of interventions and best practices from all over the world that address the issues raised in the previous section (see above 1.1 *Bottleneck and barriers in access*).

Interventions addressing poverty

A number of interventions improve access to education for poor children. Making schools free, providing cash transfers (conditional or unconditional) and school feeding programs are among such interventions. School fee abolition has been adopted in a number of countries in recent decades and has led to increases in enrolment rates in Sub-Saharan Africa.[76]

Conditional cash transfers are a preferred way to provide financial support directly to households, mothers or children in order to achieve a certain goal. In cases where families do not have the necessary financial means and motivation, providing a financial transfer on condition that the children go to school is a meaningful incentive for school attendance and has met with great success.[77] A comprehensive systematic review carried out by 3ie (Birte Snilstveit et al., 2016) shows that while cash transfers, especially when they are conditional on specific behaviours such as attending school, are among the most preferred and useful ways to increase school participation, they are not found to be effective in general on learning outcomes[78][79].

School feeding programmes were also found to have positive impact on school participation.[80] School feeding programmes are useful in providing children a nutritional support as well as working as a safety net for the risk of school drop-out in times of financial hardship of the households and they create incentives for poor households to send their children to school. These programmes are implemented by World Food Programme or the government in many countries around the World yet with varying coverages. Throughout the world at least 368 million children of pre-primary to upper secondary school age are estimated to be covered by school feeding programmes.[81] Yet not all children in the world receive food at school and the

76 (UNESCO Institute of Statistics (UIS) & UNICEF, 2015)
77 (Akresh, De Walque, & Kazianga, 2013; Birte Snilstveit et al., 2016).
78 (Birte Snilstveit et al., 2016)
79 (Evans & Popova, 2015b; Glewwe & Muralidharan, 2015)
80 (Birte Snilstveit et al., 2016)
81 (WFP, 2013)

likelihood of being covered drops in low-income countries. 49 percent of the primary school age children in the world are covered by a school feeding programme as opposed to 18 percent coverage in low-income countries.[82]

Box 1 "A conditional cash transfer program targeting better nutrition and education outcomes for children in Colombia

"The Familias en Acción" started rolling out in urban and rural Colombia in 2001 with the financial support provided by the Inter-American Development Bank (IADB) and the World Bank. The target group for this intervention was families with primary and secondary school age children aged 7 to 17. The programme has two main components: education and nutrition. The programme aims to:

i. provide financial support to families with young children
ii. increase attendance rates and lower the drop-out rates in primary and secondary schools
iii. increase health care provision for young children
iv. improve health care and nutrition practices for young children

The financial supplement for the education component doubles for secondary school children. There is no limitation on the number of children supported per house. In the case of having children younger than age 7, a flat-rate monetary support is also transferred to beneficiary families. The programme transfers the money to the mothers. The conditionality was dependant on children visiting a health centre and continuing in school.

For the education component, which aims to reach the poorest households with children aged 7-17, in order to receive a US $5 for primary school children and a US $10 for secondary school children per month the condition was to attend no less than 80 percent of classes throughout the school year for both primary and secondary school children. *For the nutrition component*, which aims to support beneficiary families with young children (ages 0-6) a monthly US $17 was transferred when children visited health authorities for growth and development monitoring.

The impact and benefits gained

By 2005, the Programme was successful in reaching 400,000 households in 700 municipalities, which was in excess of the main target of 340,000 households. Positive impacts on growth progress of young children especially in the rural areas and an increase in school attendance particularly for children aged 12-17 were found. The success of the implementation of the Programme lies in the detailed design and planning of the programme as well as the determined collaborative action between different levels of government bodies, financiers, municipalities and other institutions.

(Ayala, 2005)

82 (WFP, 2013)

Interventions addressing location

Prioritizing areas that are disadvantaged in education planning and policymaking could lead to improved outcomes. In general rural areas have a greater likelihood to lack schools or the schools there could lack teaching materials. In this respect in China reaching "rural, remote, poor and minority areas" is set as the first priority of the Ministry of Education.[83] This kind of top level targeting improves the effectiveness of allocation of resources. For instance, in Ethiopia under the national strategy for education, since 1997, 85 percent of the schools built were built in rural areas in the country.[84]

In general schools in rural areas or disadvantaged regions also lack necessary number of trained teachers. Providing incentives for teachers to serve in disadvantaged locations is a good remedy for this problem. In Republic of Korea, teachers serving in schools in disadvantaged areas receive a number of benefits which led to having 77 percent of teachers having a university degree in the villages as opposed to 32 percent of teachers in the cities.[85]

Interventions addressing gender

To improve girls' education outcomes it is necessary to make national plans and policies take into account gender. Analysis of education sector plans carried out for preparing UNESCO's Global Monitoring Report for 2015 points out that countries that put gender goals in their national plans in 2000 and 2012 made greater gains in decreasing gender gaps in education.[86] For instance countries like Ethiopia and Morocco which are among the countries decreasing gender gaps in school enrolment significantly, specifically put a gender perspective on their national plans.[87]

While girls are more likely to encounter barriers to participate in education, kinds of interventions that improve their attendance are generally the ones that improve educational outcomes of every child. A systematic review on girls' education shows that many interventions such as conditional and unconditional cash transfers, provision of additional schools, provision of in-kind transfers such as deworming and school feeding as well as more "soft" approaches like training teachers on gender equality and involvement of women in school governance and community leadership were found to improve girls' education outcomes. [88]

Making schools closer or providing public transportation could improve education outcomes of every child and specifically education outcomes of girls. Building schools in the villages was found to improve enrolment of girls much more than boys in Afghanistan where the gender gap was eliminated in villages that the school were constructed.[89] Another option could be to provide children an option for easier transportation to school. In this respect an

83 (OECD, 2016b)
84 (UNESCO, 2010)
85 (UNESCO, 2015)
86 (UNESCO, 2015)
87 (UNESCO, 2015)
88 (Unterhalter et al., 2014)
89 (Burde & Linden, 2013)

innovative program was applied in India in the state of Bihar where bicycles were provided to girls who enrolled in secondary school to make their commute to school easier.[90] The impact evaluation of the program shows that the Cycling program increased girls' enrolment by 32 percent and decreased the gender gap by 40 percent.[91]

Public awareness campaigns could be useful in overcoming demand side barriers related with culture and norms that prevent families from sending their daughters to school. A successful example to this kind of a campaign was "Hey Girls Let's Go to School" campaign which was implemented in Turkey in the beginning of 2000s. The campaign was initiated by the Ministry of National Education of Turkey with the support of UNICEF and the World Bank in 2003 in 10 provinces and then expanded to the whole country between 2004 and 2006.[92] The campaign included promotional activities in which public figures participated including the Prime Minister and also persuasion visits by the community leaders to the households where the girls are not enrolled in school.[93] Around 350,000 children are estimated to be enrolled in school as a result of the program.[94]

Interventions addressing disabilities

According to the 24th article of the Convention on the Rights of Persons with Disabilities countries agree that they will "recognize the right of persons with disabilities to education" and that they "shall ensure an inclusive education system at all levels".[95] Currently across the world 173 countries are state parties to the convention while 14 countries have signed but not ratified the convention and 11 countries have not taken any action.[96]

Availability of quality education services suitable to disabilities is key to enhance access to education for disabled children. Provision of a physical infrastructure where children with disabilities can benefit sets a ground for a more inclusive society. This would enable children with physical disabilities to attend regular schools more easily. In Indonesia, for example, only 3.76 percent of physically handicapped children can attend schools due to lack of inadequate facilities[97], a more disability-friendly physical setting would help increase access to education. However, integrating children with disabilities into regular schools would not necessarily mean that the education is inclusive. Adapting school curricula, for example by including sign language, may also be necessary to promote an inclusive educational environment.[98]

Evidence shows that interventions that target disabled children need to be established on three main pillars i) teaching techniques, ii) a sensitive environment, and iii) an

90 (Karthik Muralidharan & Prakash, 2013)
91 (Karthik Muralidharan & Prakash, 2013)
92 (Yazan, 2014) and (UNICEF & UIS, 2012b)
93 (Yazan, 2014)
94 (UNICEF & UIS, 2012b)
95 United Nations (2006)
96 As stated in http://indicators.ohchr.org/ as of May 31, 2017.
97 (Clarke & Sawyer, 2014)
98 (UNICEF, 2013)

appropriate location.[99] When implementing interventions specific to children with disabilities, families need to be on board. Family-centred interventions might help create a balance between the child's home and education environment. Therefore, key services to link families with service providers would be helpful to create impact.[100] However, one should note that the main issue arising in early interventions for disabled children is targeting. Evidence shows that even though the poorest families are the ones who would benefit most from these interventions, they are least likely to have access to these services.

Interventions addressing language and ethnicity

Multilanguage education programmes or non-formal complementary education programmes help children integrate better with the education system. A good command of the language of instruction is a strong determinant of academic achievement. When children are comfortable with the language spoken at school they are more likely to perform better. However, when the language spoken at home is different from the language of instruction, children, risk falling behind. To combat this problem, an important number of countries in Sub-Saharan Africa are moving to multi-language education in which children start learning in the language that they speak. At the time of their independence, 43 percent of Sub-Saharan African countries used the local language in instruction rising to 80 percent now.[101] For instance in Ethiopia, eight years of primary education is provided in seven languages now while at the time of the independence, the language of instruction was only Amharic.[102] This way, the demand from households is also enhanced. In a study conducted in Ethiopia, a parent states that they are happy to send their children to a school where the medium of instruction is their mother tongue.[103] Apart from multi-language education, another implemented method to cope with language differences is "complementary education". In Ghana out of school children aged 8-15 years old benefit from a complementary education programme called "School for Life" that provides classes in their mother-tongue. The programme was found to improve the probability of attending formal education for participating children with 82 percent of the participating children moving on to formal education.[104]

The interventions aiming to contribute in language outcomes are commonly consolidated around structured pedagogy.[105] The teacher's role becomes prominent in structured pedagogy type interventions. Most of the programmes build their basis on improving teachers' skills in managing different languages which is among the most important components of children's educational success. In addition to language specific interventions, early education settings can also play a key role in eliminating language based disadvantages by teaching children in the language medium of schools in the early years prior to school enrolment.

99(Newman, McEwen, Mackin, & Slowley, 2010)
100 (Newman et al., 2010)
101 (UNESCO, 2016c)
102 (UNESCO Institute of Statistics (UIS) & UNICEF, 2015) and (UNESCO, 2016c)
103 (Orkin, Yadete, & Woodhead, 2012)
104 (UNICEF & UIS, 2012a)
105 Snilstveit et al. (2016).

Box 2 Northern Uganda Literacy Project, Uganda

"Northern Uganda Literacy Project" (NULP) is a literacy promotion programme which started in 2009 and was developed by a local private education company named "Mango Tree Educational Enterprises Uganda". This programme bases its model on mother tongue instruction.

The Northern Uganda Literacy Project has three main pillars i) mother tongue instruction in the first grade, ii) teacher training, and iii) promoting parental involvement.

i. *Mother tongue instruction in the first grade*: As in most countries in Africa, when children start school they immediately are taught in either a colonial language or in English which they do not have prior knowledge of. This programme allows children to be taught literacy skills in their mother tongue. While they are still receiving English as an additional course, they do not practice writing in English. The programme follows a moderately slow pace which aims to ensure that no child is left behind.

ii. *Teacher training:* The Programme starts with a 5-day training for teachers guiding them on practical and appropriate classroom skills. This training covers grammatical features, letters and sounds in the Leblango language. After completing this intense 5-days training, teachers continue in-service workshops for 6 Saturdays throughout the academic year. The NULP also provides instruction guidelines for each literacy lesson.

iii. *Promoting parental involvement:* The Programme enabled a communication mechanism between parents and teachers via parent-teacher meetings. During these meetings teachers guide parents on how to interpret their children's literacy reports and how to support them at home.

The impact and benefits gained

The impact evaluation of the programme finds large improvements in students' reading and writing outcomes when the full costs were covered by the programme. The programme found an improvement in student recognition of letters by 1.0 SD which is one of the largest impacts ever measured in an RCT of an education programme. However, the reduced-cost version of the programme did not perform as well as the full-cost covered version. In the former case, research found an improvement of 0.4 SD on letter name recognition. One of the main gains of this intervention was the increase in students' confidence and their positively changed attitudes towards school. A more positive environment and higher willingness for learning at school lead to a better basis for teaching and learning outcomes
(Kerwin & Thornton, 2015).

Improving quality in school systems

While providing adequate financing for the education system is a must, the flaws in the system that puts children at a disadvantage should be taken into account to provide education for all. Resources should be allocated considering the needs of the disadvantaged groups. In this respect, it is important to reallocate resources taking into account the needs of disadvantaged groups. Apart from access, quality of education should be prioritized.

Quality of the education system could be tracked via assessment tests. In recent decades, more and more national assessments have been conducted in the world. In 1990 only 12 national assessment tests were conducted while this number reached 110 in 2013.[106] National assessment tests could be informative for policymakers and for the public to make governments more accountable. An increasing trend in the number of participants is also seen for the international assessment test PISA (Programme for International Student Assessment). In 2000, for the first round of PISA Test 43 countries participated.[107] This number almost doubled by 2018 with 80 countries participating in the test for the latest round. [108]

To improve learning outcomes of children, an exhaustive systematic review points to interventions that are directly targeted at teachers: pedagogical interventions, repeated teacher training and providing performance incentives for teachers.[109] Pedagogical interventions include computer assisted training and training children at their own pace while taking into account their needs. In India a computer assisted learning program for mathematics which provided fourth grade children with the chance to play games on a computer to enhance their learning for two hours a week found the intervention to increase children's learning by 0.47 standard deviations at the end of 2 years.[110] Conn (2014) [111] also finds that pedagogical interventions which focus on teaching techniques are more effective for improving student learning than any other type of intervention. These pedagogical interventions can be in computer-assisted learning models or models that emphasise the role and skill of the teacher more. It is worth noting that these computer aided learning programmes are only useful when they are tailored to students' needs. It is crucial to combine these interventions with some kind of teacher or parent training. Otherwise, as was seen in Peruvian 'One Laptop per Child' programme, such programmes would not improve students' learning outcomes.[112]

Improving teachers' skills, capacity and performance brings about better learning outcomes for students, particularly in developing countries. Evans and Popova (2015a) highlight in their review of systematic reviews that interventions targeting teachers such as pedagogical interventions or repeated trainings improve children's learning outcomes the

106 (UNESCO, 2015)
107 For the list of participating countries see:
http://www.oecd.org/pisa/aboutpisa/pisa2000listofparticipatingcountrieseconomies.htm
108 For the list of participating countries see: http://www.oecd.org/pisa/aboutpisa/pisa-2018-participants.htm
109 (Evans & Popova, 2015a)
110 (Banerjee, Cole, Duflo, & Linden, 2007)
111 (Conn, 2014)
112 (Cristia, Ibarraran, Cueto, Santiago, & Severin, 2012)

most.[113] Teachers' attitudes towards students, teaching at the right level, and incentives to increase teachers' motivation are also found to positively affect student learning.[114]

For improving access to schools and school quality, making the schools accountable of the results could improve learning outcomes. Increased funding for the education system does not necessarily lead to improved results directly. To make the education system work more efficiently community participation and public-private partnerships could also be used. Encouraging participation of parents and the community in order to improve the quality of local schools is one way to make a school more accountable to families. This could be done through providing more information to parents about the schools. In Pakistan a school report card intervention was found to increase learning outcomes of children while also lowering school fees.[115] Another resource that could be tapped is the private sector. Engaging in public-private partnerships to increase the number of schools could be a good solution and could make schools more accountable to the government and to parents. Public-private partnerships have been adopted in a number of countries including India, Colombia and Chile with varying impact on learning outcomes of children.[116]

Box 3 Early Grade Reading Assessment (EGRA) PLUS Liberia: Teacher pedagogy intervention using EGRA results

Liberia applied an Early Grade Reading Assessment (EGRA) in 2008 in a nationally representative sample of primary schools and the results pointed out to low levels of achievement. EGRA results suggested that at the end of the second grade 35 percent of the students could not read a single word.[117] In response to this outcome Ministry of Education of Liberia together with USAID designed an intervention programme that is applied as a randomized controlled trial. The schools were selected into three groups:

- a "full" treatment group in which children were assessed and afterwards teachers received training on how to continually assess children's learning. Teachers also received pedagogic support, books and materials while parents were informed about the achievements of their children,
- a "light" treatment group in which only parents are informed about their children's progress through report cards
- a control group where none of these interventions are applied

The baseline test took place in November and December 2008, the midterm test took place in May and June 2009 and the final test took place in May and June 2010.

113 (K Muralidharan & Sundararaman, 2010), (Murnane & Ganimian, 2014), (Evans & Popova, 2015b)

114 Evans & Popova (2015a)
115 (Andrabi, Das, & Khwaja, 2015)
116 (B; Snilstveit et al., 2016)
117 (Gove & Cvelich, 2010)

The impact and benefits gained

Children in the "full" treatment group achieved better results in every section of the EGRA test compared to the control group. In fact the effects were found to be spectacular compared to the scale of impact found in general in social science research.

The "full" treatment effect of EGRA PLUS was found to be 2 years in reading comprehension and 1.8 years in listening comprehension. The effect of the "light" treatment remained small compared to the "full" treatment and was mostly on letter fluency and phonemic awareness rather than reading or listening comprehension.

Compared to the baseline in the final test in "full" treatment schools letter naming fluency increased by 59.2 percent while in the "light" treatment schools letter naming fluency increased by 46.0 percent and in the control schools letter naming fluency increased by 35.9 percent.

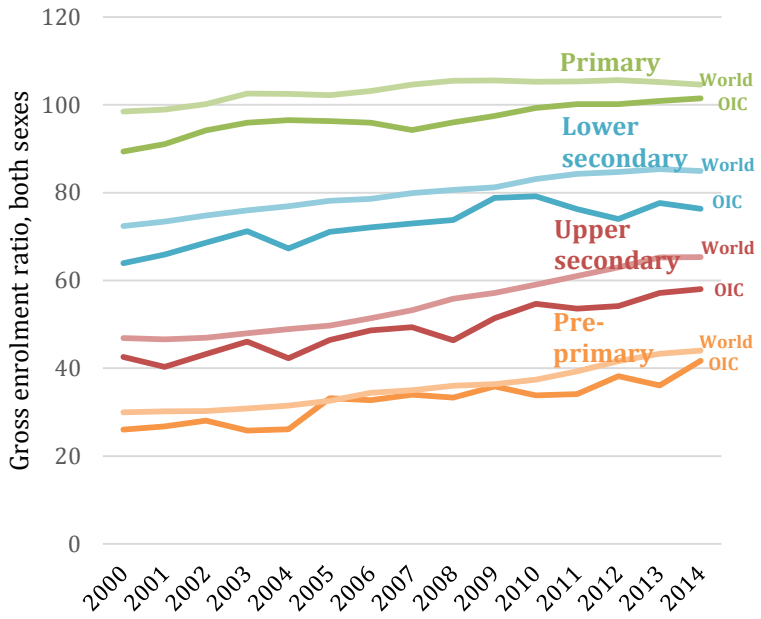
The effects were particularly high for reading comprehension for the "full" treatment schools. "Full" treatment schools increased their scores by 130.1 percent compared to the baseline as opposed to a 33.4 percent increase in "light" treatment schools and 32.9 percent increase in control schools.

(Piper & Korda, 2011)

2. OVERVIEW OF EDUCATION IN THE OIC MEMBER STATES

2.1 GENERAL PICTURE: ACCESS TO EDUCATION BY EDUCATION LEVEL

Figure 3 Gross enrolment ratios of different education levels, both sexes (%)



Note: Data is obtained from UNESCO Institute for Statistics' Database. OIC average is calculated using the values for the countries that has data available for each year. Hence in each year number of countries included in the average or the list of countries might change. World averages are obtained directly from the database as it is reported.

OIC countries' average enrolment rates at different education levels are less than but close to the world averages (See Figure 3). In the last 15 years, improvements in enrolment at different levels of education were observed in the OIC as can be seen in the increases in gross enrolment ratios.[118] Average gross enrolment ratios for different education levels show that participation in education levels other than primary remains low in the OIC. While there has been progress, participation remains especially low for pre-primary education and upper secondary education. Overall, gross enrolment ratios are the highest for primary education and the lowest for pre-primary education.

While there has been progress over the years, universal primary education has not been achieved in a considerable number of member countries (See Figure 4). In 24 countries (out of 50 countries with data available), net enrolment rates at the primary level are lower than 90 percent. Enrolment rates are generally high in high-income and upper middle-income member countries. In comparison, among lower middle-income and low-income member countries wide variation is observed in primary net enrolment rates. In Sierra Leone, Benin, and Togo, which are all low-income countries, primary net enrolment rates are close to being universal with 95 out of

[118] Gross enrolment ratio is a measure of participation in the system calculated by dividing the total number of children attending the education level with the population of children in the relevant age group that should be attending that education level.

every 100 children at the primary school age enrolled in primary education.[119] In Mali, a low-income country and in Djibouti, a lower middle-income country and also the country with the lowest primary net enrolment rate, this rate drops to 53 children out of every 100 children at primary school age.[120]

In the OIC countries with data available, increases in primary education enrolment rates occurred in the last 25 years (See Figure 4). High-income countries like Oman and Kuwait, the lower middle-income country Morocco and the low-income country Benin are among the highest achievers.

Figure 4 Net enrolment rate, in primary education (%)

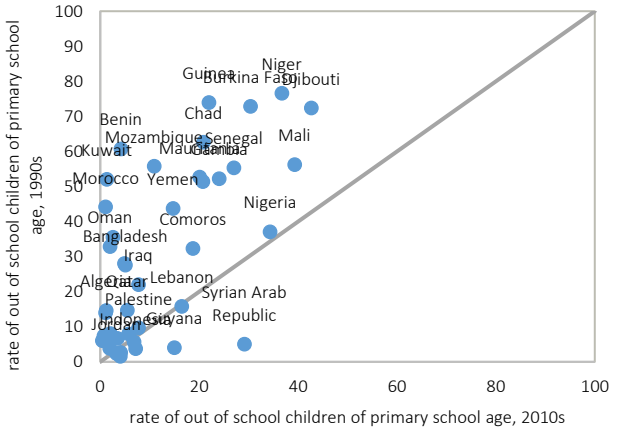
Note: Data is obtained from UNESCO Institute for Statistics' Database. To represent the 1990s, for each country, the earliest value available in the database from the 1990s has been used. For the 2010s, for each country, the latest value available for the 2000s has been used. Hence in a few cases the latest value available could be from a year earlier than 2010. The OIC average is calculated using these values for the countries with data available. World averages are for the years 1990 and 2014 and obtained directly from the database.

Millions of children of primary school age are still out of school in OIC countries. The rate of out of school children has dropped in many OIC countries (See Figure 5 Panel A). Yet the number of out of school children remains high. The total number of out of school children of primary school age is calculated as 30.7 million in the OIC in 2010s (See Figure 5 Panel B).

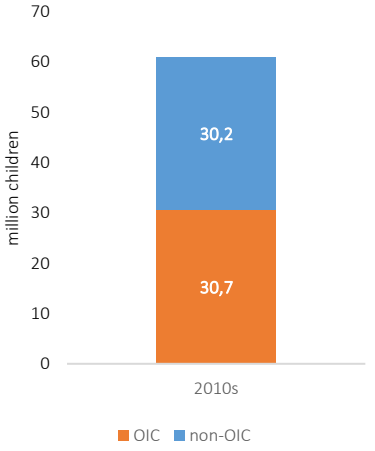
[119] Primary net enrolment rate for these countries are 99.2 (2015), 95,9 (2014) and 95.4 (2015) percent respectively.
[120] Primary net enrolment rate for these countries are 55.7 (2015) and 53.5 (2016) percent respectively.

Figure 5 Out of school children of primary school age

Rate of out-of-school children of primary school age, both sexes (%)



Total number of out of school children in primary school age in the OIC

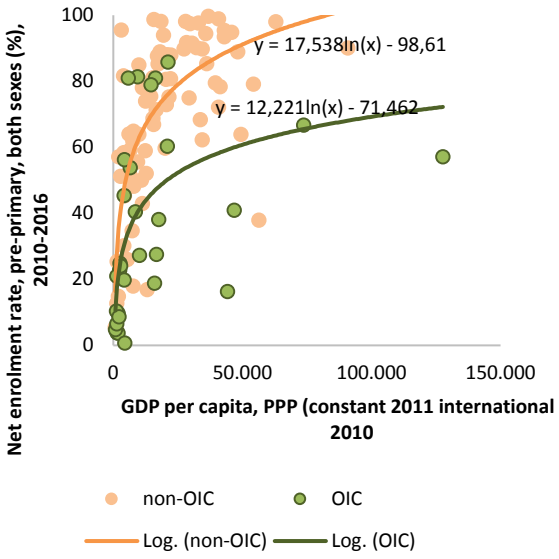


Note: Data is obtained from UNESCO Institute for Statistics' Database. To represent out of school rates for 1990s, for each country, the earliest value available in the database from the 1990s has been used. For the 2010s, for each country, the latest value available for 2000s has been used. Hence in a few cases latest value available could be from a year earlier than 2010. For the number of out of school children data available for OIC countries for the years stated was summed up. Note that the list of countries with data available might be different between the 1990s and the 2010s. To come up with total value for non-OIC countries total value for OIC was subtracted from the value reported for the World.

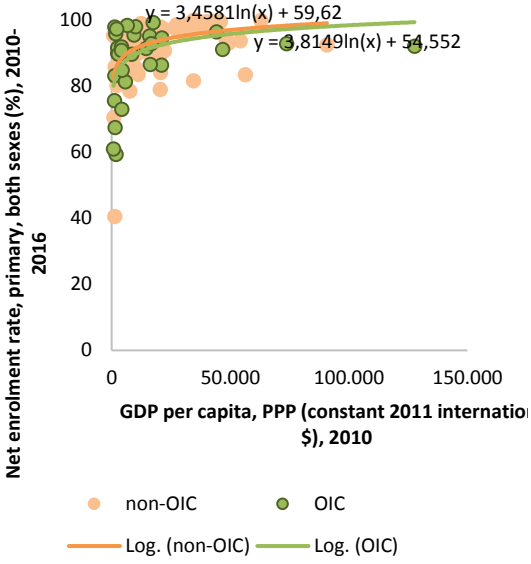
Country income is indeed related to enrolment rates but some OIC countries manage to perform better than predicted by their income levels. The positive correlation between country income and enrolment rates among the OIC countries also exist for non-OIC countries (See Figure 6 Panel A, B, C, D). The positive correlation is somewhat smaller for OIC countries for enrolment in pre-primary and lower secondary education while it is higher for enrolment in upper secondary education compared to the positive correlation between GDP per capita and enrolment rates in non-OIC countries. Due to generally high primary school enrolment rates in most of the OIC countries, enrolment in primary school is less correlated with country income compared to other education levels (See Figure 6 Panel B). As can be seen in Figure 6 Panel B, countries in all income levels are predicted to have primary net enrolment rates higher than 80 percent. In contrast enrolment to other levels of education is correlated more with GDP per capita of the country (See Figure 6 Panels A, C and D). Yet it can be seen that some countries are performing better than predicted by their income levels at different education levels. In pre-primary education, Guyana and Malaysia excel at achieving net enrolment rates higher than 80 percent. In lower secondary education, Uzbekistan and Tajikistan are among the countries with net enrolment rates higher than 90 percent. In upper secondary education, Uzbekistan and Turkey have enrolment rates higher than 70 percent. In contrast high-income countries Oman, Saudi Arabia, Qatar and Kuwait perform worse than predicted by their GDP per capita in different education levels.

Figure 6 Enrolment rates at different education levels and GDP per capita

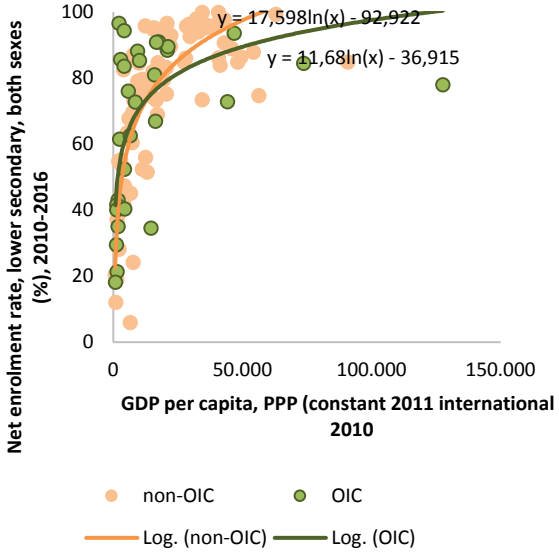
A. Pre-primary net enrolment vs GDP per capita



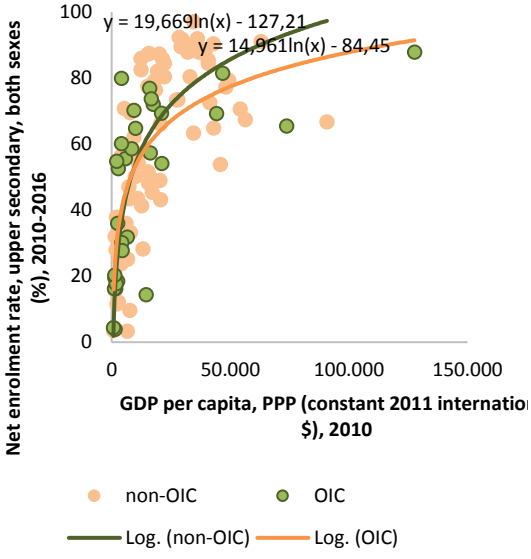
B. Primary net enrolment vs GDP per capita



C. Lower secondary net enrolment vs GDP per capita



D. Upper secondary net enrolment vs GDP per capita



Note: Data is obtained from World Bank Education Statistics database. In the graphs only the countries that have data for all levels of education and GDP per capita (for year 2010) are included (31 OIC and 79 non-OIC countries in total). Education data is for the last year available between 2010 and 2016 while GDP per capita data is for year 2010.

2.2 BOTTLENECKS AND BARRIERS

Poverty

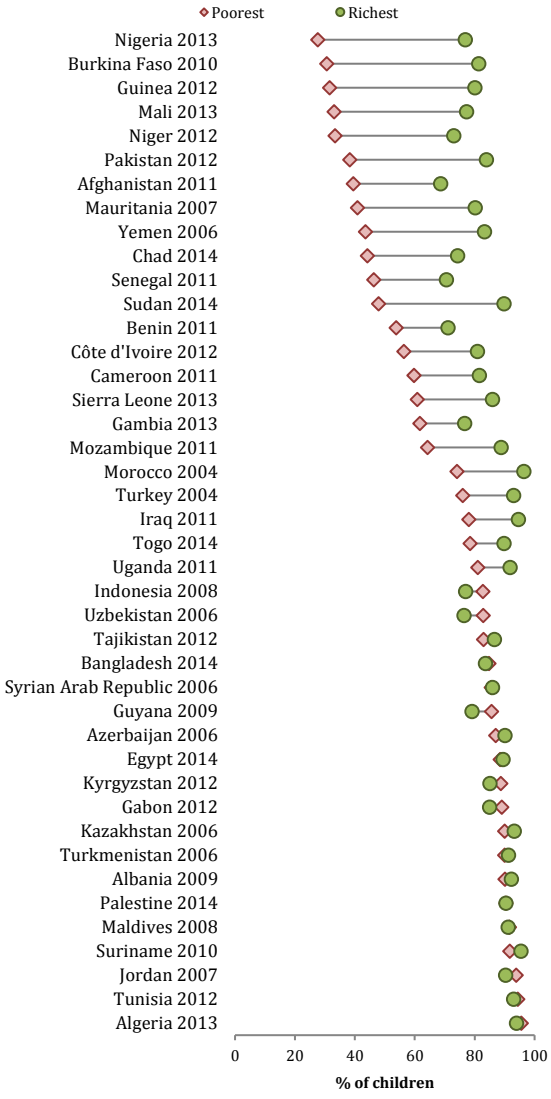
Poverty is a persistent problem in the OIC and stands out as the strongest barrier in access to education in the OIC.[121] The average poverty rate is higher in the OIC countries compared to the world. For OIC countries with data for 2003- 2014, on average, 25.2 percent of the population were living with less than 1.90$ a day as opposed to 10.7 percent in the World.[122] Yet poverty rates vary tremendously between member countries. Among the countries in the OIC with data available, the poverty headcount ratio is lowest in Kazakhstan with only 0.04 percent of the population living with less than 1.90$ a day in 2013 as opposed to Mozambique where the same rate was 68.7 percent in 2008. In most member countries poor children are less likely to attend school (See Figure 7). Among the 42 OIC countries with data available, in 23 of them the gap between the primary net attendance rate of poor and rich children is more than 10 percentage points and in 17 of them it is more than 20 percentage points. In Burkina Faso where the gap is the largest for attending primary education, out of every 100 children of primary school age, in the poorest households only 31 of them attend primary school as opposed to 81 children for the richest households. Nigeria, Guinea, Mali, Niger and Pakistan are the other OIC countries where it is more than twice as likely for children to attend primary education if they are living in the richest 20 percent of the households in the country compared to children living in the poorest 20 percent.

Poor children are even more disadvantaged in access to lower secondary education (See Figure 7 Panel B). The number of countries with a gap of more than 20 percentage points is higher for lower secondary education with 27 countries (out of 42). In some countries poor children are almost not attending lower secondary education all together. Less than 1 child in every 10 poor children is attending lower secondary education in 12 of the member countries with Mauritania having the lowest rate with only 2.0 percent. In other words in Mauritania only 2 out of every 100 poor children are attending lower secondary education.

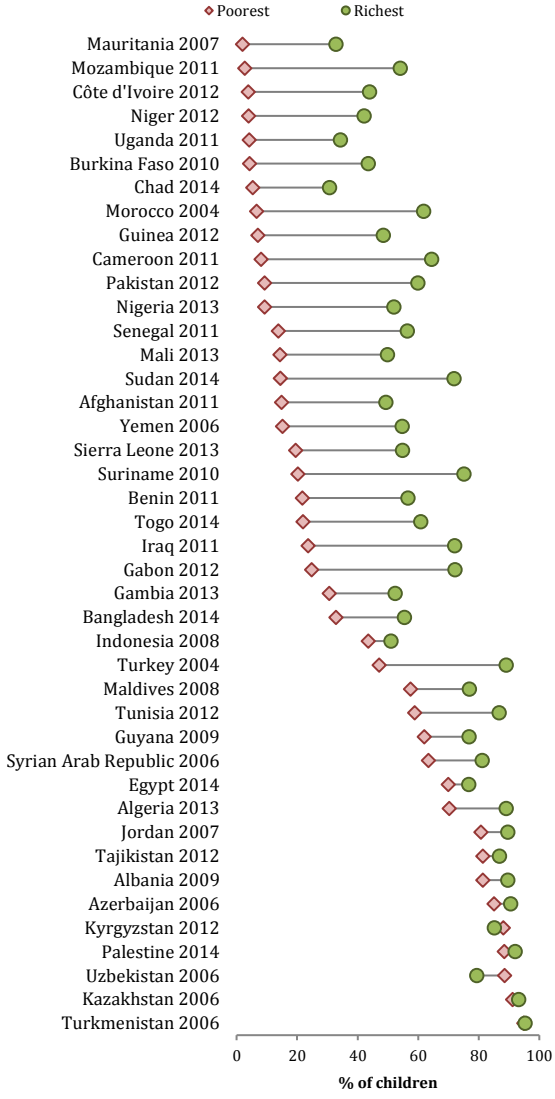
121 The gaps are wider for poverty compared to the gaps in location or gender (See Figure 7, Figure 10 and Figure 12).
122 This average is calculated for the 37 countries with data available in the World Bank's World Development Indicators database. Data from the latest year that the poverty headcount ratio is available is used. The rate for the World is for year 2013.

Figure 7 Net attendance rates at the primary and lower secondary education levels, by poorest and richest wealth quintile

A. Net attendance rate, primary (%)



B. Net attendance rate, lower secondary (%)

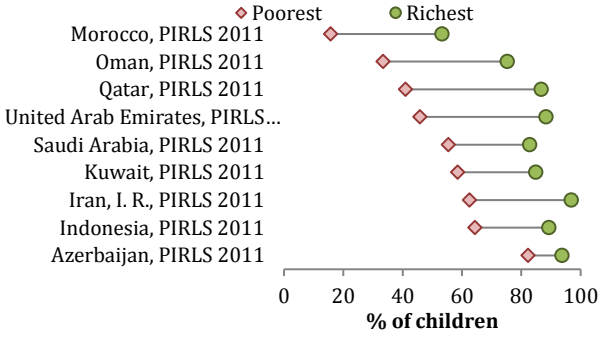


Note: Data is obtained from UNESCO Institute of Statistics' database. "Poorest" refers to the poorest wealth quintile, hence living in the bottom 20% of households according to a built asset index. "Richest" means living in the top 20% of households.

Figure 8 Learning achievement in reading and mathematics for 4th grade students, by poorest and richest wealth quintile

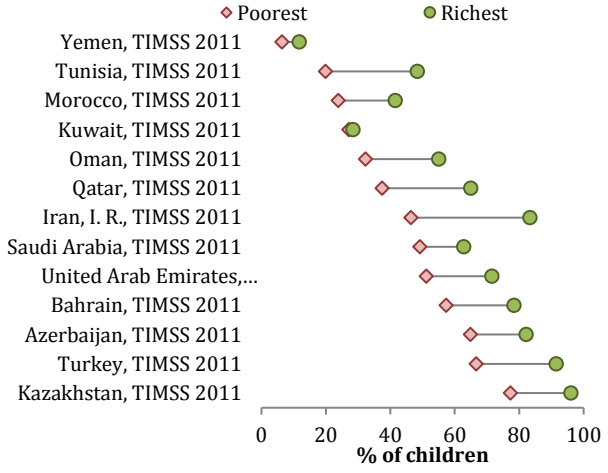
A. Learning achievement in reading (primary)

Percentage of children of primary school age taking part in PIRLS 2011 and passing first level of difficulty



A. Learning achievement in math (primary)

Percentage of children of primary school age taking part in TIMSS 2011 math test and passing first level of difficulty



Note: Data is obtained from UNESCO's WIDE Database.

Poor children are not only less likely to access education but also even when they have access they are left behind in terms of learning outcomes. The results of the PIRLS (Progress in International Reading Literacy Study) 2011 reading test for 4th grade primary school students for the participating OIC countries show that in every participating OIC country rich children are more likely to pass the lowest achievement threshold compared to their poor counterparts (See Figure 8 Panel A). Poor children are the most disadvantaged in Morocco with only 15.6 percent of the children living in poorest households passing the lowest benchmark as opposed to 53.2 percent of the children living in richest households. In contrast, the gap is the smallest in Azerbaijan where 82.2 and 93.7 percent of poor and rich children respectively being able to pass the lowest benchmark in the test.

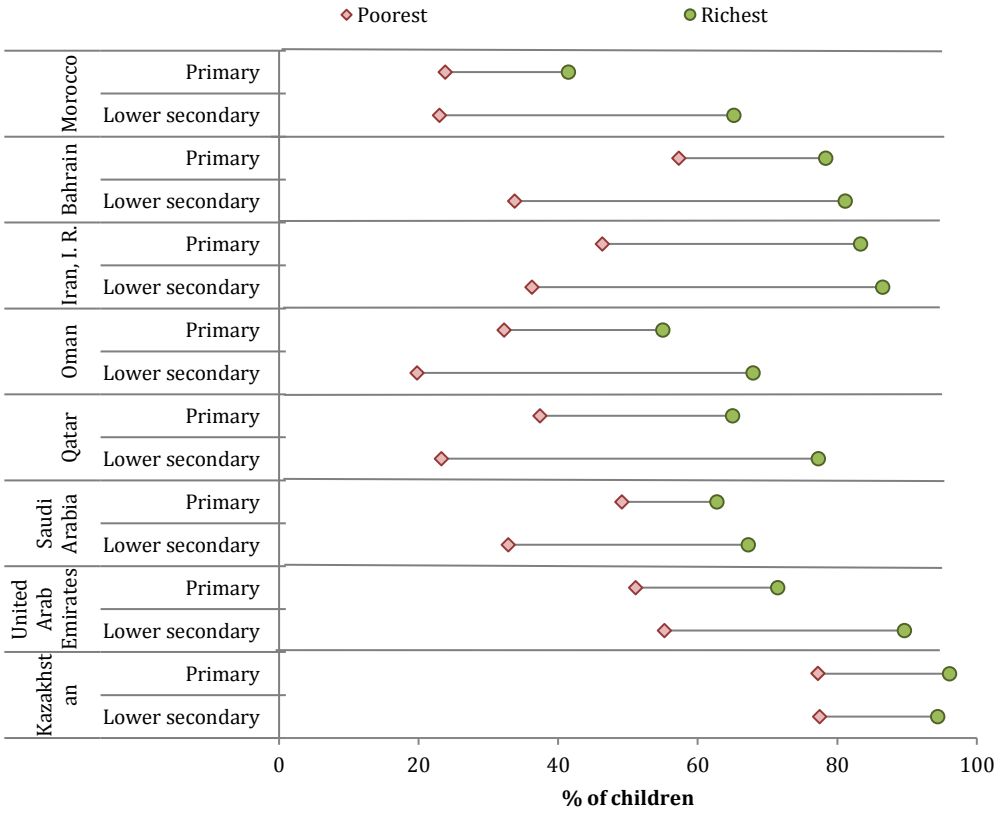
A similar picture emerges with respect to mathematics achievement of primary school students. Achievements of 4th grade students in TIMSS 2011 test for the participating OIC countries show again that being poor leads to worse outcomes in another important topic, mathematics, as well (See Figure 8 Panel B).

Gaps in learning outcomes between poor and rich children increase as children grow older (See Figure 9). Countries participating in TIMSS could take the test for 4th graders, for 8th graders or for both allowing us to compare the gaps between rich and poor children at different education levels. Comparing these gaps between rich and poor children's achievement in the 4th and the 8th grades shows troubling results. In 7 of the 8 OIC countries taking TIMSS 2011 at both levels the gap between rich and poor children increases the older the children get. This is largely due to rich children doing better and poor children making no progress in the following grades in Morocco and United Arab Emirates; poor children deteriorating and rich children staying at a similar

achievement level in Bahrain, Iran and Saudi Arabia and poor children deteriorating and rich children improving at the same time in Oman and Qatar. This relationship also holds for the TIMSS 2011 science test for 6 of the 8 participating OIC countries. The gap between rich and poor children increases from 4th grade to 8th grade in TIMSS science test in Morocco, Bahrain, Oman, Qatar, Saudi Arabia and United Arab Emirates while it decreases in Iran and Kazakhstan.[123]

Figure 9 Learning achievement in math (primary and lower secondary) by poorest and richest wealth quintile

Percentage of children of primary school age and lower secondary age taking part in a TIMSS 2011 mathematics test and passing first level of difficulty



Note: Data is obtained from UNESCO's WIDE Database.

123 According to the data obtained from UNESCO's WIDE Database.

Location of residence/distance to school

In 26 OIC countries (out of 57) more than half of the population lives in rural areas. [124] On average in OIC countries 45.2 percent of the population were still living in rural areas in 2015. Given the wide regional and income distribution of the countries in the OIC, the share of the population living in rural areas also has a wide range. In Qatar, where the rural population rate is lowest, only 0.8 percent of the population lives in rural areas as opposed to Uganda, the country with the highest rural population rate, where 83.9 percent of the population lives in rural areas.

The location that the child is living turns out to be another disadvantage in the OIC in terms of access to education. Children living in rural areas are less likely to attend school in a significant number of member countries. In 18 countries (out of 43) the primary net attendance gap between children living in rural and urban areas is larger than 10 percentage points and in 9 of them this gap is greater than 20 percentage points in favor of the children living in urban areas (See Figure 10). Rural children are the most disadvantaged in Niger where the gap between urban and rural is also the highest. In Niger, for every 100 children of primary school age living in rural areas, only 43 of them attend primary school as opposed to 75 out of every 100 children living in urban areas.

Children living in rural areas become even more disadvantaged when it comes to attending lower secondary education (See Figure 10 Panel B). The gap between urban and rural children is larger for lower secondary education. In 21 countries (out of 43) the gap is larger than 20 percent in favour of children living in urban areas. In the member countries Mauritania, Cote d'Ivoire, Chad and Mozambique net attendance in lower secondary education is the lowest for children living in rural areas with less than 1 in every 10 children attending lower secondary education.

Children are at a disadvantage in terms of quality education in rural areas in a number of member countries. Children's achievements in the international reading assessment test PIRLS 2011 is lower if they are living in rural areas in Morocco, United Arab Emirates, Indonesia, Iran and Azerbaijan compared to urban areas (See Figure ***11*** Panel A). For instance, in Iran, 64.7 percent of children in the 4th grade living in rural areas pass the lowest benchmark in PIRLS 2011 as opposed to 82.8 percent of the children living in urban areas.

Similar gaps are observed for a number of countries participating in TIMSS 2011 international mathematics assessment test too (See Figure ***11*** Panel B). Qatar, Iran and Turkey are the countries where the gap between 4th grade children's achievements is wider than 20 percentage points in favour of children living in urban areas. Compared to the rich and poor gap, the gap in learning outcomes between children living in rural areas and children living in urban areas is less widespread and generally smaller.

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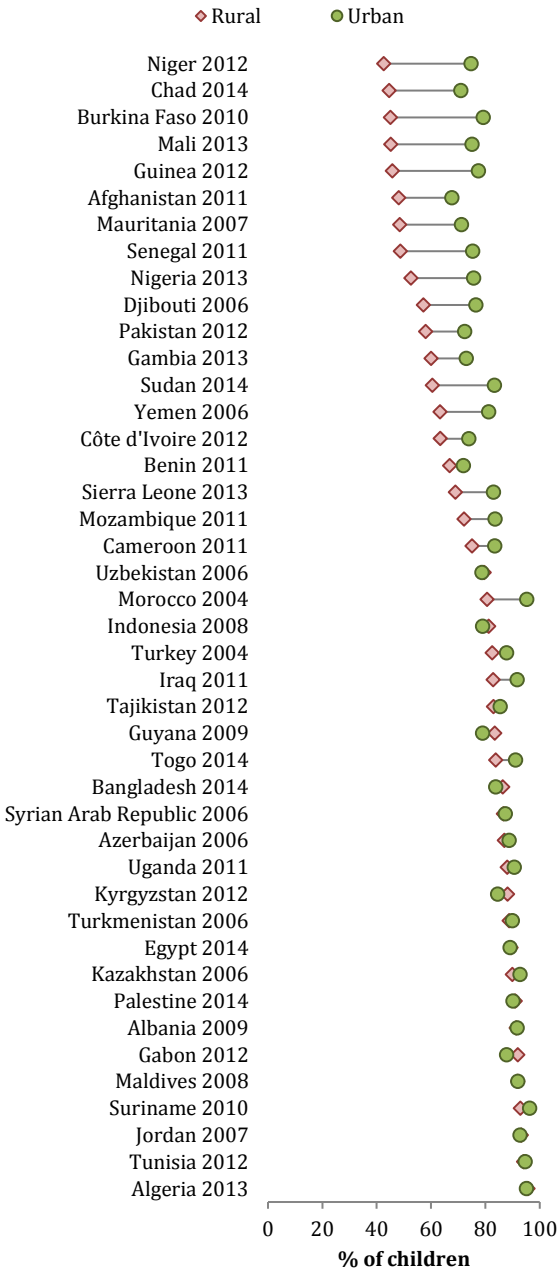
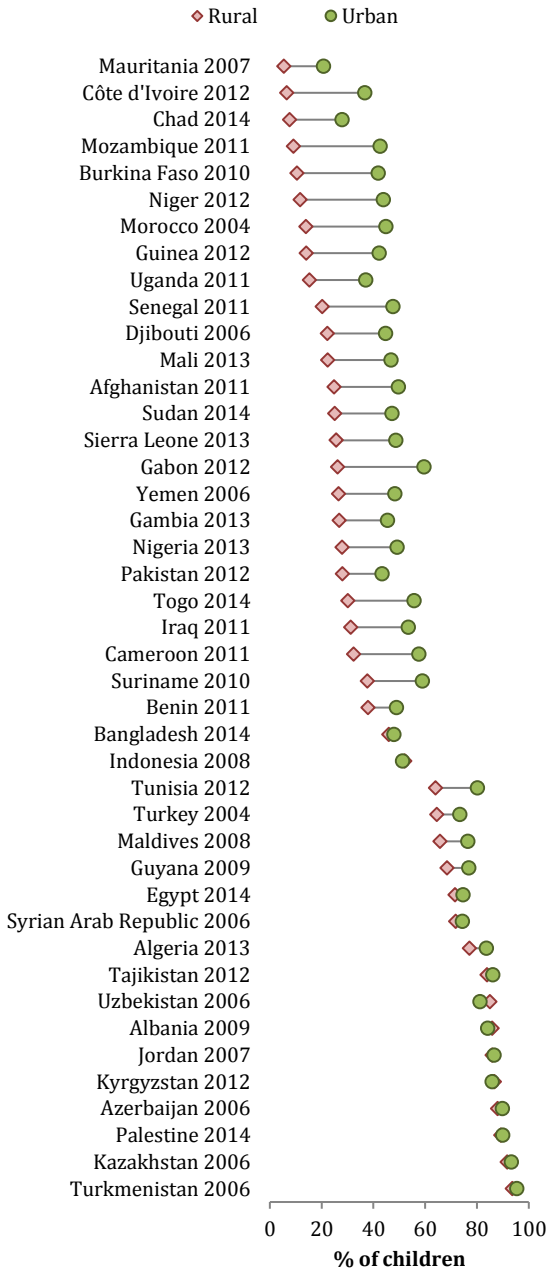
124 Data source is World Bank World Development Indicators.

Figure 10 Net attendance rates at the primary and lower secondary education levels, by household location

A. Net attendance rate, primary (%)



B. Net attendance rate, lower secondary (%)

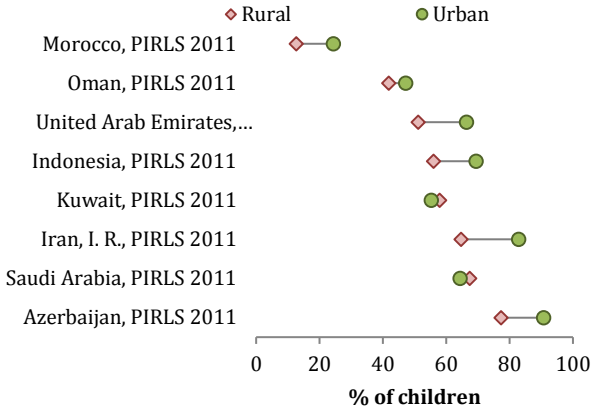


Note: Data is obtained from UNESCO Institute of Statistics' database.

Figure 11 Learning achievement in reading and mathematics for 4th grade students, by household location

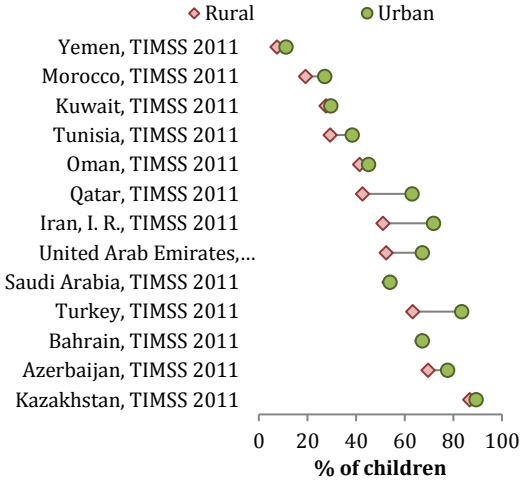
A. Learning achievement in reading (primary)

Percentage of children of primary school age taking part in a reading PIRLS and passing first level of difficulty



B. Learning achievement in math (primary)

Percentage of children of primary school age taking part in a TIMSS math test and passing first level of difficulty



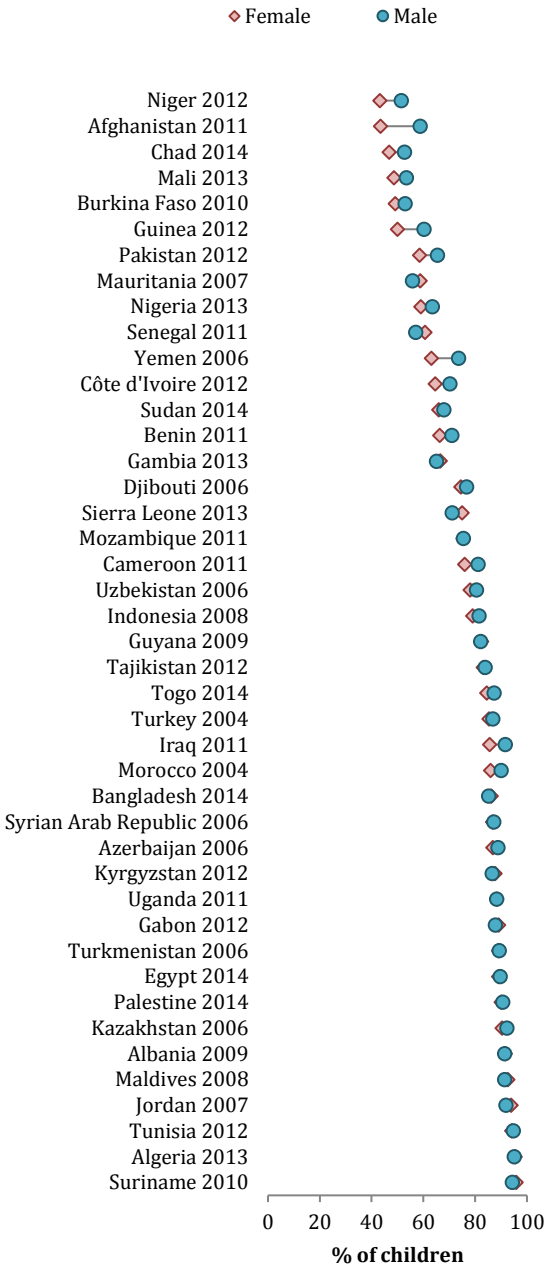
Note: Data is obtained from UNESCO's WIDE Database

Gender

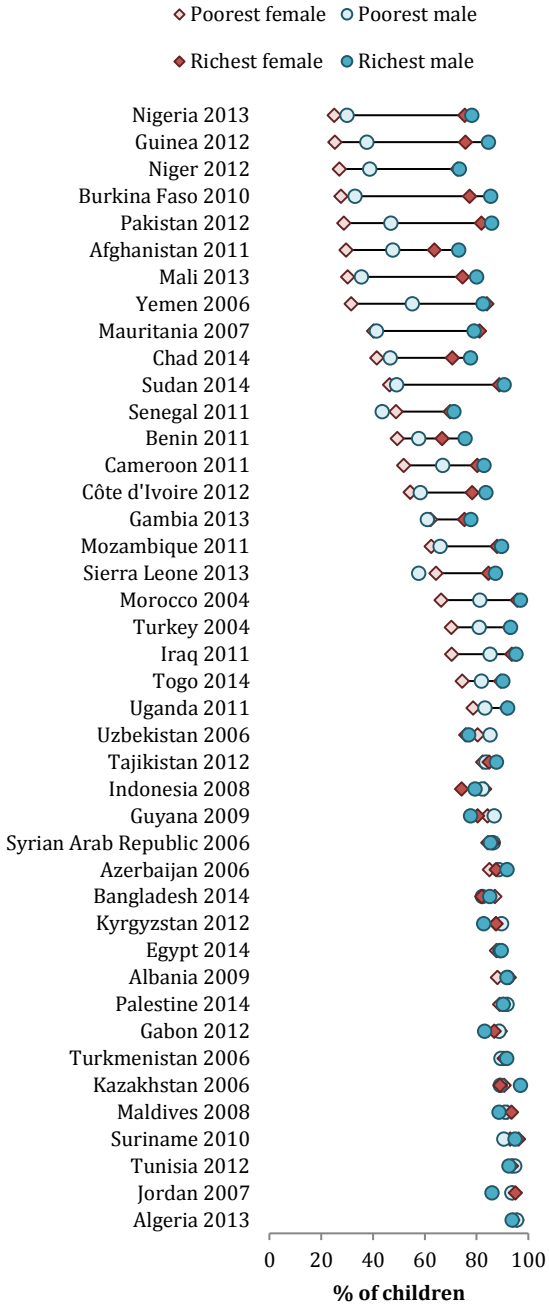
Girl's access to primary and lower secondary education is generally close to boys' access in the OIC (See Figure 12 Panel A). Large gaps seen in access to education between poor and rich children or children living in rural and urban areas does not seem to exist between girls and boys, at least in most of the member countries. Yet in a few countries being a girl turns out to be a more pressing disadvantage in access to education. The largest gap between boys and girls is observed in Afghanistan where 43.7 percent of girls of primary school age attend primary school as opposed to 58.7 percent of boys. Afghanistan is also the country where being a girl makes a child the most disadvantaged in attending lower secondary education compared to being a boy. In the country, 20.3 percent of girls of lower secondary age attend lower secondary education as opposed to 37.4 percent of boys.

Figure 12 Net attendance rates at the primary education level, by gender and by gender and wealth quintile

A. Net attendance rate, primary (%)



B. Net attendance rate, primary, by gender and wealth quintile (%)

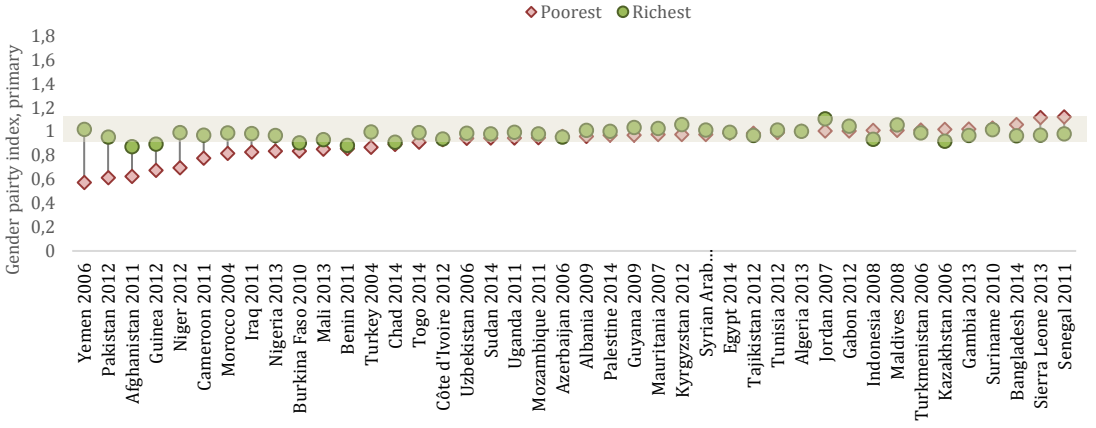


Note: Data is obtained from UNESCO Institute of Statistics' database.

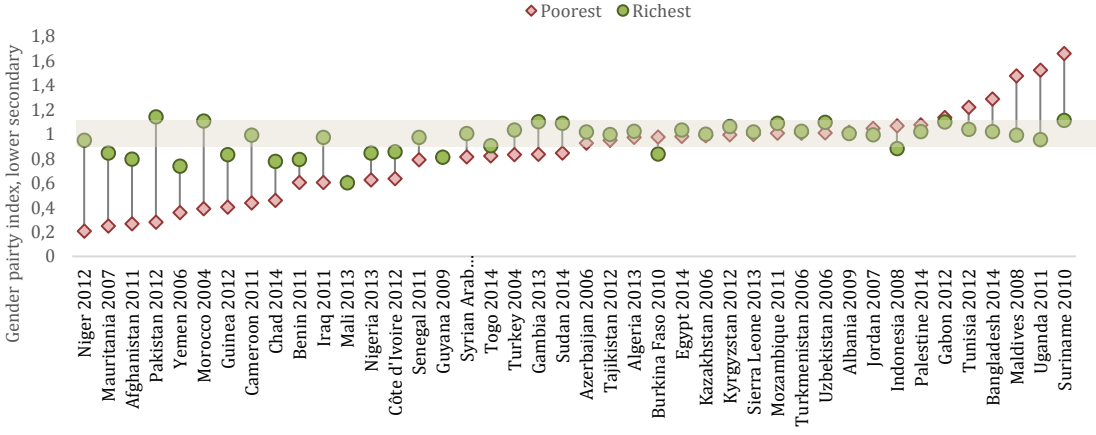
In fact rather than gender alone, gender together with poverty is a more important predictor of lack of access to education. In a considerable number of countries poor girls are the most disadvantaged group in access to education. In 8 countries (out of 43) rich boys are more than twice as likely to attend primary school compared to poor girls (See Figure 12 Panel B). For instance in Pakistan, the primary net attendance rate is 28.8, 46.9, 81.9 and 85.9 percent for poor girls, poor boys, rich girls and rich boys respectively.

Figure 13 Gender parity indices for primary net attendance and lower secondary net attendance rates, by poorest and richest wealth quintile

A. Gender parity index, primary net attendance



B. Gender parity index, lower secondary net attendance



Note: Data is obtained from UNESCO Institute of Statistics' database. "Poorest" refers to the poorest wealth quintile, hence living in the bottom 20% of households according to a built asset index. "Richest" means living in the top 20% of households.

Gender parity in access to primary education is a problem mainly for poor children. In a number of countries poor girls are systematically left behind compared to poor boys in access to primary education and lower secondary education (See Figure ***13*** Panel A and B). Looking at the gender parity index[125] for the primary net attendance rate for poor children and rich children separately shows that for poor children the gender parity index for the primary net attendance rate is smaller than 0.9 for 14 countries (out of 42), while for rich children this is the case for only 3 countries. For instance in Niger, the gender parity index is 0.70 for poor children while it is 0.99 for rich children.

Poor girls are even more disadvantaged compared to poor boys in access to lower secondary education. Gender parity is a bigger problem in access to secondary education for poor children (See
Figure ***13*** Panel B). In 21 countries (out of 42) the gender parity index for lower secondary net attendance is lower than 0.9 for poor children. For instance, in Cameroon, for poor children the gender parity index for lower secondary net attendance is 0.44 while for rich children it is 0.99. Yet regarding access to lower secondary education, even for rich children gender parity is a concern for a number of countries. In 12 countries (out of 42) gender parity is smaller than 0.9 for rich children as well, meaning that in a number of member countries for lower secondary education girls are more likely to be at a disadvantage despite being rich. These countries are Afghanistan, Indonesia, Mauritania, Yemen, Guinea, Chad, Benin, Mali, Nigeria, Cote d'Ivoire, Guyana and Burkina Faso.

In a small number of member countries gender parity for poor children is not achieved at the expense of boys and this is especially the case for lower secondary education. The gender parity index is higher than 1.1 for poor children in attending primary school for 2 countries (Sierra Leona and Senegal) and for 6 countries in attending lower secondary education (Gabon, Tunisia, Bangladesh, Maldives, Uganda and Suriname). This means that in these countries being a boy instead of being a girl puts children at a disadvantage when they are coming from poor households. Among children coming from rich households being a boy is almost never a disadvantage in access to primary education and lower secondary education. Only in Jordan the gender parity index for rich children is 1.11 in attending primary education and in attending lower secondary education rich boys are at a disadvantage compared to rich girls in only 3 countries namely Suriname, Pakistan and Morocco where gender parity index is higher than 1.1.

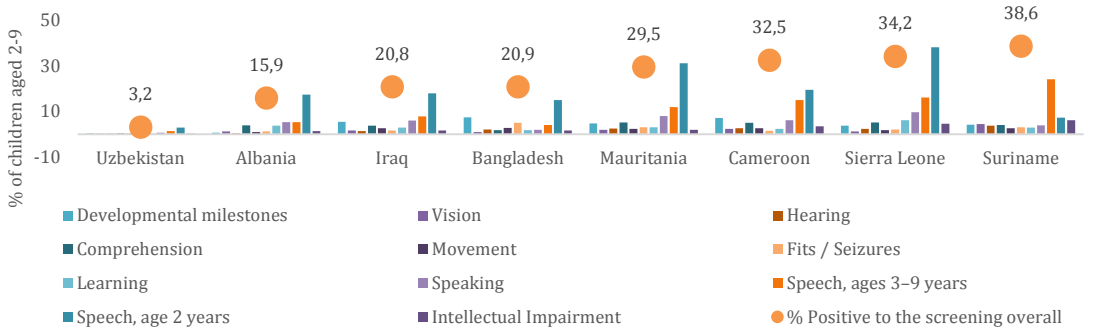
Disability and special needs

Statistics on disabled children's access to education is rather scarce and difficult to compare for OIC countries. Data on the prevalence of disability and the impact of being disabled on access to education for children is not collected in the same fashion as poverty, location or

125 Gender parity index is calculated by dividing the attendance rate for girls by the attendance rate for boys. Hence the more disadvantaged the girls are compared to boys the closer the number gets to 0 and the more equal girls' and boys' access is the closer the number gets to 1.

gender. Moreover data collected in countries in censuses or household surveys might not be comparable with each other due to differences in the definition of disability. Prevalence of disability changes from survey to survey even in the same country depending on the question asked. For instance in Uganda 7 percent of the population is disabled according to Uganda National Household Survey 2005/2006 while the rate rises to 20 percent according to Demographic and Health Survey 2006.[126] Lack of data and differences in the definition of disability is a problem for OIC countries and for the world as a whole, since the extent of the problem cannot be known and nor can accurate cross-country comparisons be made

Figure 14 Disability status and disability type of children aged 2-9 in selected OIC countries[127]



Note: Data is obtained from UNICEF and University of Wisconsin School of Public Health and Medicine (2008)

The third wave of Multiple Indicator Cluster Surveys (MICS) is the only survey that is known to us to collect data on disability in a number of countries allowing for comparisons. A report on the third wave of MICS that was collected in 2005-2006 by UNICEF presents findings on the prevalence of disability. Among the countries included in the survey 8 OIC countries are also present (See Figure 14). The disability module screens a child as positive if there is a problem in either one of these 10 dimensions: (i) developmental problem (i.e delay in sitting, standing or walking), (ii) vision, (iii) hearing, (iv) comprehension, (v) movement, (vi) fits/seizures, (vii) learning, (viii) speaking, (ix) speech, (x) intellectual impairment.[128] The results suggest that disparity is high among participating OIC countries in the prevalence of disability among children aged 2-9 years old. In Uzbekistan only 3.2 percent of the children were screened positive for disability as opposed to 38.6 percent in Suriname. In Suriname the percentage is particularly high due to 24 percent of children aged 3-9 having a problem in speech which is measured by asking "Is (name)'s speech in any way different from normal?".

[126] UNICEF (2013a)
[127] For developmental milestones the question in the survey is Compared with other children, did (name) have any serious delay in sitting, standing, or walking?", for speaking the question is "Does (name) speak at all (can he/she make himself/herself understood in words; can he/she say any recognizable words)?", for speech the question is "Ages 3–9: Is (name)'s speech in any way different from normal?" and "Age 2: Can he/she name at least one object (animal, toy, cup, spoon)?"
[128] UNICEF and University of Wisconsin School of Public Health and Medicine (2008)

Disabled children are at a disadvantage in access to education. In Sudan, results of Sudan Household Health Survey 2010 suggests that 49 percent of children aged 6-9 with a disability are out of school as opposed to 37.1 percent of children aged 6-9 without a disability.[129] In Chad, 36 percent of children aged 6-11 and without a disability are attending school while this rate is 24 percent for children with disability.[130] The difference is particularly high for Indonesia, where 89 percent of children aged 6-11 without a disability attending school as opposed to only 29 percent of children with disability.[131] It must be noted again that the definitions of disability might be different in between countries.

Access rates might also change depending on the type of disability. In UNESCO (2014) it is reported for instance for Iraq that while only 10 percent of children aged 6-9 who are not disabled had never been to school, this rate rises to 19 percent for children with hearing problems and to 51 percent for children with mental disability problems.

Language and minority children

OIC countries have a rich linguistic diversity. In Africa and Asia, the regions where OIC countries are located, it is estimated that 2,144 and 2,294 living languages are spoken in each region respectively.[132] Member countries like Cameroon, Benin and Chad are among the countries in the World with the richest linguistic diversity. In Cameroon alone there are 280 living languages spoken.[133]

Yet like the rest of the World, the language of instruction in OIC countries does not include all languages being spoken in the countries and in fact it is mostly conducted in one language. However not speaking the dominant language of the country could pose a problem for children in access to education and in learning when they have access.

Children are at a disadvantage in access to education based on the language they speak. The most up to date information on access to school for children speaking different languages that could be found is in Smits, Huisman, and Kruijff (2008) which analyses DHS datasets conducted in the late 1990s or early 2000s for 23 countries (both OIC and non-OIC). Although this analysis does not present the current situation, it provides a snapshot of disadvantages faced by children speaking languages different from the medium of instruction. For instance in Benin (DHS 2001), 24.3 percent of native French speaking children aged 7-11 do not attend school as opposed to 72.6 percent of Ditammari speaking children. In Cameroon (DHS 2004), the non-attendance rate is low among natively French or English speaking children aged 7-11 with 3.1 and 2.8 percent respectively while among Fulfulde speaking children the non-attendance rate rises to 43.7 percent. In Nigeria (DHS 2003), the non-attendance rate is only 2.4 percent among natively English speaking children rising to 52.9 for children speaking Hausa. A further analysis controlling

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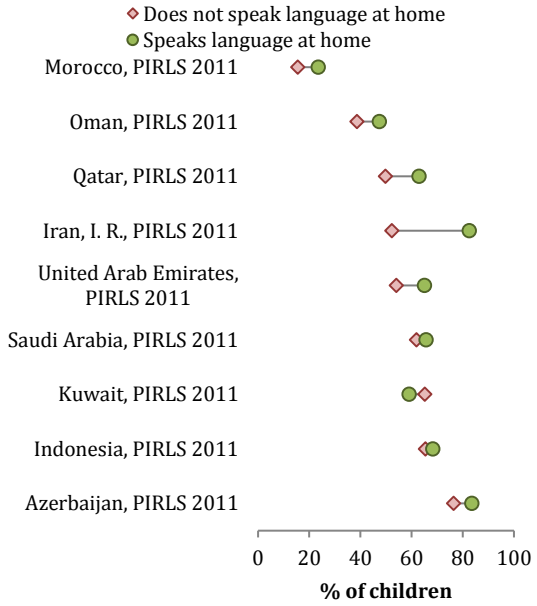
[129] UNICEF (2014)
130 Filmer (2008)
131 Filmer (2008)
132 Simons and Fennig (2017)
133 Simons and Fennig (2017)

for socioeconomic background, gender of the child and urbanity status shows that language continues to determine children's attendance in school in these countries.

Figure 15 Learning achievement, by language spoken at home

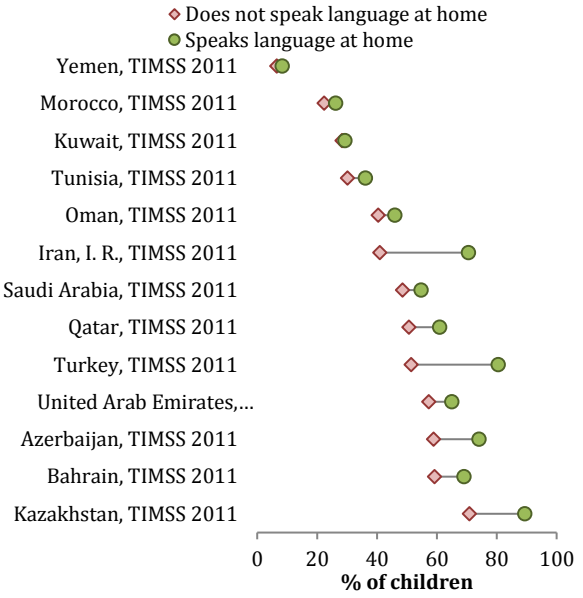
A- Learning achievement in reading (primary)

Percentage of children of primary school age taking part in PIRLS 2011 and passing first level of difficulty



B- Learning achievement in math (primary)

Percentage of children of primary school age taking part in TIMSS 2011 math test and passing first level of difficulty



Note: Data is obtained from UNESCO's WIDE Database.

Children who do not speak the country's dominant language at home before starting school have a significantly lower achievement level in reading and mathematics in a number of member countries in the OIC. In the international assessment test for reading PIRLS and the test for mathematics TIMSS, the information for children on whether they spoke the language of the test before starting school is collected from parents. While the number of participating countries from the OIC is not many, results show that for most of the participating countries, language is not the number one problem creating disadvantaged groups (See Figure 15 Panel A). Looking at the results of PIRLS 2011, achievement differences between speakers of the test language at home and non-speakers at home stand out for only one country, Iran where 52.2 percent of the children who do not speak the language at home were able to pass the lowest benchmark as opposed to 82.5 percent of the children who speak the language at home before starting school. In contrast, according to the results of the same test, speaking a different language at home does not put children at a disadvantage in Indonesia which is in fact one of the countries with the highest linguistic diversity in the world. An estimated number of more than 700

languages are spoken in the country and among the test takers 33 percent of the children did not speak the test language at home before starting school.[134] 4th grade students in a small number of member countries are at a disadvantage in achievement in mathematics also depending on what language they speak at home (Figure 15 Panel B). The gap between speakers and non-speakers of the dominant language is the widest for children in Iran and Turkey. For these countries the gaps are 29.6 and 29.1 percentage points respectively.

Apart from minority populations, refugee children are another group that suffer from problems related to language in the host countries. The top 3 countries sending the largest number of refugees in the World are Somalia, Afghanistan and Syria and they are all OIC member countries.[135] Among the top 6 countries receiving the largest number of refugees 5 of them are also OIC member countries namely Turkey, Pakistan, Lebanon, Iran and Jordan.[136] For instance in Lebanon the medium of instruction is English and French along with Arabic in public schools and in Turkey it is Turkish. This poses a problem for Syrian children who used to being educated in Arabic in their home country.

In some member countries in the Africa region, more systematic problems might be affecting student achievement despite the changes in the language of instruction. According to the reading achievement tests conducted in primary school, in Mali 94 percent of grade 2 students could not read a single word of French in schools where the medium of instruction is French.[137] When the test is conducted in Bamanakan in schools where the medium of instruction is Bamanakan, this rate was found to be 83 percent. This was also the case for other national instruction languages in the country (Bomu, Fulfulde, Songhoi). Similarly in Uganda 53 percent of children in schools with English as the language of instruction and 51 percent of students with Luganda as the language of instruction were still not able to read by the end of the 2nd grade.[138] These findings point out to the fact that in some cases changing the medium of instruction to the mother tongue alone might not be enough to achieve the intended results.

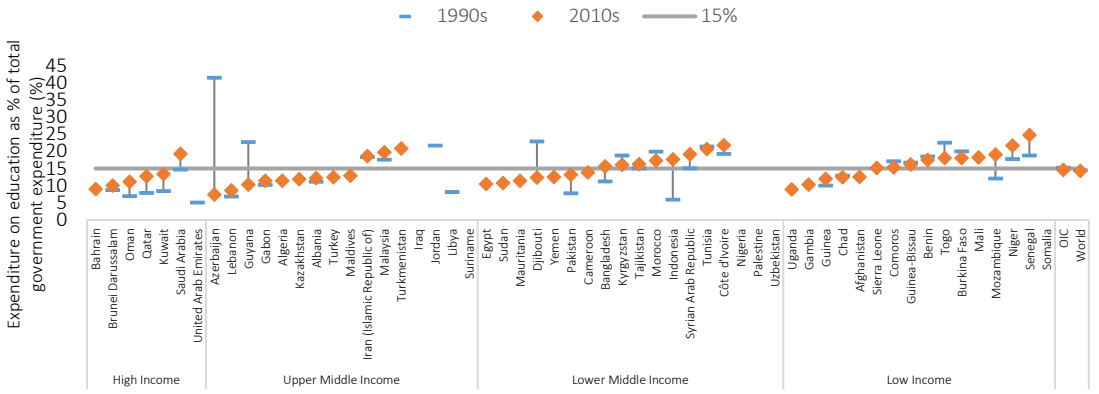
System wide problems

Education is not a priority in many of the OIC member countries' budgets. Only close to half of the OIC countries with data available (22 out of 48) spend more than 15 percent of their government budgets on education as is recommended (See Figure 16).[139] Only 5 countries spend more than 20 percent of their budgets on education, namely Turkmenistan, Tunisia, Cote d'Ivoire, Niger and Senegal. Senegal, which is a low-income country, is the country spending the most of its government budget on education with 24.8 percent in 2014. In fact, overall, low and lower middle-

134 Simons and Fennig (2017) for the number of languages spoken and Mullis, Martin, Foy, and Drucker (2012) for the percent of children not speaking the test language at home.
135 UNHCR (2016)
136 UNHCR (2016)
137 Gove and Cvelich (2010)
138 Gove and Cvelich (2010)
139 As a result of their 2007 meeting in Dakar, The High Level Group on Education for All, a group that is composed of high-level representatives from national governments, development agencies, UN agencies and the private sector, agreed that between 15 percent and 20 percent of government budgets should be allocated to education (UNESCO, 2007b).

income member countries give a higher priority to education in their government budgets compared to upper middle and high-income member countries. Among low-income member countries with data available 10 of them (out of 15) and among lower middle-income countries 8 of them (out of 15) spend more than 15 percent of their budget on education. In contrast, among upper middle-income countries only 3 (out of 12) and among high-income countries only 1 (out of 6) of them are above the suggested level of 15 percent.

Figure 16 Expenditure on education as % of total government expenditure (%)

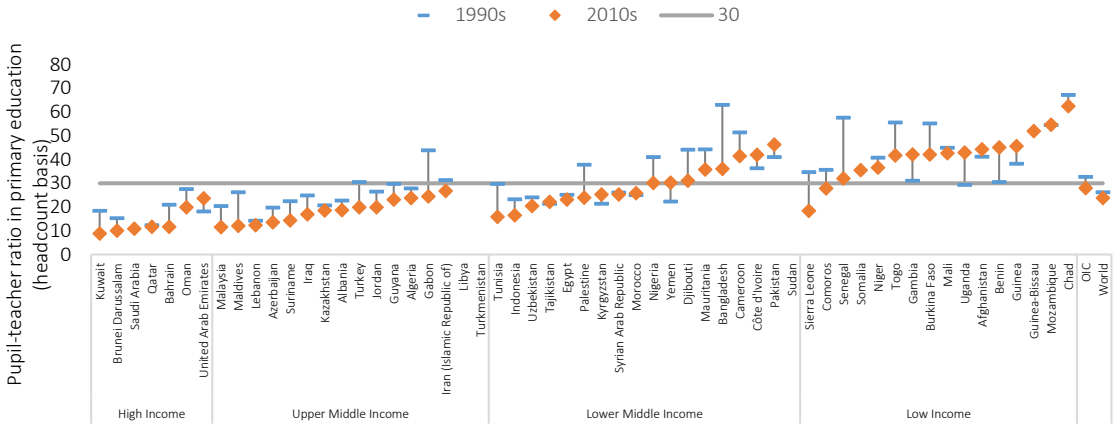


Note: Data is obtained from UNESCO Institute for Statistics' Database. To represent 1990s, for each country, the earliest value available in the database from 1990s has been used. For 2010s, for each country, the latest value available for 2000s has been used. Hence in a few cases latest value available could be from a year earlier than 2010. OIC average is calculated using these values for the countries with data available. Rates for the World is obtained from World Bank World Development Indicators and are for years 1999 and 2012.

Teacher shortages continue to be a problem in many OIC countries. In 22 countries (out of 54), for every teacher in primary education there are more than 30 students (See Figure 17). Chad and Mozambique are the countries with the highest number of students for every teacher with 62 and 55 students for each teacher in primary education respectively. In a number of member countries namely Gabon, Bangladesh, Sierra Leone and Senegal considerable progress was seen in the last 25 years with the pupil teacher ratio decreasing by more than 15 pupils per teacher. In Bangladesh where the progress was the greatest, the pupil teacher ratio in primary education was 63 in 1990, dropping down to 36 by 2015. In contrast, in some countries the trend was in the opposite direction. Gambia, Uganda and Benin are the countries where the pupil teacher ratio increased by more than 10 students per teacher. In Benin the pupil teacher ratio was 31 in 1990, increasing to 45 in 2015. However, national averages could mask the disparities between public and private schools and also between schools in different regions. In Uganda the pupil-teacher

ratio was found to be 50:1 in public schools while it was 28:1 in private schools.[140] In the Northern region of the country the pupil teacher ratio was 62:1 while in the Central region it was 31:1.[141]

Figure 17 Pupil-teacher ratio in primary education (headcount basis)



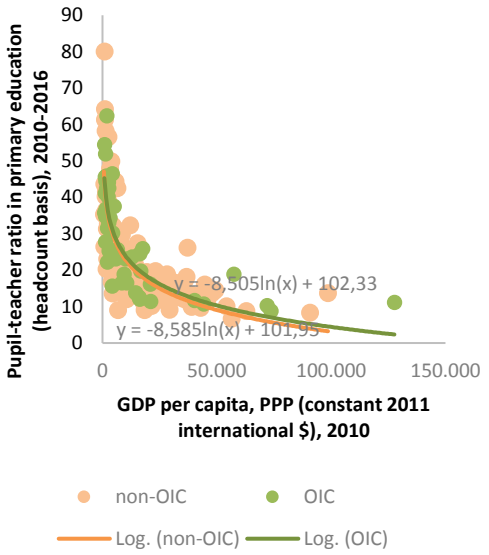
Note: Data is obtained from UNESCO Institute for Statistics' Database. To represent 1990s, for each country, the earliest value available in the database from 1990s has been used. For 2010s, for each country, the latest value available for 2000s has been used. Hence in a few cases latest value available could be from a year earlier than 2010. OIC average is calculated using these values for the countries with data available. World averages are for the years 1990 and 2014 and obtained directly from the database.

An adequate teacher supply is related to the member countries' income. None of the high-income or upper middle-income member countries have a pupil teacher ratio greater than 30 while countries with pupil teacher ratios greater than 30 are all lower middle-income or low-income countries. Indeed a negative correlation could also be seen between member countries' GDP per capita and teacher supply as proxied by the pupil teacher ratio (See Figure 18 Panel A). Hence the higher the member country's income the lower the pupil teacher ratio at the primary level. This is also the case for non-OIC countries.

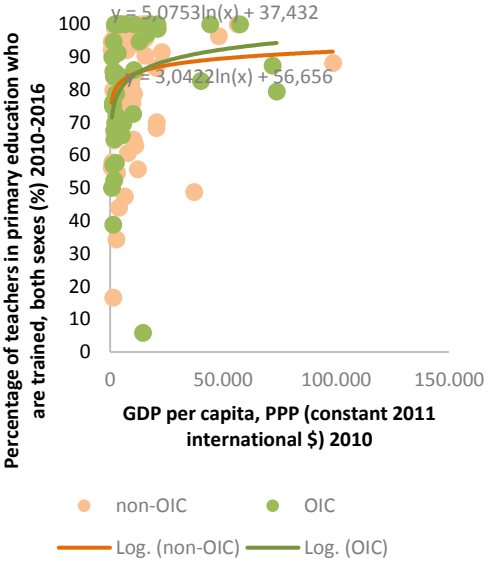
140 Wane and Martin (2013)
141 Wane and Martin (2013)

Figure 18 Human resources vs GDP per capita

A. Pupil teacher ratio vs GDP per capita



B. Trained teacher ratio vs GDP per capita



Note: Data is obtained from World Bank Education Statistics database. Education data is for the last year available between 2010 and 2016 while GDP per capita data is for year 2010. 49 OIC and 119 non-OIC countries are represented for Panel A while 42 OIC and 63 non-OIC countries are represented for Panel B.

As well as teacher shortages, the quality of teaching staff is a widespread problem across OIC countries (See **Figure *19* Percentage of teachers in primary education who are trained, both sexes (%)).**

Figure 19 Percentage of teachers in primary education who are trained, both sexes (%)

In the majority of OIC countries, not all teachers are trained according to the member countries' standards and, compared to the teacher shortage problem, country income is less relevant in explaining this issue (See Figure 18 Panel B). In 38 countries (of the 47 for which data is available) the percentage of trained teachers in primary education who have the adequate training for the country is less than 90 percent.[142] And in 17 of them it is even less than 50 percent. Qatar is one of the countries in this position. In Qatar which is a high-income member country, 49 percent of the teaching work force was trained in 2009 (the last year data was available). Other countries with the lowest rates are Suriname, an upper middle-income country, and Sierra Leone, a low-income country, where the rates are 5.8 percent and 29.3 percent respectively.

While teachers might be appointed to the schools and trained according to national standards, they might actually not be present in the classroom. Teacher absenteeism is an important problem that needs to be tackled. In Senegal 29 percent of teachers were not found in classrooms teaching while the rate reaches 53 percent in Uganda.[143] In Uganda absence from the classroom for teachers reaches as high as 69 percent in the Northern region.[144] In countries in the Middle East and North Africa region teacher absenteeism is also reported as a problem. Principals of 40 percent of the students in Morocco, 33 percent of the students in Tunisia and 27 percent of the students in Saudi Arabia reported that teacher absenteeism is a serious problem in their school.[145] In South Asia, Bangladesh and Indonesia also have a similar problem, with 16 and 19 percent of absence rates respectively for teachers in public primary schools.[146]

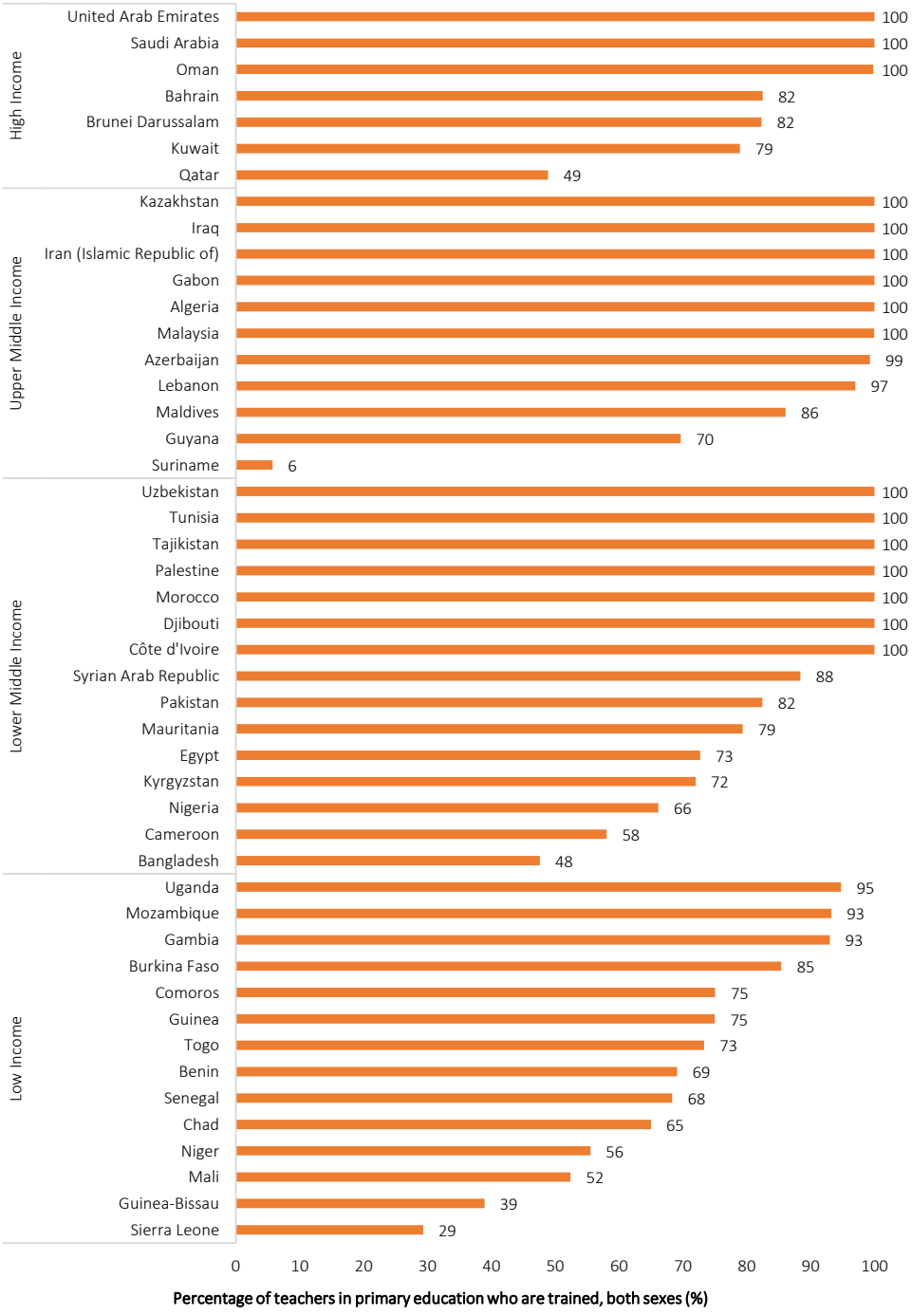
Another problem in the OIC is the low quality of education as indicated by low learning achievement. Low levels of achievement could be observed in the PASEC (CONFEMEN Programme for the Analysis of Education Systems) 2014 for member countries in Sub-Saharan Africa.[147] Among 10 countries from Sub-Saharan Africa that participated in PASEC 2014, 8 were OIC countries. The results of the reading test for children in Grade 2 in primary education show that after two years of education a considerable share of children either cannot read a single word or have difficulties in reading in the official instruction language (See Figure 20). Among the participating countries the share of children who cannot read a single word is the lowest in Burkina Faso with 11.6 percent while it is the highest in Niger with 48.1 percent.

Learning outcomes in international assessment tests is low in general in the participating OIC countries compared to the rest of the participants (See Figure 21). OIC countries participating in PIRLS 2011, generally perform worse than other participating countries. Azerbaijan was the most successful among the 9 OIC member countries participating in PIRLS

142 The indicator is described as follows: Percentage of teachers by level of education taught who have received at least the minimum organized pedagogical teacher training pre-service and in-service required for teaching at the relevant level in a given country.
143 See World Bank (2012) for Senegal and Wane and Martin (2013) for Uganda.
144 Wane and Martin (2013)
145 Brixi, Lust, and Woolcock (2015)
146 Chaudhury, Hammer, Kremer, Muralidharan, and Rogers (2006)
147 PASEC (2015)

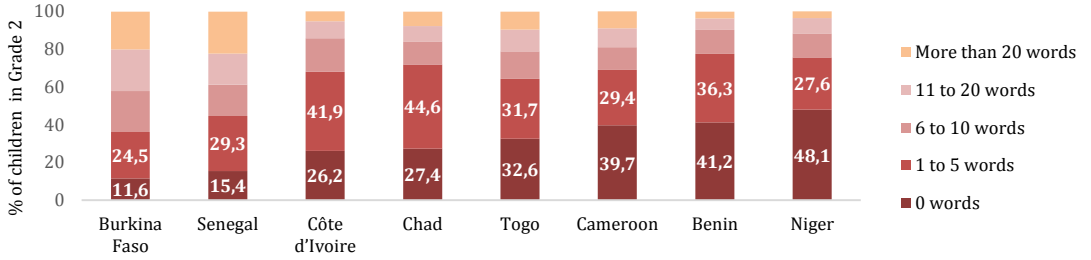
2011 with 82 percent of the 4th grade children taking the test passing the lowest benchmark. Azerbaijan is followed by Iran and Indonesia with 76 and 66 percent of children passing the lowest benchmark in each country respectively. Given that Azerbaijan and Iran are upper middle-income countries and Indonesia is a lower middle-income country, countries' level of income does not seem to make a difference for the OIC countries' level of achievement. In fact in the high-income participating countries Oman, Kuwait, Qatar, UAE and Saudi Arabia a smaller share of children (65 percent or less) managed to pass the lowest benchmark. A similar picture emerges for achievement in mathematics for 4th grade students in the OIC (See Figure 21 Panel B). Among 13 OIC countries participating in TIMSS 2011, the most successful one was Kazakhstan with 88 percent of children passing the lowest benchmark.

Figure 19 Percentage of teachers in primary education who are trained, both sexes (%)



Note: Data is obtained from UNESCO Institute for Statistics' Database.

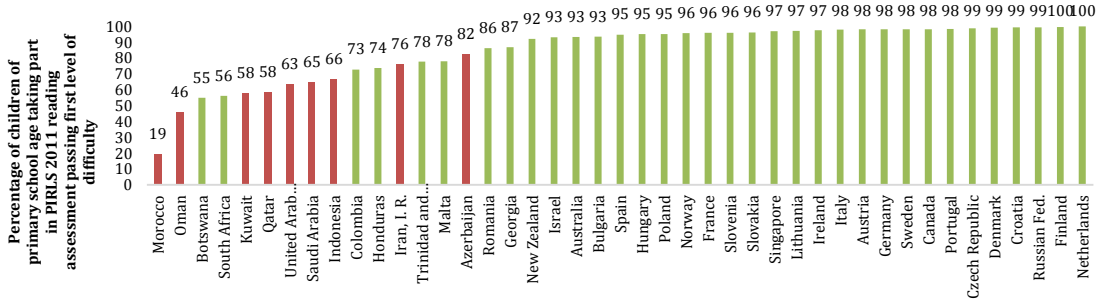
Figure 20 Distribution of Pupils by Average Number of Words Read Accurately in One Minute – Early Primary (Grade 2)



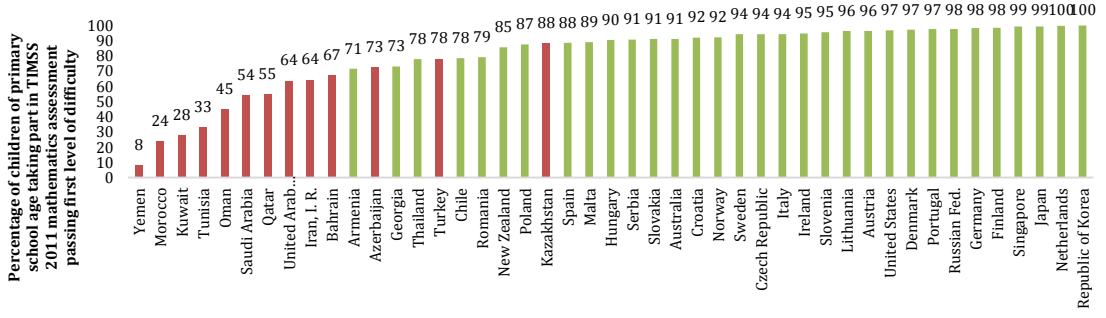
Note: Data is obtained from PASEC (2015)

Figure 21 Percentage of children of primary school age taking part in PIRLS reading assessment and TIMSS mathematics assessment passing first level of difficulty

A. PIRLS 2011

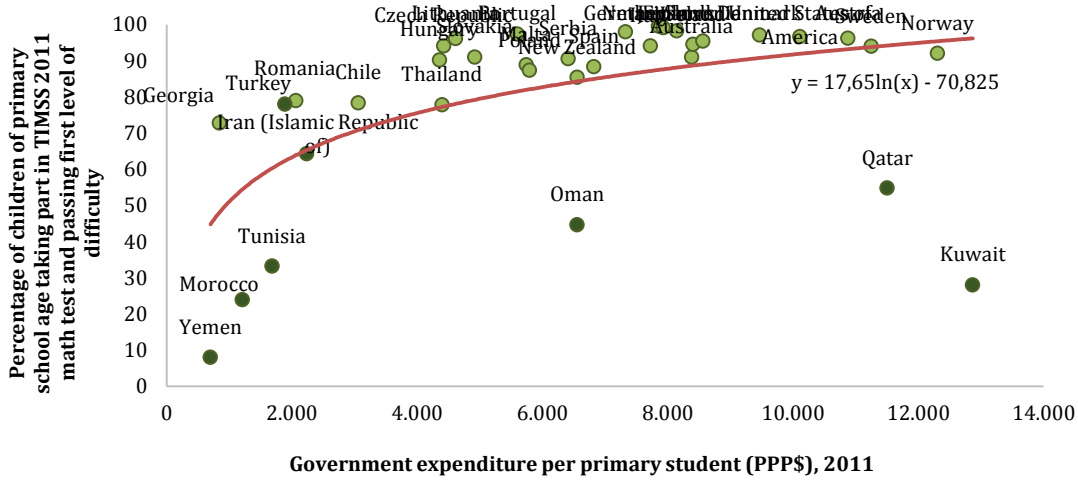


B. TIMSS 2011



Note: Data is obtained from UNESCO's WIDE Database.

Figure 22 Achievement in TIMSS 2011 mathematics test vs government expenditure per primary student (2011)



Note: Government expenditure per primary student is obtained from UNESCO Institute of Statistics' database and it is for year 2011 except for Qatar, Tunisia and Turkey. For Qatar expenditure data is for year 2009, for Tunisia it is for year 2008 and for Turkey it is for year 2013. Achievement in mathematics is obtained from UNESCO's WIDE database and it represents the percentage of students passing the lowest benchmark (400) in TIMSS 2011 for 4th graders in primary school. A total of 35 countries are presented here. These are the countries that have data on both indicators. Non-OIC countries represented here are: Georgia, Morocco, Romania, Chile, Hungary, Thailand, Czech Republic, Lithuania, Slovakia, Portugal, Malta, Poland, Serbia, New Zealand, Spain, Germany, Italy, Netherlands, Japan, Finland, Australia, Ireland, Slovenia, Denmark, United States of America, Austria, Sweden, Norway. OIC countries are: Yemen, Morocco, Tunisia, Turkey, Iran (Islamic Republic of), Oman, Qatar, Kuwait.

In fact, participating OIC countries should actually be achieving better outcomes given the level of government expenditure on education. A positive relation is seen between government expenditure per child at the primary level and achievement of the country in TIMSS 2011 as proxied by percent of children passing the lowest benchmark (See Figure 22). For OIC countries with data available, in both low or lower middle-income member countries (Yemen, Tunisia, Morocco) and high-income member countries (Oman, Qatar, Kuwait), the money spent on education per child seems not to give the expected results. These countries should actually be achieving better results given the money spent per child. Only in Turkey and Iran, government expenditure per child gives the expected results signalling that an increase in budget might achieve even better outcomes.[148] However in the rest of the countries increasing the money spent per child, or the budget allocated does not seem to be a solution in and of itself in improving the learning outcomes of children. These countries should give a priority to improving the quality of the education provided.

148 Predicted achievement rates are obtained in Excel while drawing the figures. They are the results of the simple regression the equation of which is provided on the graph.

2.3 POLICIES AND STRATEGIES RELATED TO EDUCATION IN THE OIC REGION

Interventions addressing poverty

In the OIC, education is "constitutionally free" in 39 of the member countries but unfortunately this does not mean that it is actually free in practice.[149] In fact, in 26 of the 39 countries it is reported that some fees continue to be charged at the primary school level. [150] Given the significant gaps between poor and rich children in many member countries it is an important first step to reduce fees that prevent children's access to education. In this respect, fee abolition or fee reduction has been implemented in a number of OIC countries in the last decades. Uganda eliminated the fees in public schools in 1997, Cameroon in 2003 and Mozambique in 2004.[151] In Uganda, after the fee reduction in 1997, the primary net enrolment rate increased from 57 percent in 1996 to 85 percent in 1997.[152] A tremendous improvement in coverage of poor children was also achieved with poor girls' enrolment increasing from 46.1 percent in 1992 to 82.0 percent in 1999, and from 55.7 percent to 85.3 percent for the poor boys in the same time period.[153]

Eliminating school fees is generally not enough to improve access given that other costs are associated with education including costs of books or uniforms and cash transfer programs could be useful at this point. Many cash transfer programmes have been implemented in the OIC, generally having positive results for children's education outcomes. Indonesia, Bangladesh, Pakistan, Morocco and Turkey are among the member countries implementing conditional or unconditional cash transfer programmes to improve education outcomes.[154] The results for increasing enrolments or decreasing dropout rates are promising. For instance in Indonesia, a scholarship programme (JPS) was implemented in 1998, distributing monthly transfers to primary and secondary school students to alleviate the negative impact of the 1997 economic crisis in the country. The scholarships were targeted towards the poor and results of an impact evaluation of the programme suggest that 10 percent of the children aged 10-12 would have dropped out if the programme had not been implemented.[155] The results of the programme were strongest for poor children living in rural areas. As another example, the pilot cash transfer programme *Tayssir* implemented in Morocco was also successful. This cash transfer programme, implemented in 2006, aimed to increase the school enrolment rates in rural areas. Conditional and unconditional - but specifically labelled for education - versions of the programme were implemented and the unconditional one was found to be more effective by decreasing the drop-out rate by 76 percent and increasing re-entry by 82 percent.[156]

149 UNESCO (2008) and Tomasevski (2006)
150 UNESCO (2008) and Tomasevski (2006)
151 Grogan (2009)
152 Essama-Nssah (2011)
153 Bertoncino, Murphy, and Wang (2002)
154 According to the countries included in the systematic review Snilstveit et al. (2016).
155 Sparrow (2007)
156 Benhassine, Devoto, Duflo, Dupas, and Pouliquen (2015)

Another important intervention in increasing demand for education by poor households is school feeding programmes. School feeding programmes provide incentives for poor families to send their children to school while providing children with nutritional support and have been implemented widely in the OIC as well. A total of 52 OIC countries – out of 54 with available data – provide school meals to children.[157] These programmes are either implemented by the government, World Food Programme or other funders. The coverage ranges significantly between member countries with close to 0 percent coverage in Indonesia and only 1 percent coverage in Cameroon as opposed to universal coverage in Burkina Faso.[158] An impact evaluation of one part of the school feeding programme implemented in rural areas in Burkina Faso points to a modest but positive effect on the enrolment outcomes of children. Measuring the impact of two food-for-education programmes, where the first one is providing school lunches and the second one is providing take home rations of cereal flour, 3-5 percentage point increases in girls and boys enrolments were found.[159] School lunches were also found to improve test scores of children in Senegal. In the evaluation it was found that scores in mathematics were improved by 12.3 and in French by 8.7 percentage points for children in Grade 2 of primary school.[160] Results found were not significant for the older children (in Grade 4).

Interventions addressing location

As can be seen from the school attendance gaps between children living in urban and children living in rural areas, non-existence of schools in the vicinity of households is one of the major barriers to accessing education for the children in the OIC. Eliminating this distance has shown positive results for a number of OIC countries, and the results are significant especially for girls. In Afghanistan, in a province (Ghor) where only 27 percent of families live within 5 kilometres of a primary school a village-based school programme which does not construct schools but uses available buildings instead resulted in significant improvements in enrolment and test scores for children.[161] The programme had a particularly positive impact on girls. The enrolment rate of girls increased by 52 percentage points and the boys' rate increased by 35 percentage points resulting in an elimination of the gender gap (with only 4 percentage points difference between girls and boys). In Burkina Faso, under a school construction program financed by the Millennium Challenge Corporation with the goal of improving girls' education outcomes, schools were constructed in 132 villages. These schools provided better infrastructure compared to regular schools in Burkina Faso including separate latrines for boys and girls, housing for teachers and generally an improved school building. Results suggest that overall enrolments increased by 19 percentage points with the girls' enrolment increasing by 5 percentage points more than boys' enrolment rates. A similar program was also implemented in Niger, under a program (IMAGINE) financed again by Millennium Challenge Corporation (MCC)

157 WFP (2013)
158 WFP (2013)
159 Kazianga, de Walque, and Alderman (2012)
160 Diagne, Lô, Sokhna, and Diallo (2014)
161 Burde and Linden (2013)

with the goal of improving girls' education outcomes.[162] Under the program 62 schools were constructed in selected villages.[163] Yet the improvements in Niger are slim compared to Burkina Faso. Results suggest that girls' enrolment increased by 4.3 percentage points but their attendance rate did not change. Additionally, no increase was observed in boys education outcomes. The difference between the outcomes observed in Burkina Faso and Niger could be due to the selection method of the villages that the schools were constructed in. In Burkina Faso these villages were selected by the Ministry of Education based on a scoring of villages that request a school. The villages filled in a survey and then the number of children to be served was estimated, giving higher weight for girls. In Niger on the other hand, the Government of Niger chose villages again by using certain eligibility criteria and then the villages that were to receive the schools were selected randomly out of these preselected villages. The different results observed in Afghanistan, Burkina Faso and Niger suggest that a careful needs assessment might be a better approach before undertaking construction projects.

Making access to schools easier for children also leads to future improvements for the communities. In Indonesia, with the fastest primary school construction program in the World, INPRES, 61,807 schools were constructed between 1973 and 1979.[164] An analysis of the impact of the program on schooling and future wages suggest that an average increase of 0.12 to 0.19 years of schooling and 1.5 to 2.7 percent increase in wages were achieved with each primary school constructed per 1,000 children.[165] In Pakistan, building government girls' secondary schools in villages were found to be associated with an increase in private schools in the villages which is shown to be due to an increase of skilled female labour supply.[166] In Pakistan the villages with a government girls' secondary school has twice as many educated women compared to villages without these schools and due to a higher labour supply wages are lower leading to an easier entry for the private education sector.

Location is not only a problem for rural children but it could also be a problem in other cases demanding different kinds of solutions. Not only children in rural areas but also children in urban areas living in slums or children living in other precarious environments are at a disadvantage in access to schools. In Bangladesh, to make it easier for children living in Dhaka's slums to access schools, 120 temporary "Learning Centres" serving 3,000 children have been established under the IDA financed Reaching Out of School Children Project.[167] The project is planned to serve 50,000 children in the coming years. In Bangladesh again, a community of 800,000 people live on boats on the riverbanks of the country, which makes it difficult for the children who are part of this community to have access to schools.[168] To answer the needs of this

162 Kazianga, Levy, Linden, and Sloan (2013)
163 Dumitrescu, Levy, Orfield, and Sloan (2011)
164 Duflo (2001)
165 Duflo (2001)
166 Andrabi, Das, and Khwaja (2013)
167 Kabir and Parajuli (2016)
168 UNESCO (2010)

community in 2006 a non-governmental organization used 21 school-boats to provide education to children for a period of 2-3 years after which the children continue in formal education.

Interventions addressing gender

Including gender goals in national strategies and plans is a good start in achieving gender parity. An analysis of the national education sector plans carried out for UNESCO (2015) shows that including gender goals in the education plans both in 2000 and 2012 is associated with significant advances in gender parity in education. This is found to be the case for a number of OIC countries including Burkina Faso, Mozambique, Sierra Leone, Gambia, Mauritania and Senegal.

Having a gender perspective or targeting girls specifically in policies and programmes led to positive outcomes in achieving gender parity in a number of OIC countries. Having a gender perspective in designing programmes leads to positive results as evidenced by the BRIGHT programme implemented in Burkina Faso under which "girl friendly" schools were constructed and both enrolment rates and test results were found to increase for girls as a result of the program.[169] Some countries targeted girls in eliminating fees and distributing cash transfers to achieve gender parity. In Gambia secondary school fees were eliminated gradually (region by region) for girls starting in the year 2000.[170] The elimination of school fees program which is also known as a girls' scholarship program led to positive results by increasing girls' enrolment rates at secondary school by 5 percentage points in the regions in which the program was implemented. In Bangladesh, the secondary school enrolment rate of girls was only 33 percent in 1991, when the Female Secondary School Stipend Program was introduced. Through the program conditional cash transfers were provided to secondary school females conditional on their attendance in school.[171] As a result of the program, the number of girls enrolled in secondary school increased from 1.1 million in 1991 to 3.9 million in 2005.[172] Since gender parity deteriorated over the years at the expense of boys now, the program is currently turned into a stipend that targets both girls and boys and uses a proxy means test to target the poor.[173]

Interventions addressing disabilities

Most OIC countries have signed the Convention on the Rights of Persons with Disabilities agreeing that they will "recognize the right of persons with disabilities to education" and "ensure an inclusive education system at all levels".[174] 49 OIC countries out of 56 are State Parties to the Convention on the Rights of Persons with Disabilities, while 6 member countries only signed but not ratified it and 2 countries still neither signed nor ratified the Convention, namely Somalia and Tajikistan.[175]

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169 Kazianga et al. (2013)
170 Gajigo (2016)
171 UNESCO (2012)
172 UNESCO (2012)
173 World Bank (2013)
174 United Nations (2006)
175 According to the list provided in UNICEF (2013b) and updated according to the list provided in United Nations (2017). State Parties are the countries that formally confirmed or that made an accession or ratification of the Convention.

Accessibility is an issue and measures are being taken to achieve it in a number of member countries. In Uganda accessibility standards have been made a part of the guidelines for building schools and in the recent years schools with accessible latrines have been built.[176] In Togo, under the Togo Education and Institutional Strengthening Project, 1,000 classrooms accessible to disabled children were built, now serving 42,000 children both disabled and not disabled.[177] In Bangladesh, under an EU funded holistic project with the overall objective of promotion of inclusive education by working with children, parents, teachers, schools and education authorities 85 mainstream primary schools were made physically accessible with ramps, accessible toilets and seating arrangements.[178]

It is important to train teachers in order to ensure inclusive education for disabled children. Teachers in mainstream schools may not know different types of special needs and disabilities and how to answer the needs of these children which creates a problem for the enrolment and education of disabled children. As part of the aforementioned project in Bangladesh 402 mainstream primary school teachers received a 6 day training on inclusive education.[179] Results from focus group discussions suggest that before the training teachers did not know that disabled children could be mainstreamed and hence did not want to enrol them in the school but after training they are more aware of different types of disabilities and how to answer the needs of disabled children.[180] In Turkey, an in-service training program was also found to be associated with an increase in positive attitudes towards the inclusive education of deaf children.[181] In Iran, elementary school teachers' knowledge of attention deficit/hyperactivity disorder (AD/HD) was found to be associated with a more positive attitude towards children with AD/HD in regular school settings.[182]

Interventions addressing language and ethnicity

Education in a child's mother tongue is gaining ground, especially in member countries in Sub-Saharan Africa. Bilingual education is applied in many Sub-Saharan African countries currently. Over time many Sub Saharan African member countries including Burkina Faso, Cameroon, Mali, Mozambique, Niger and Senegal increased the intensity of local language use in education.[183] For instance in Mali, the first bilingual schools were opened in 1978 as experiments.[184] The country then gradually added new languages to the education program starting in 1994. In the 2005-2006 school year 31.6 percent of schools were providing bilingual education. Bilingual education had positive effects in Mali. Children in bilingual schools in the country were 5 times less likely to repeat the year, more than 3 times less likely to drop out of school and their end of primary school examination pass rates were 32 percent higher than

176 Degenhardt and Schroeder (2016)
177 World Bank (2015)
178 Chowdhury and Gomes (2015)
179 Chowdhury and Gomes (2015)
180 Chowdhury and Gomes (2015)
181 Sari (2007)
182 Ghanizadeh, Bahredar, and Moeini (2006)
183 According to the Intensity of Local Language Use Scoring as calculated in Albaugh (2014)
184 Albaugh (2014)

children in monolingual schools.[185] In Burkina Faso, two types of schools Ecole Bilingues and Ecoles Satellites have provided bilingual education since the 1990s.[186] Children in these bilingual schools were found to have a higher passing rate of the primary school examination (85 percent) compared to the national average (62 percent).[187]

Outside of Sub-Saharan Africa, the medium of instruction is usually one or at most two languages despite these countries' linguistic diversity. For instance in Pakistan, Urdu is the language of instruction in most schools while it is spoken by only 8 percent of the population.[188] In Indonesia, over 700 languages are spoken and the medium of instruction is Indonesian which is spoken by 10 percent of the population.[189] An analysis in Pinnock (2009) states that to decrease the number of out-of school children and increase their access to school, countries that are described as having high ethnic fractionalization should give priority to problems arising from language differences. 23 OIC member countries are included in this list.

Improving quality in school systems

While it is important to finance the education system adequately, it is also important to provide financing so that disadvantaged groups' access to education is improved. Good practices emerge from a number of OIC countries achieving this through public-private partnerships and provision of cash incentives to teachers.

Public-private partnerships could be useful in increasing the supply of schools in remote areas and is applied in a number of member countries. In Pakistan, an intervention was implemented by Sindh Education Foundation in villages of Sindh province.[190] The intervention provided private entrepreneurs who will establish and operate schools with a per child cash subsidy. Children in the villages enrolled free to these privately operated schools. Entrepreneurs applied for the program with a proposal and with a number of conditions that they needed to fulfil including that there should not be a school in the 1.5 km radius of the proposed school's vicinity and that at least 75 children's parents gave consent for the children to attend the school once it is established. An impact evaluation of the program found that enrolment in treated villages increased by 51 percentage points compared to control villages. In Bangladesh the "Reaching Out of School Children" (ROSC) program started to be implemented by the Government of Bangladesh with the purpose of reaching the most disadvantaged children. Under the program a school establishment grant and per child allowances were provided to schools which operate as one classroom and one teacher schools. Children do not pay school fees in these schools while regular government primary schools charge fees. The program overall resulted in education of over half a million children and the establishment of approximately 15,000 ROSC schools since 2005. An

185 Bender, Dutcher, Klaus, Shore, and Tesar (2005)
186 Albaugh (2014)
187 UNESCO (2010)
188 UNESCO (2007a)
189 UNESCO (2007a)
190 Barrera-Osorio, Blakeslee, Hoover, Linden, and Raju (2011)

impact evaluation of the program found that the ROSC program resulted in an increase in enrolments by 9 to 18 percent in the areas they were established compared to non-ROSC areas.[191]

To solve the teacher deployment problem in remote areas member countries like Gambia, Mozambique and Uganda employed policies that provide teachers financial incentives when they serve in remote areas.[192] For instance, in Gambia, a hardship allowance in the scale of 30 to 40 percent of the average salary started to be distributed in 2005 to teachers working in hardship areas.[193] Hardship areas are in regions that are furthest from the capital city and at least 3 kilometers from a main road. An evaluation of the impact of the hardship allowance program found that the share of qualified teachers in remote areas increased by 10 percentage points compared to non-hardship areas.[194]

Apart from access, quality of education was found to be a general issue in member countries according to the findings presented in the previous section. To manage this problem, good practices in the OIC include taking international assessment tests at the macro level and working with community participation forms at the micro level.

International assessment tests are valuable tools for monitoring the general quality of education for participating countries and many OIC countries are taking part in them now. In 1995, when TIMSS was first applied in the World, only Iran and Kuwait participated in the test out of the 57 OIC member countries.[195] The number of test taking OIC countries increased to 15 by 2015. In TIMSS 2015, along with Iran and Kuwait, Bahrain, Egypt, Indonesia, Jordan, Kazakhstan, Lebanon, Malaysia, Morocco, Oman, Qatar, Saudi Arabia, Turkey and United Arab Emirates were the other participating member countries from OIC.[196] Examination of TIMSS outcomes resulted in reviews or changes in the curriculum of schools in countries like Indonesia, Iran and Lebanon and led to the development of a five year plan in Qatar to meet international standards.[197]

Community participation in education systems could be useful in increasing the quality of education and is employed in a number of OIC countries in different forms. Community based monitoring is found to be useful in increasing accountability and hence increasing school success in Uganda. In 1997 a newspaper information campaign started in the country in response to leakages found in public funds which failed to reach schools.[198] With the campaign, newspapers reported monthly education grant transfers to districts with the aim of giving the possibility to monitor the funds to parents and head teachers. While in 1995 an average school received

191 Dang, Sarr, and Asadullah (2011)
192 UNESCO (2010)
193 Pugatch and Schroeder (2014)
194 Pugatch and Schroeder (2014)
195 Institute of Education Sciences - National Center for Education Statistics (2017)
196 Institute of Education Sciences - National Center for Education Statistics (2017)
197 See TIMSS & PIRLS International Study Center (2017a) for Indonesia, TIMSS & PIRLS International Study Center (2017b) for Iran, TIMSS & PIRLS International Study Center (2017c) for Lebanon and TIMSS & PIRLS International Study Center (2017d) for Qatar.
198 Bjorkman (2006)

approximately 20 percent of the grant, it received more than 80 percent in 2002[199] Evaluation of the impact of the campaign showed that in districts where newspaper penetration is higher children scored higher in Primary School Leaving Exam.[200] Community participation could also be facilitated through school based management models where school committees composed of parents have greater responsibility in school matters. In Indonesia, in 2002 through a governmental decree, school committees composed of parents, community leaders, and teachers were called to be established in schools.[201] Yet parental participation in school management continued to remain limited in the country.[202] However institutional reforms tried out in experimental forms in a number of schools in Indonesia such as introducing elections to school committees and building links between village councils and school committees were found to have positive effects on students' learning outcomes.[203]

199 Bjorkman (2006)
200 Bjorkman (2006)
201 Chen (2011)
202 Chen (2011)
203 Pradhan et al. (2014)

3. CASE STUDIES

3.1 SENEGAL

Overview

Country Context

Economy: While the Senegalese economy experienced strong growth rates during 1995-2005, the country remains a low-income country. With a human development index (HDI) of 0.464 (UNDP), Senegal ranks 166th out of 182 countries[204]. Growth decelerated since 2006 due to a relatively stagnant private sector, rapid rise in public expenditures and reduced dynamism of the traditional engines of growth (construction, telecommunications, and financial services). The informal sector remains the largest employer and represents 55% of the economy. The real GDP growth rate was 6.5% in 2015, with fluctuations from a peak of 6.7% in 2003 and a low of 2.2% in 2009[205]. While the growth over the past 20 years has led to large reductions in poverty levels, poverty incidence remains relatively high and persistent (38% poverty headcount in 2011[206]), especially in rural areas.

Administration: In 2008, the Senegalese territory was divided in additional regions for a total of 14 administrative regions: Dakar, Diourbel, Fatick, Kaffrin, Kaolack, Kédougou, Kolda, Louga, Matam, Tambacounda, Thiès, Saint-Louis, Sédhiou and Ziguinchor[207]. In addition to the 14 regions, each headed by a governor, there are forty-five (45) departments headed by prefects and about 571 municipalities. These stem from the implementation of Act III of decentralisation, whose main objective is to set up economic poles with a greater responsibility at the decentralized level. The official language of the country is French with an additional 22 national languages, with the most widely being Wolof, Pulaar, Serer, Diola, Mandingue and Soninke.

Demography: According to the 2013 population census[208], the total population of Senegal is 13.5 million people with 55% living in rural areas. The population is unevenly distributed, with higher densities in the West and Central regions and sparsely populated North and Eastern regions. Senegal has begun the demographic transition but continues to experience strong population growth (3.1% in 2015). With a predominantly young population (43.8% below the age of 14 in 2015) and a slow economy, the question of employment remains the top priority for public policy and households. This translates into government prioritization of the education sector in terms of investments (7.2% of GDP in 2014[209]) but also affects the demand for education and especially for return to education investment by the population. The current state of access to education is therefore a result of both supply-side and demand-side dynamics.

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[204] UNDP (2015) http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/SEN.pdf
[205] UNESCO (2015) "Profiles: Senegal"
[206] Dang, H, Lanjouw, P., Swinkels (2014)
[207] See map in Annex 1
[208] ANDS (2014) Recensement General de la Population et de l'Habitat, de l'Agriculture et de l'Elevage - RGPHAE 2013.
[209] See Table 1. Senegal Basic Indicators

Table 1 Senegal Basic Indicators

	Indicator	1990s	2010s	exact year for 1990s	exact year for 2010s
Population	Population, total	7,514,201	15,129,273	1990	2015
	Population growth (annual %)	3.1	3.1	1990	2015
	Population ages 0-14 (% of total)	47.1	43.8	1990	2015
	Urban population (% of total)	38.9	43.7	1990	2015
GDP	GDP growth (annual %)	-0.7	6.5	1990	2015
	GDP per capita, PPP (constant 2011 international $)	1852.1	2273.6	1990	2015
Poverty & Inequality	Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)	68.4	38.0	1991	2011
	Income share held by lowest 20%	3.5	6.1	1991	2011
	GINI index (World Bank estimate)	54.1	40.3	1991	2011
Other development indicators	Mortality rate, under-5 (per 1,000 live births)	140.4	47.2	1990	2015
	Prevalence of stunting, height for age (% of children under 5)	35.3	19.4	1992	2014
	Improved water source (% of population with access)	59.9	78.5	1990	2015
	Improved sanitation facilities (% of population with access)	35.5	47.6	1990	2015
	Access to electricity (% of population)	26.0	56.5	1990	2012
Education	Gross enrolment ratio, pre-primary, both sexes (%)	2.2	14.9	1990	2015
	Gross enrolment ratio, primary, both sexes (%)	54.4	82.2	1990	2015
	Gross enrolment ratio, lower secondary, both sexes (%)	17.6	58.8	1996	2015
	Gross enrolment ratio, upper secondary, both sexes (%)	10.5	36.1	1996	2015
	Pupil-teacher ratio in primary education (headcount basis)	57.6	32.1	1990	2015
	Pupil-teacher ratio in lower secondary education (headcount basis)	42.8	34.8	1996	2008
	Government expenditure on education as % of GDP (%)	3.2	7.2	1998	2014
	Expenditure on education as % of total government expenditure (%)	18.7	24.8	1998	2014

Source: UNESCO Institute of Statistics Database and World Bank World Development Indicators Database

Education System overview

The overall government decentralisation trends were also implemented in the education sector. The Ministry of National Education (MEN, Ministere de l'Education nationale) has devolved some of the administrative powers at the inspectorate level. There are 16 academic inspectorates, one for each region (13) and with the Dakar region subdivided into 3 inspectorates, and 59 education and training inspectorates. In 2004, education became compulsory for 10 years and for all children of both sexes from 6 to 16 years of age.

Overall three ministries oversee the education sector in Senegal; the Ministry of National Education, the Ministry of Vocational Training, Learning and Crafts industry (MFPAA) and the Ministry of Higher Education and Research (ESR). Ministry of National Education oversee the following programs: Integrated Early Childhood Development (DIPE), Elementary Education, Lower Secondary Education, Secondary Education, Basic Education for Youth and Adults - EBJA (Daara, Literacy), and Modernizing Daara and Governance.

There are several types of schools at the primary level: the classical French public schools (82.71% of all schools), the private secular schools (8.04%), the Franco-Arab public schools (3.29%), the Franco-Arab private sector (4.01%), the Catholic private sector (1.46 %), associative[210] schools (0.23%), the Protestant private sector (0.19%) and community schools (0.08%) (Source: DPRE / MEN, Statistical Yearbook 2014). The school-age population (6 to 11 years) is characterized by an annual growth rate of 2.7%. This rapid increase in the schooling population places great pressure on the education system. Multi-grade schools are more common in sparsely populated areas.

Trends in Access to Schooling

According to the 2013 population census[211], the illiteracy rate remains high (57.2%) among those aged 15 and over despite the achievements over the past two decades in Senegal. The census estimated out-of-school children[212] at over 1.5 million in 2013, representing about 47% of all school-aged children. Almost 8 out of 10 out-of-school children have never attended school while 2 out of 10 were enrolled at some point. In other words, non-enrolment is a phenomenon in Senegal that has more of an impact on the number of out of school children than the school drop-out rate.

In terms of access to education, while Gross Enrolment Ratios increased (See Figure 23), especially at the lower secondary level, a large part of the schooling age population remains out of school (or at risk of dropping out).

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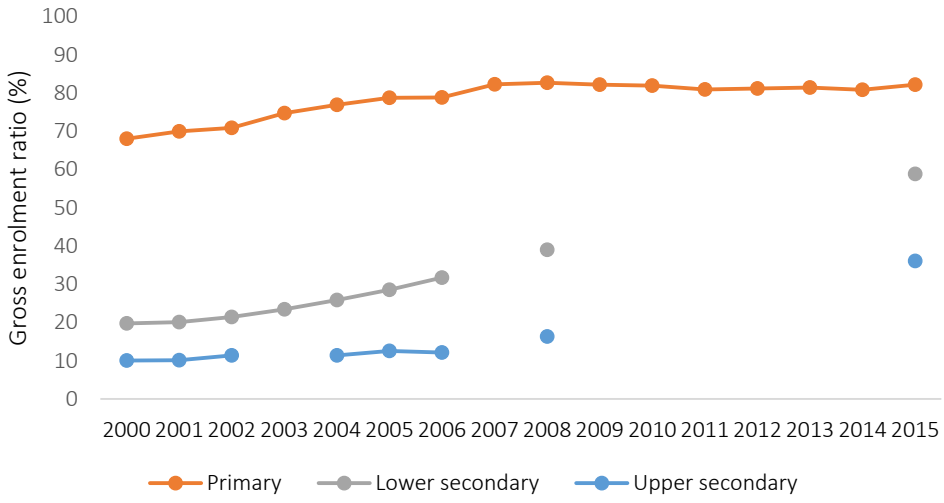
[210] "Ecole associative" is an informal school, a type of community-based school usually found in poor urban areas
[211] RGPHAE-2013
[212] Definitions. **Child enrolled in school:** A child attending a formal school (French or Franco-Arab school, public or private, secular or confessional). **Out of school child**: A child who has never been enrolled in the formal system or who has dropped out of school. Can attend or have attended a Koranic school, pure Arabic, or other non-formal school (alternative systems)

Figure 23 Gross Enrolment Rates 2000-2015



Note: UNESCO Institute of Statistics

The so-called "alternative systems" constitute an offer of education and training which compete with demand for formal school (see section 3.1). The government of Senegal considers children enrolled in non-formal and informal education system as 'out-of-school'.

Improving Enrolment Rates (UNESCO and Administrative data).

Fig.2 (Chapter 2) shows that Senegal's Net Primary Enrolment Rate has improved significantly during 1990s-2010s and is currently around the average for low-income OIC countries, while performing better than lower-middle-income Nigeria.

Based on administrative data[213], the primary level overall Gross Enrolment Rate (GER) has grown from 67.2% in 2000 to 89.4% in 2015 with a downward trend between 2007 (86.2%) and 2015. The network of schools increased by 53.5% from 2004 to 2014, which contributed to improved access rates. In terms of quality/performance, Senegal improved the learning environment by reducing pupil/teacher ratio and reaching one of the lowest pupil/teacher ratios (at the primary level) in the region with 31.3 students per teacher. The primary completion rate has grown slightly (going from 60.1% in 2012 to 60.3% in 2013) suggesting a positive development of this indicator. The lower secondary Gross Enrolment Rate (GER) averaged 54.6.0% to 58.4% between 2012 and 2015 and is higher for girls (61.7%) than for boys (55.2%) in 2015. Whereas for upper secondary education, the gross enrolment ratio increased steadily between 2012 and 2015, from 25.9% to 33.2%. "Senegal has always had a sector approach to education meaning that although secondary education has not benefited from the same level of investment as primary education,

[213] Rapport des indicateurs rétropolés (2002 à 2015) DPRE/MEN (obtained from Ministry of National Education)

it has not been left behind as has been observed in many other countries".[214] Nonetheless Fig. 1 shows the large gaps between the GERs of primary school, lower secondary and upper secondary. This suggests that large numbers of students may drop-out at the end of each education cycle.

Worsening trends[215]: The repetition rate in the lower secondary averaged a steady increase from 16.4% in 2012 to 21.6% in 2014. The drop-out rate also increased between 2012 and 2014 from 9.1% to 10.2%, and the pass rate for the examination of the Medium-term Study Certificate (BFEM) saw a decrease between 2012 and 2015 from 59.6% to 43.2 %. At the (upper) secondary level, the repetition rate increased steadily between 2012 and 2014 from 19.5% to 23.1%. It is higher in girls (23.5%) than in boys (22.7%) in 2014.

Determinants of Access to Schooling[216]

Similarly to other OIC countries and global trends, the disparities in access to education in Senegal are linked to income poverty, rural areas, geographical location, gender, disability, language and minority. However, Fig.5 and Fig.8 (Chapter 2) show that Senegal is experiencing higher than OIC average disparities in net attendance rates between poorest/richest wealth quintiles and between urban/rural populations.

Low access is also linked to deficiencies in learning processes, problems with the devolution and decentralization processes, weak coordination between public/private and non-profit sectors, inadequate budget efficiencies, uneven distribution of population, and religious background in some of the districts with lowest access to school.

Using DHS data, this section will provide an overview of the main determinants of access to education and how indicators and correlates have evolved between 2005 and 2015[217]. It is worth noting that many of the indicators/determinants are often inter-related with one another, for example poorer households are more likely to be living in rural areas and have a head of household with no education.

Attendance Rates: In 2015, in spite of relatively high Gross Enrolment Rates (section 1.3), attendance rates for 6-11 year olds and 12-15 year olds remain low at 54.9% and 63.5% respectively.[218] The latter have increased since 2005 but attendance rates for 6-11 years old have remained largely stagnant over the last 10 years (according to the analysis comparing DHS 2005 with DHS 2015).

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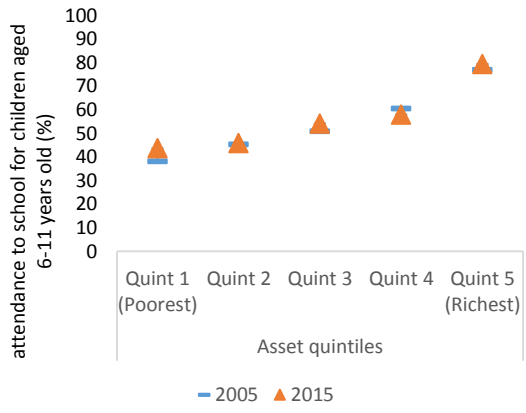
[214] World Bank (2013) Senegal – Quality Improvement and Equity of Basic Education Project
[215] Online "Profile: Senegal" (2015) Education, UNESCO Regional Office - Dakar
[216] Based on 2005 and 2015 DHS data analysis
[217] In 2008 a few new regions were introduced and as such some of the 2015 data actually covers additional regions (for eg Kaolack has been divided in Kaolack and Kaffrine. In our graphs, the 2015 'Kaolack' region covers the data for both Kaffrine and the new Kaolack, the 2005 Kaolack is the old/undivided region pre-2008)
[218] These rates are obtained through authors' micro data analysis using DHS 2015 for Senegal

Poverty: Both in 2005 and in 2015, access to schooling was significantly lower for children in the lowest wealth quintile versus children in the highest wealth quintile (See Figure 24). Attendance rates have increased across wealth quintiles but completion rates of the poorest have experienced a particularly steep increase both for 5 years of education (rates 3 times higher in 2015 than 2005) and for 8 years of education (2015 rates are almost 14 times higher than in 2005).

Within each indicator, the difference in access rates between the poorest and the richest have decreased across all indicators (except for 2015, 8 year completion rate) meaning inequality has decreased (See Table 2).

Figure 24 Attendance in school by household wealth status 2005-2015



Note: Authors' calculations using DHS 2005 and 2015 for Senegal

Table 2 Education outcomes by household wealth quintile

Household wealth quintile	Attendance in school (6-11 year olds)		Attendance in school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	2005	2015	2005	2015	2005	2015	2005	2015
Quint 1 (Poorest)	38.2	43.8	34.4	52	10.3	32.1	1.2	16.5
Quint 5 (Richest)	77	79.4	69.8	84.8	54.6	66.5	35.9	59.8
Difference	38.8	35.6	35.4	32.8	44.3	34.4	34.7	34.3

Note: Authors' calculations using DHS 2005 and DHS 2015

An indirect channel through which poverty can also affect access to schooling is through **the size of the family and the number of children at home**. Usually, poorer households tend to have more children and vice versa having more children creates additional burden on the economics of the family and thus create incentives for child labour.

Table 3 Education outcomes by number of children in the household

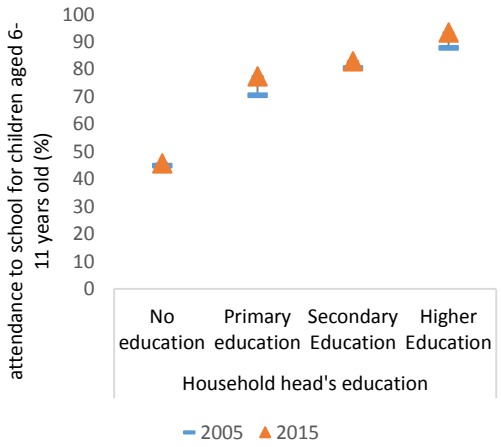
Number of children in the household	Attendance in school (6-11 year olds)		Attendance in school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	2005	2015	2005	2015	2005	2015	2005	2015
5 or more children	50.1	50.5	50.7	58.7	25.1	37.8	12.3	29
3-4 children	54.2	61.6	54.4	68.9	31.8	49.9	16.6	39
1-2 children	64.6	69.2	50.9	74.3	35.8	59.5	20.2	42.2

Note: Authors' calculations using DHS 2005 and DHS 2015

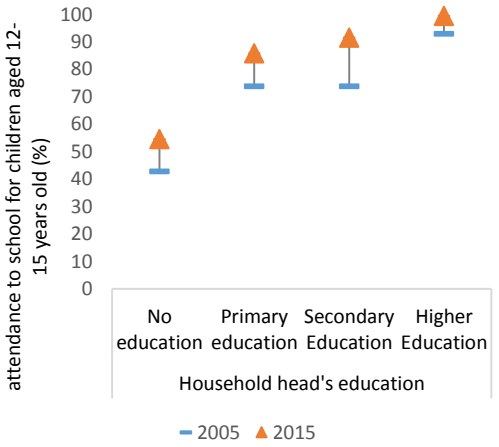
Looking at DHS data for 2015, attendance rates for 6-11 years and 12-15 years old are only 50.5% and 58.7% for families that have 5 or more children (See Table 3). These access rates increase by 18.7 percentage points and 15.6 percentage points respectively if the family has only 1 or 2 children. These significant differentials can be noticed also in the completion rates of 5 years of schooling and 8 years of schooling.

Figure 25 Education outcomes by household head's level of education

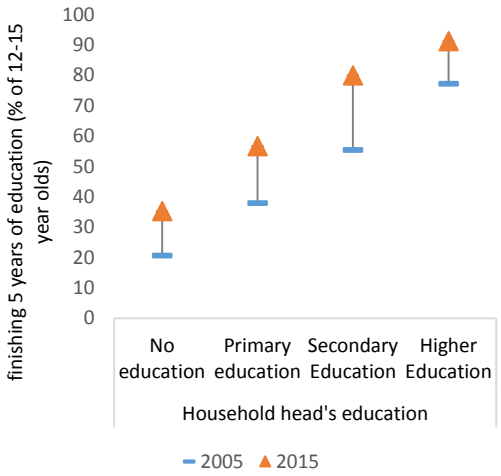
A. Attendance in school (6-11 year olds)



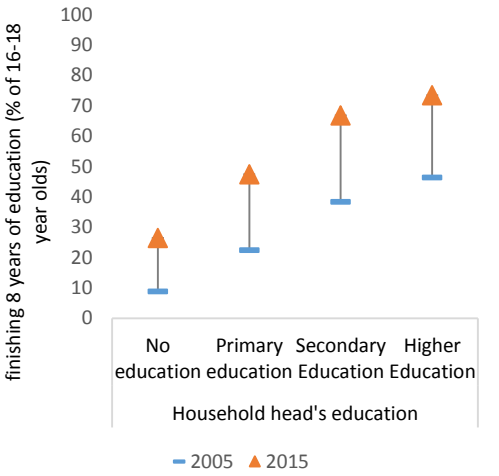
B. Attendance in school (12-15 year olds)



C. Finishing 5 years of education (12-15 year olds)



D. Finishing 8 years of education (16-18 year olds)



Note: Authors' calculations using DHS 2005 and DHS 2015

Education of Head of Household: In 2015, attendance rates for children with parents with no education stands at 45.7% and 54.6% for 6-11 and 12-15 year olds respectively (See Figure 3). If the head of household finishes higher education, those rates increase very substantially by 47.7 percentage points and 44.9 percentages points up to 93.4% (6-11 year olds) and 99.5% (12-15

year olds). Comparing the DHS data from 2005 to 2015, except for the 6-11 year old attendance rates, significant increases were experienced in the 3 other indicators.

Gender: Gender is not a major source of inequality in educational attainment in Senegal. Attendance of 6-11 years old is very similar by gender, with a sluggish increase for both boys and girls in attendances rates over the past 10 years (See Table 4).

Table 4 Education outcomes by gender of the child

Gender of the child	Attendance in school (6-11 year olds)		Attendance in school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	2005	2015	2005	2015	2005	2015	2005	2015
Female	53.1	55.7	48	64.3	26.5	45.4	14	35.4
Male	51.5	54.1	55	62.6	30	42.4	17.1	34.7

Note: Authors' calculations using DHS 2005 and DHS 2015

Gender parity remains across the other indicators, slightly in favour of girls (2015: 64.3% vs 62.6% - 45.4% vs 42.4% - 34.5% vs 34.7%). Between 2005 and 2015, the slight advantage of boys (55% vs 48%) in attendance for 12-15 year olds was reversed by 2015 giving a slight advantage to girls.

The gender of the head of household is also impactful. According to the 2013 census, 50% of children aged 7-16 residing in a male-headed household are "out-of-school" versus 35% when the head of the household is a woman.

Location/Area of residence: Both in 2005 and in 2015, rural areas experienced lower schooling access rates (both in terms of attendance rates and completion rates) (See Table 5).

Table 5 Education outcomes by location of the household

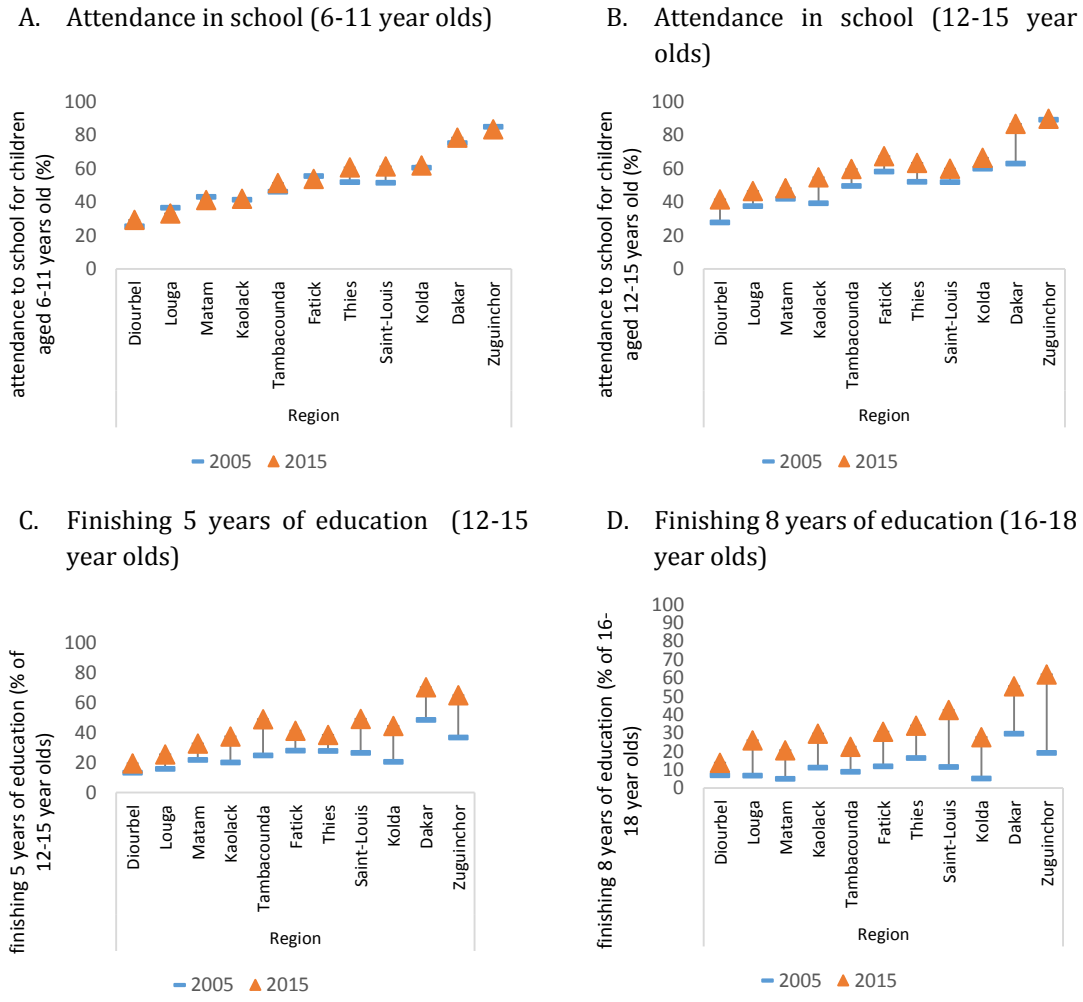
Location of the household	Attendance in school (6-11 year olds)		Attendance in school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	2005	2015	2005	2015	2005	2015	2005	2015
Rural	42.6	43.1	41.4	52.2	16	32.4	4.1	21.9
Urban	69.4	73.6	64.9	79.9	44.6	60.7	26.6	51.2
Difference(2015 minus 2005)								
Rural		0.5		10.8		16.4		17.8
Urban		4.2		15		16.1		24.6
Difference (Urban minus Rural)	26.8	30.5	23.5	27.7	28.6	28.3	22.5	29.3

Note: Authors' calculations using DHS 2005 and DHS 2015

Except for the 6-11 year old bracket, attendance and completion rates have improved between 2005 and 2015 for both rural and urban areas, with a steeper increase in urban centres. While rates have generally increased in the last 10 years, the inequality between urban and rural access

rates has gotten worst over time. For example, the difference in attendance percentage points between rural and urban has increased to 30.5 (2015) from 26.9 percentage points (2005) in attendance of 6-11 year olds. Other indicators have experienced this increase in urban-rural inequality except for completion rates of 5 years of schooling (stagnant inequality).

Figure 26 DHS 2005-2015 Difference in access rates by regions[219]



Note: Authors' calculations using DHS 2005 and DHS 2015

Location/Geographic regions. Analysis of DHS 2015 showed that Kaffrine, Djourbel, Louga, Matam and Tambacounda are the 5 critical regions with lowest access to school rates (or conversely, highest numbers of out of school children). While completion rates have improved

[219] Given the 2008 new regional divisions, in the graphs the 2015 'Kaolack' region covers the data for both Kaffrine and the new Kaolack, the 2005 Kaolack is the old/undivided region pre-2008 and so forth.

since 2005, they also remain low in 2015 with just 43.9% of children finishing 5 years of education and 35% finishing 8 years of education. In 2015, the 5 regions with lowest access to schooling are Kaffrine, Diourbel, Louga, Matam and Tambacounda.

They range from high-density areas with many schools (Diourbel) to low density areas (Tambacounda) and from high poverty regions (Kaffrine) to relatively well-off regions (Louga) (see Annex 2).

Ethnicity/Language: Using ethnicity as a proxy for language, the DHS findings would seem to point to discrimination against the Wolof population or at least language acting as a barrier to entry to school (See Table 6). However, the *Wolof* are not a minority and these results are misleading (see Section 3 which points to political and cultural reasons i.e. some of the regions with a majority Wolof population happen to also be regions with strong anti-colonialist political activism that leads to families preferring non-formal religious schools instead of the main formal secular French system).

Table 6 Education outcomes by ethnicity of the household

Ethnicity of the household	Attendance in school (6-11 year olds)		Attendance in school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	2005	2015	2005	2015	2005	2015	2005	2015
Wolof	44	38.3	43.3	49.5	25.4	33.1	12.7	28.4
Poular	49.7	54.4	47.2	58.6	25.4	42.5	10	29.1
Non-Senegalese	51.9	56.3	38.6	71.3	26.1	44.8	14	20.9
Soninke	60.9	61.2	64.3	87.7	31.3	51.4	23.9	47.4
Madingue	61.4	61.8	59.9	69.9	30.8	51.9	15.4	33.6
Serer	56.1	70.6	52.8	76.1	26.2	48.8	17.8	38.1
Other	69.9	82.6	70.4	84.2	39.9	51.8	23.4	57.9
Diola	83.1	84.4	90.5	92.6	44.1	77.1	23.6	66.1

Note: Authors' calculations using DHS 2005 and DHS 2015

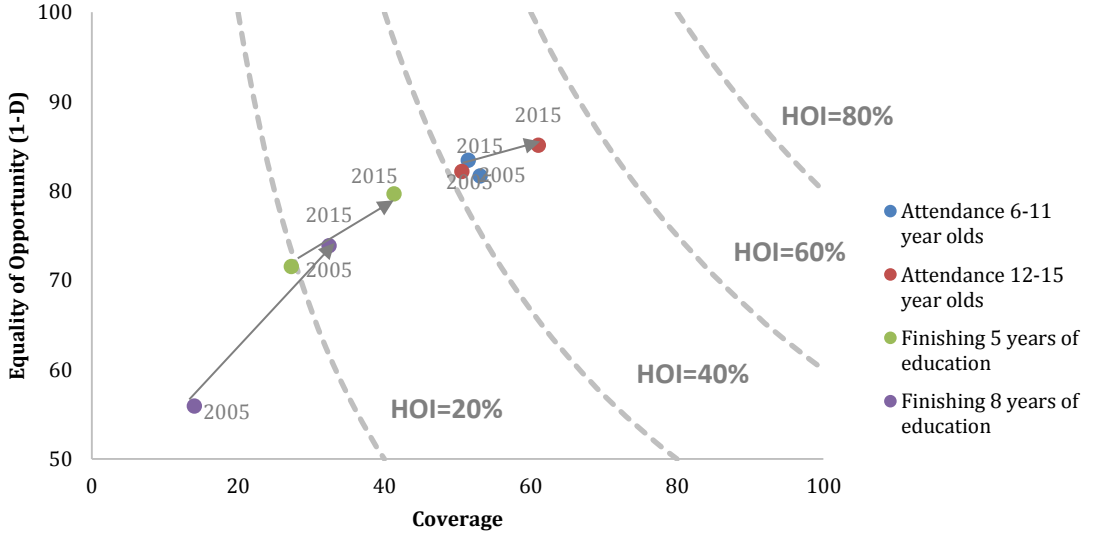
Disability. There is not much information about disability in the DHS data. However the 2013 Census provided information on out of school children and access to schooling of children with mild or severe disability: the number of children aged 7 to 16 living with a disability is 35,369 of which 23,425 are "out of school". This corresponds to an out of school rate of 66% for this category of children, whereas it is 47% for Senegal as a whole. There are 20,481 children living with a disability who have never attended school, or about 87.5%, when only out-of-school education is considered. Disabled children are therefore disproportionately affected and suffer particularly acute low schooling access rates.

Measuring Inequality of Opportunity in Access to Education in Senegal using the Human Opportunity Index

Section 2.1 has shown significant disparities in schooling access rates in terms of poverty, region, location and education level of the parents.

Using the DHS data, this section will analyse the inequality of opportunity in education using the Human Opportunity Index (HOI) approach (see Annex 1 for further details on methodology and interpretation). The HOI is an index ranging from 0 to 100 which adjusts the percentage coverage of a service by penalizing inequality across different predefined circumstance groups. The HOI for education indicators for Senegal (See Figure 27) are low in general. In 2015, the highest HOI was 51.9 percent for attendance in school for 12-15 year olds while the lowest HOI is for finishing 8 years of education for 16-18 year olds and it is only 24 percent.

Figure 27 HOI, Coverage and Equality of Opportunities for Senegal, 2005-2015



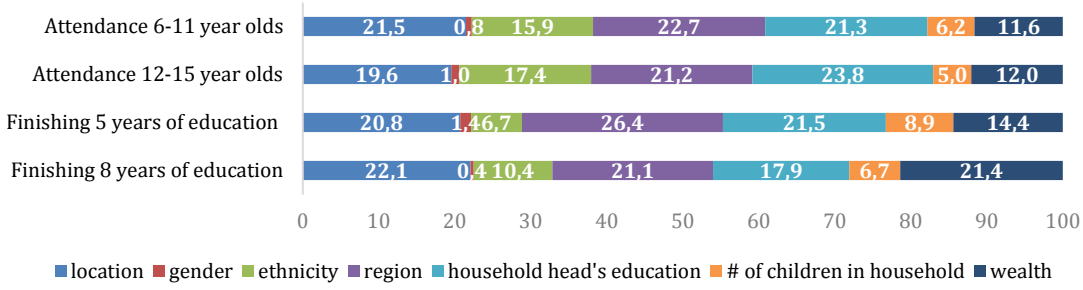
Source: Authors' calculations using DHS 2005 and DHS 2015

While still low in 2015, the HOI did improve in the last 10 years. From 2005 to 2015, the HOI increased by 10.4, 13.4 and 16.1 percentage points for attendance in school for 12-15 year olds, finishing 5 years of education and finishing 8 years of education respectively. These improvements in HOI were due to both an increase in coverage and a decrease in inequality for indicators on finishing school whereas for attendance of 12-15 year olds it was mostly due to an increase in coverage (see Figure 27). Despite the improvements for these indicators, for attendance in school of 6-11 year olds the improvement was negligible. In the last 10 years the HOI for this indicator increased by only 0.4 percentage points.

Looking at the contributions to the inequality, it is found that **region and location** contribute the most while gender has a negligible impact (See Figure 28). The Shapley decomposition results for Senegal show that in 2015, **region is the factor that contributes the most to inequality** for

attendance in school for 6-11 year olds and for finishing 5 years of education for 12-15 year olds. **For attendance in school for 12-15 year olds, household head's education contributes the most to inequality** while for finishing 8 years of education it is the location. Overall, the combination of the region of the household and location of the household (urban/rural) explain more than 40 percent of the variation of the D-index for each indicator. **Regional and locational inequalities seem to contribute more to overall inequality than household wealth**, except for finishing 8 years of education. For this indicator, household wealth becomes as important as region of the household but its contribution is still less than the contribution of location of the household. In general, the impact of ethnicity on inequality is less pronounced compared to circumstances like region and location. Lastly, the number of children in the household and gender of the child are circumstances that have almost no impact on inequality.

Figure 28 Shapley decomposition for 2015



Source: Authors' calculations using DHS 2015

Therefore the HOI and Shapley analyses corroborate some of the findings in section 2.1. i.e. gender is not a main determinant of access to schooling while region and location are. However, while poverty/wealth was shown to have a negative correlation with access to school rates in 2.1, the Shapley results show that household wealth has a lower an impact on inequality in education than region/location/education level of parents.

Probit regression results

The DHS regression results confirm that all circumstances turned out to have significant negative association with education outcomes, in varying degrees. Living in rural areas (as opposed to living in urban areas), living in regions Diourbel, Fatick, Kaolack, Louga and Matam (as opposed to living in Dakar), having a household head that has no education (as opposed to having a household head with a higher education degree), living in a household with 5 children or more (compared to households with 1 or 2 children), living in a household that is in the 1st, 2nd, 3rd or 4th wealth quintile (as opposed to being in the 5th – the richest- quintile), being Wolof, Poular, Mandingue, Diola or non-Senegalese (as opposed to being "other") and lastly being a boy are all significantly and negatively associated with (i)(ii) attendance in school for 6-11 and 12-15 year olds and (iii)(iv) completion rates of 5 and 8 years of education. A detailed analysis of the results for each indicator can be found in the Annex 2 but in summary:

Results show that living in rural areas is a disadvantage as it is negatively associated in increasing degrees with all education indicators except finishing 5 years of education. The likelihood of attendance or finishing education in 2015 is significantly decreased when living in certain regions. It was not the case in 2005 so this could point to a worsening of the situation or to the change in administrative boundaries. The negative impact of a household head with a low level of education is higher in 2015 than in 2005 whereas the negative impact of living in poorer households is decreasing for school attendance (i.e. similar to the Shapely findings, the impact on access to wealth is decreasing between 2005 and 2015). Poverty's negative impact on access rates remains unchanged for finishing 5 or 8 years of education. Ethnicity seems to have a negative impact as well on education outcomes but as seen earlier it is more likely to be due to an overlap between Wolof speaking populations with regions with strong anti-colonial culture and pro-religious schools. Finally, when it comes to gender, it is boys not girls who seem to be the disadvantaged group in Senegal, which corroborates the findings in section 2.1. This could be due to (but not limited to) the fact that boys are more likely than girls to be sent out for work outside the household (girls tend to do more of the domestic chores) as child labour data shows boys are more affected[220]. In addition, boys are also more likely to be sent to Daaras (informal religious schools) than girls, but there is lack of data regarding informal schools

Lartes (2012)[221] confirms the strong correlations between chronic poverty and the individual/parental levels of education. One of the main factors explaining low mobility and the intergenerational transmission of poverty is being out of school. It is observed that more than 84% of the chronic poor are not in school. Of those who fall into chronic poverty, 62% are not in school. Lack of schooling accentuates vulnerabilities as 42% of the transient poor have not been in school. Of the 58% transient poor who did attend school, 36% reached primary school and 22% have reached secondary level and more. Completing primary education therefore emerges as a key factor in escaping poverty. More than half (52%) of those who have emerged from poverty are enrolled in school. Similarly, almost 70% of "never been poor" have been to school. Finally, the data show that the characteristics of the parent (level of education, ethnicity, religion, parent's own level of poverty) affect the probability of the child entering school with a 20% variability. Individuals living in chronic poverty face enormous challenges to leave this state because of an 'immobility' determined by their living conditions. For example, child poverty has a significant effect on the likelihood of entering school and chronic poverty in childhood diminishes the chances of schooling by 64%, compared to non-poverty in childhood. Similarly, the tragic episodes in childhood reduce the chances of entering school.

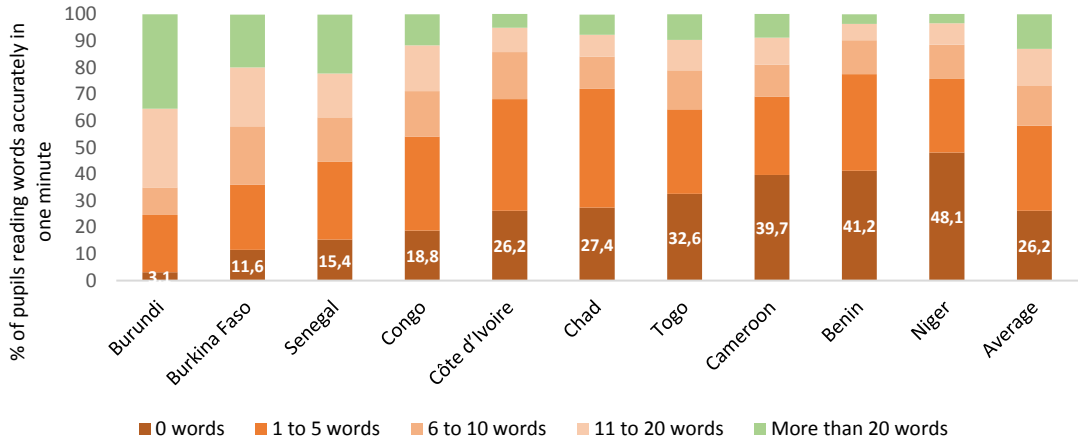
[220] UNICEF (2016)
[221] LARTES (2012) "Analyse des dynamiques de la pauvreté et conséquences sur l'éducation au Sénégal : Un agenda pour l'action!"

Issues related to the quality of education

Literacy and mathematics test performance. In terms of learning outcomes as measured by the PASEC[222], Senegal is among the top four francophone African countries (See Figure 29). While it is doing relatively well, the performance of its students remains too low given the economic and social objectives of the country.

In terms of literacy, Senegal is one of the good performers in reading accomplishment for early-primary (Grade 2) students, compared to other francophone countries in Africa. Nevertheless, a considerable percentage of the Grade 2 students either are not able to read a single word (15.4%) or they are reading with difficulty (62.3% reading 1 to 20 words).

Figure 29 PASEC reading skills in 10 francophone countries



Note: CONFEMEN (2014)

In mathematics, 32% of pupils are not able to solve a basic mathematics calculation (equation: 8+5=?) after 2 years of primary school education. The number of pupils not able to solve the equation correctly rises to almost two-thirds of the pupils in Senegal when the equation is for numbers over 20 (equation: 50-18=?).

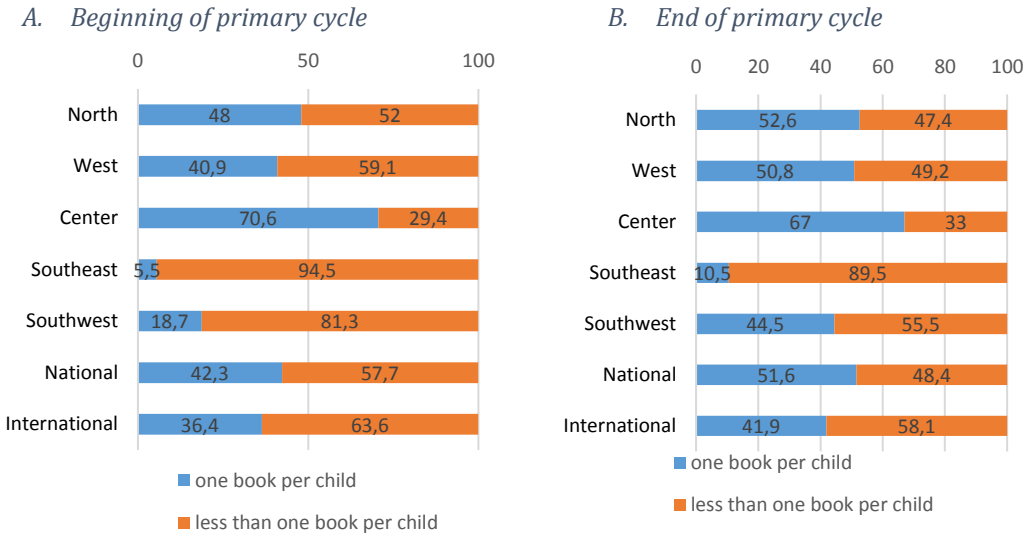
Teacher qualifications: Section 1 showed Senegal has experienced considerable progress in terms of teacher-student ratios. Since 2000 pupil-teacher ratio at the primary level decreased by over 15 pupils per teacher down to a ratio of 32.1 teacher-student ratios which is close to the average for OIC countries (28.9 for 2010s).[223] This was partly due to a lowering of required

[222] The Analysis Program of the CONFEMEN Education Systems (PASEC) is designed to assess student achievement in mathematics and reading French. The program is managed by CONFEMEN (La Conférence des Ministres de l'Education des pays ayant le français en partage) since 1993 and 13 countries in Francophone West Africa administered the test. Typically, 2nd and 5th grade students take the test at the beginning and end of the same school year, to measure students' growth over the course of that year. The test results are intended to be used as a diagnostic tool.

[223] Pupil-teacher ratio for Senegal is obtained from UNESCO Institute for Statistics (UIS) Database. OIC average is calculated using data for 54 OIC countries with available data on UIS for 2010s.

qualifications and training to become a teacher which helped recruit larger numbers of teachers, faster. Increased spending was directed towards hiring teachers. However, while successful in terms of access, this policy led to a lowering of the quality of education through fewer university qualified teachers in the system. As seen in Chapter 2, in terms of percentage of teachers trained in primary school, Senegal is around the median for low-income OIC and should be doing better given its level of resource investments.

Figure 30 The distribution of students (percentage) according to the number of books per child



Note: CONFEMEN (2014)

As PASEC results show, there are disparities within Senegalese regions (see Figure 33 section 3.2.2 "Design and incentives") and between early primary and end of primary school. In the North and South-East, the proportion of pupils whose teacher has a university degree is close to 20% at the beginning of schooling. It goes up to 36% for end of schooling in the North and in a more dramatic change, it goes up to 78% for end of schooling in the South-East.

The trend is somewhat reversed in the South-West zone (lowest performing region), where 40% of pupils have teachers with master degrees at the beginning of schooling but then it goes down to only 23% by end of schooling.

Therefore the lowest performing region has the least share of teachers with university degrees at the end of schooling. The regions with lowest enrolment/attendance such as the Centre have less qualified teachers at the beginning of the cycle than at the end.

These observations call into question the rules that guide the allocation of teachers between sub-cycles from one region to another.

Learning environments. From PASEC, the regions with lowest performance are South-East and South-West, they also correspond to the regions that have the fewest manuals available to

children (e.g. in the South-East, for reading - only 5.5% of tested children had one manual per child, 94.5% had to share manuals with other children – fewer than one manual per child) (See Figure 30). This shows a correlation between lack of material and low performance. It may be a consequence of the low share of capital expenditure in the education budget (see section 3.3.) which leads to poor school infrastructures and availability of materials (see WB (2010) SDI report).

Private formal schools perform better than public schools as seen in the PASEC findings. The differential is so large that it points to the low quality of education in the public sector. The low quality is likely to be perceived by the parents who will in turn believe the returns to sending their children to school are too low. The ones who can afford the private schools will choose those establishment and with little parental and community involvement in the management of public school, there is likely to be too little pressure to improve the quality and hold schools accountable.

Challenges, Barriers and Bottlenecks

Barriers to Access

Beyond classic determinants of access to school Section 2.1 showed considerable disparities in access to schooling according to regions, with 5 critical regions being Kaffrine, Kaolack, Diourbel, Louga and Tambacounda. While poverty does play a role in these 5 regions, with Kaffrine and Diourbel exhibiting high rates of poverty, Louga experiences low poverty rates. Population density may have a role in low access rates since Tambacounda has a low population density but Djourbel and Kaolack have high densities while still exhibiting low access to schooling. The Southern regions of Ziguinchor and Kolda are poor but with the highest rates of access to schooling, in spite of the security issues experienced over the years. The schooling situation in these 5 critical regions cannot therefore be explained just by the classic determinants i.e. poverty, density, security and so forth. This section will cover the demand-side, socio-cultural and economic barriers that may explain the regional variations.

Demand side issues and parental attitudes

Nationalism. It is important to note that those central 4[224] critical regions are also regions that have the highest rate of Wolof speaking populations which may be misleading and point to ethnic/language barriers in access to schooling (section 2.1). However, based on in-country interviews, one important theory to explain the low access to formal schooling in those regions is local politics. There is a strong nationalist and anti-colonialist politically active movement particularly in Diourbel which rejects French-speaking formal schooling.

Religion. In addition, those populations are also more traditionally Muslim. As such, a very large number of parents prefer to send their children to Arabic speaking schools or religious Muslim

[224] The 5th region Tambacounda does not have a strong anti-colonialist political movement. The low access rates there reflect the more classic issue of low density migrating populations coupled with low supply of schools.

Daaras which are not considered part of the formal schooling system, thus leading to low access to formal schooling (high numbers of out of school children) in those regions.

Nationalism and religion are reflected in the parental (and wider family) attitudes to schooling with preference given to non-formal and informal schools such as Arabic ones and Daaras (Koranic schools).

Therefore with a provision of formal education that does not meet the specific demands of local populations, many children in the critical 5 regions attend Daaras where they only memorize the Koran but they do not obtain adequate numeracy or literacy skills nor do they experience a proper secondary school cycle. From the age of 7, children who are attending Daaras cannot also attend primary school since these two are mutually exclusive. Hence children attending Daaras lose the opportunity to become literate in French, a skill that they would obtain if they attend primary schools. They will also not be able to enrol back into the formal French system and remain out of school.

Culture. In the South, Ziguinchor and Kolda have larger share of Christian populations (while still remaining a minority) thus parents are less interested in Daaras. The Muslim populations in the South are culturally different than those in the 5 critical regions as there is less anti-colonialist and nationalist sentiment and education is valued. Therefore there is a high demand for the formal schools from both Christian and Muslims populations, which is met by a high supply of schools, leading to high access rates (low rates of out of school children). The supply of schools is due to government interventions but also a large number of NGO and international organisation interventions as they focus on those regions. However, looking at PASEC results, higher access does not translate into higher quality, with the Southern regions being the worst performers in PASEC.

Gender: Different sources such as DHS, census and education administrative data give slightly varying numbers of access to school and gender parity but across sources, the general trend is that more girls attend primary school early on but starting in secondary school, the trends start to revert, probably due to early marriage and increased demands for labour as the children are older. In Senegal, there is as yet no reliable data on the number of mothers forced to leave school due to *pregnancy or early marriage*. But these two causes also constitute factors of drop-out.

Child labour: According to UNICEF[225], over 1 in 4 children aged 5-17 are engaged in child labour, with child labour affecting disproportionately older children. The percentage of children (5-17 years) affected by child labour in 2014 varies from 6.6% in Dakar to 51.9% in Kaffrine[226]. The worst affected regions are thus Kaffrine (51.9%), Tambacounda (43.9%), Kaolack (40.6%) and Kolda (36.4%). Child labour incidence is three times higher in rural areas (36.2% of 5-17 years old[227]) than in urban areas (11.7%). It also affects boys disproportionately more than girls (35.8%

[225] UNICEF (2016)"Livre des statistiques cles: Plus de 100 tableaux sur la situation des enfants au Senegal"
[226] Table 105 in Unicef (2016)
[227] Table 104, row for year 2014, Unicef (2016)

of boys vs 15.2% of girls, age 5-17). A glimpse into the nature of child labour and its link to the number of out of school children is illustrated by the Jangandoo 2016 household survey that covers children aged 9-16 years. The study finds domestic labour is the number one occupation of children that never attended schools and affects 47.7% of never enrolled children. This is followed by work in the agricultural sector (engaging 26.2% of children who never enrolled), no occupation (22.7%), services/commerce (2.9%) and industry/construction (0.4%)[228]. Therefore, outside the home, the largest employer of children is the largely informal agricultural sector. Child labour affects even children who are attending school as many are involved in domestic labour and work outside the house.

The opportunity cost of sending children to school is a key concern for parents in poorer households. The dissonance between the formal school's curriculum, quality of schooling and perceived relevance of skills acquired for future employability by both parents and children leads to many families/children choosing to work or attend informal schools.

Box 4 Child labour: Street beggars and Daaras

The problem. According to UNICEF[229], there are over 50,000 beggar talibés children exploited by Koranic schools in the 14 regions of Senegal in 2015. Dakar has the highest concentration with an estimated 30,000 children in the streets. '*Talibes*' are children aged 5 to 15 years sent by their parents (from inside the country or from neighbouring countries) to the *Daraas* (Koranic school). Unfortunately, a large number of the *talibés* live in precarious living conditions with limited access to water, school, health, electricity and even food. They usually come from vulnerable backgrounds (orphaned or poor families who cannot provide for them and send them to live in *daaras* sometimes as young as 3 years old). In order to support themselves (and their Koranic teachers), children are often sent to beg on the streets for several hours a week, exposing them to risks of violence, abuse, traffic accidents and disease. It is important to point out that not all begging children in Senegal are *talibés* and not all Koranic masters exploit the children placed under their responsibility. However, with over 50,000 children affected, the phenomenon of beggar *talibés* is an alarming problem of Senegalese society with *Daaras* at its epicentre.

The history. Originally, Daraas were Koranic schools set up by religious leaders to provide traditional education for children to preserve local customs. These schools were opposed to colonial education, and their aim was none other than to preserve Senegalese culture. Unfortunately, the original purpose of the former religious leaders was diverted; some marabouts (koranic teachers) exploit the children entrusted to them in order to obtain income and support their establishments. This exploitation often leaves room for many abuses by religious teachers over their pupils.

[228] Jangadoo (household survey) 2016, LARTES-IFAN, table 18
[229] http://www.sos-childrensvillages.org/publications/news/child-beggars-senegal-mali-protection

The policy response. On June 30, 2016, President Macky Sall ordered all street children to be picked up and placed in reception centres and then returned to their parents. Since then, hundreds of children have been taken out of the streets and the number of abusive marabout arrests has increased.
These measures are unfortunately insufficient because the laws against begging are very poorly applied but also because the traditional and religious characteristics that push parents to send their children to the Daraas do not allow this practice to be put to an end. This is why many children's rights associations are fighting for a framework for the Koranic school system, with frequent inspections of schools to ensure that they comply with universal norms and above all to ensure that the rights of children are respected. The latest draft of National Social Protection Strategy (dated Nov. 2016) will include specific measures to combat the phenomenon.

Cost of schooling: According to a recent survey, the "most important reason for dropping out of Grade I were parents' limited financial means (21 percent)"[230], representing one-fifth of grade 1 drop-outs. While compulsory formal education is officially free of fees, there are additional costs, such as textbooks and transport to school, that impede access to schooling in Senegal. In addition, given that over 90% of the expenditures in education go towards teachers' salaries, schools often resort to collecting some fees in order to guarantee a minimum level of quality in functioning (in fact according to government policy in primary education no fees should be paid by families). Such fees constitute a burden for poor families.

Education System Governance

Governance: As seen in section 1.1 and 1.2., Senegal has decentralised some of its education responsibilities and services. While the government strategy for the sector is holistic, the implementation often remains in silo with little coordination amongst relevant agencies and even within departments.

Monitoring, accountability and management. One of the main supply-side challenges are the inadequate accountability mechanisms across the administrative tiers and low levels of community participation in school management (despite the existence of school management communities). As seen in section 2.1, completion rates remain low and learning outcomes are poor, as gauged by national assessments and studies such as PASEC and Jangandoo[231]. Such poor outcomes, especially in light of the high budget investments in the sector, are a result of a system that is input-oriented rather than results-oriented. The 2010 Service Delivery Indicator (SDI)[232,233] Survey highlighted weak accountability mechanisms in terms of teacher absenteeism (29%) and competencies (only 52% of teachers with minimum knowledge), school environment

[230] WB (2012) report
[231] Jangadoo 2016 LARTES/IFAN
[232] http://siteresources.worldbank.org/AFRICAEXT/Resources/SDI-Technical-Report-Senegal.pdf
[233] WB (2010) SDI survey in Education and Health --- http://www.sdindicators.org/senegal-education

and availability of school materials (only 17% of infrastructure availability and low availability of school materials at 2.55 textbooks per child). In response, the new policies (see section 4) are being put in place to strengthen monitoring of results and performance-based management.

Curriculum: Another main supply-side challenge pertains to the national curriculum. The education situation analysis[234] that formed the basis of the new education policies from 2013 onwards found that programs and learning methods are outdated, especially at junior secondary level. The outdated curriculum led to poor quality of teaching, high repetition and drop-out rates, poor learning and irrelevance of skills for future employability, which in turns affects demand for school.

Administrative barriers: According to the 2013 census, the proportion of children "out of school" among children without a birth certificate is on average 77%, compared to 39% among those who have a birth certificate. This is a significant barrier to access to education as children without a birth certificate cannot enrol for the official end of cycle exams (end of primary, end of lower secondary, end of secondary). They cannot complete the primary cycle and thus cannot enrol in the secondary cycle.

Quantity and quality of school supply: In recent years, a combination of shortage of teachers and low budgets for infrastructure led to many schools closing or being taught in multi-grade format. The transition rate from primary to junior secondary increased from 50.2 percent in 2005 to 88.4 percent in 2011[235], the year in which Senegal implemented a compulsory ten-year basic education system. However, the increased transition rate was not accompanied by a parallel increase in the number of secondary level facilities, which has led to overcrowded junior secondary schools in urban areas and schools using shelters in rural areas. About 40 percent of junior secondary schools[236] were held in shelters with huge disparities between regions and these poor learning conditions affect negatively the quality of education. As of 2016, 9% of classrooms are reported to be shelters with an objective to replace all shelters with classrooms by 2021.[237]

Disability: In spite of the existence of an Inclusive Education strategy at the government level, in practice there is still very little support for children with disabilities. Schools' infrastructures are not adapted to children with disabilities. Teachers, most of whom have not received any training in inclusive education, care little about the participation or understanding of these students with specific needs. The absence of personalized remedies in the schools and support for learning difficulties means disabled children are more likely to drop out of school. This situation leads to many parents never enrolling their disabled children in the first place.

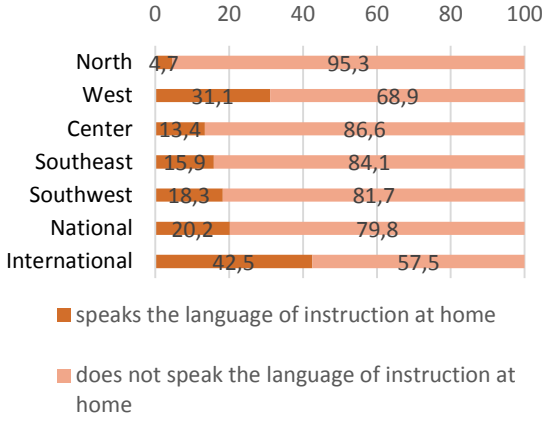
Language of instruction: The variation between the language of instruction in school and the language spoken at home affects the performance of children and therefore attendance and completion rates as well. The PASEC 2014 study found a significantly higher proportion of

[234] MEN (2013)
[235] Rapport des indicateurs rétropolés (2002 à 2015) DPRE/MEN (obtained from the Ministry of National Education)
[236] WB 2012
[237] Information is obtained from the Ministry of National Education

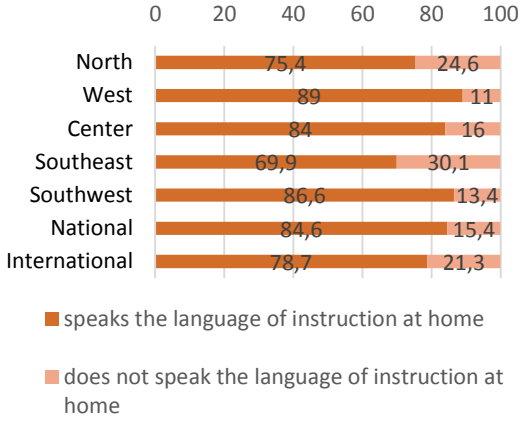
children who speak the language of instruction at home at the end of the primary cycle than at the beginning (See Figure 31). This points to a self-selection through the system of the best students, who will tend to the ones whose families can speak French at home. The others will attend the first grades but then drop out.

Figure 31 Percentage of students speaking the language of instruction at home by region

A. Students at the beginning of the primary cycle



B. Students at the end of the primary cycle



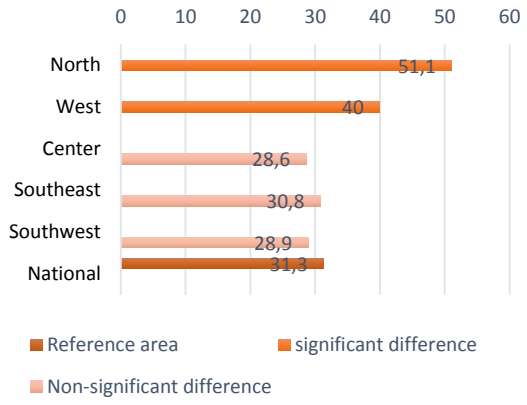
Note: CONFEMEN (2014)

Pre-school: Attention to the importance of pre-school has just recently emerged in Senegal and the offers of school and curriculum are widely varied and dispersed. This is illustrated by the very low Gross Enrolment Ratios in pre-primary that currently stands at less than 16.1% in 2014.[238] The PASEC 2014 results show a larger proportion of students at the end of the primary cycle having gone to pre-school versus the proportion of students in early grades (See Figure 32). While this does not show direct impact, it does seem that attending pre-school helps students stay in school and finish primary.

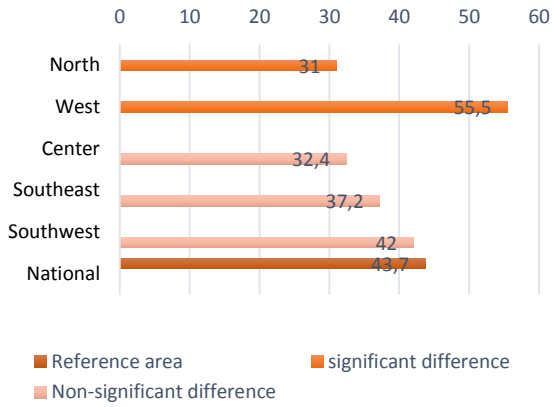
[238] Rapport des indicateurs rétropolés (2002 à 2015) DPRE/MEN (obtained from the Ministry of National Education)

Figure 32 Percentage of students going to preschool

A. Students at the beginning of the primary cycle



B. Students at the end of the primary cycle



Note: CONFEMEN (2014)

Education Financing

High investments: In terms of resource allocation, Senegal has shown a strong commitment to education historically, including primary education. Senegal allocates a large share of its budget to education, one of the largest shares of any OIC countries (See Figure 14, Chapter 2). Currently, the authorities allocate about 24.8% of the total domestic resources to education, equating to about 7.2% of GDP in 2014.

Composition of spending: However, a very large portion of that spending goes toward recurrent expenditures[239] (especially teacher salaries). A UNICEF (2016) report shows that between 2006 and 2013, recurrent expenditure average around 90% with only 10% left for capital expenditures[240]. This modest share of resources allocated for capital expenditures leads to financing shortages for purchasing of instructional material and other inputs affecting the quality of education.

Dividing the education spending into how much is spent on access, quality and management leads to another striking feature: over the past few years, around 80% of primary school spending and 90% of secondary school spending went into budgets pertaining to 'access'[241]. Only 20% of primary level spending and 10% of secondary spending is for 'quality' and 'management'. Such spending did translate into higher education access rates as seen in the earlier section but the quality of schooling has lagged behind and reflects its low investment levels.

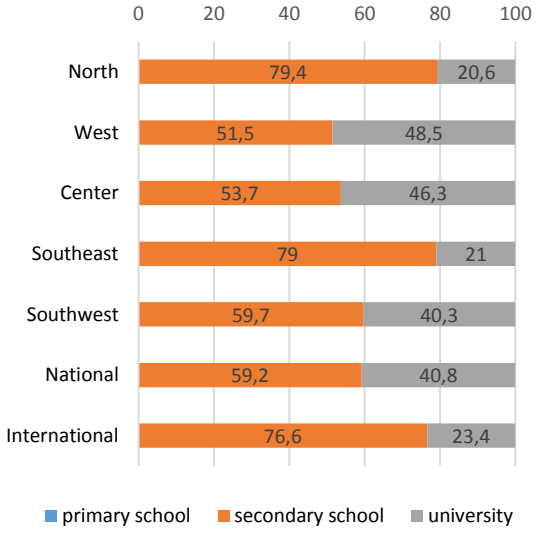
[239] UNICEF (2016) "Analyse des depenses publiques dans les secteurs sociaux au Senegal 2006-2013"
[240] UNICEF (2016) figure 12
[241] UNICEF (2016) figure 14

Inefficient budgets: With almost 40% of the education budget being spent on primary school[242], the low performance and high drop out rates through those grades are concerning. A World Bank study points to the low overall efficiency of budget as one of the main challenges to access and quality of education. Regional disparities are manifest in varying levels of efficient management of budgets. Section 2.1 and 2.2 showed that GERs and attendances rates for 5-11 years old have been increasing sluggishly, in spite of the continued high investment levels. This illustrates the inability of the education system to transform all the resources mobilized into results and leads to the high dropout rate notably in Grades 1 and 5. According to a recent survey, the "most important reasons for dropping out of Grade I were parents' limited financial means (21%), lack of Arabic as a learning language at school (19 %), health problems (14%) and the need for children to support their parents (14%)." [243]

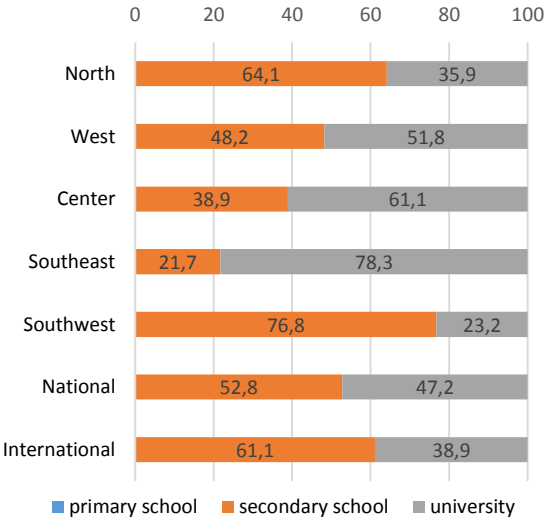
Design and incentives: Different management of resources may lead to improved performance of students, as mentioned above. However, the findings from the PASEC study show the importance of designing the right incentives and the right 'results' when moving towards performance-based budget management.

Figure 33 The distribution of students according to the academic level of the teacher

A. Beginning of primary cycle



B. End of primary cycle



Note: CONFEMEN (2014)

Figure 33 shows a larger share of teachers with university degrees allocated to end primary grades. This could be due to school principals staffing their most qualified teachers at the grades where an assessment will take place and in order to get higher test performance from students. While it is very important to focus resources on improving test performances, this leaves many

[242] UNICEF (2016) "Analyse des depenses publiques dans les secteurs sociaux au Senegal 2006-2013"
[243] WB (2012) report

early grade primary students with less qualified teachers putting them at higher risk of repetition and drop-out. In order to avoid nefarious incentives it is therefore important to define 'results'/'performance' of schools as more than strictly the test performance of students on national assessments.

Policies

Long-term strategic plans

The establishment of the Ten-Year Education and Training Program (PDEF)[244] for the period 2000-2011 saw a greater influx of public resources into the education system. Between 2000 and 2011, allocations to the education from the government budget increased from 105 billion to 423 billion CFAF, with an average annual growth rate of 12.5%. The availability of these resources made it possible to improve results and achieve the goals especially around **the first** of the three PDEF strategic axes i.e. (1) expanding access to all levels of education system, (2) improving the quality of learning and (3) strengthening the devolution/decentralization. The quality of learning did not improve and the implementation of the devolution has been patchy. The appraisal of the PDEF and the situation of education constituted the basis for the elaboration of the (2013-2025) "Program for Improving Quality, Equity and Transparency "(PAQUET). PAQUET is the strategy for the emergence of the "Education for the improvement of human capital" (Pillar II of the "Emerging Senegal Plan: PSE" 2014-2035). Reforms affecting different levels of education have been launched since 2013 in order to experiment with new practices or to generalize existing good practices.

The strategic priorities include (1) establishing the 10-year compulsory basic universal education and reach out of school children (2) focusing on quality by reforming teacher training, the relevance of the curriculum, prioritize reading, mathematics, sciences and civic education (3) establish monitoring and evaluation processes to support the move from input-based management of the education sector into results-based management and create accountability systems to enhance school staff's productivity (4) improve the efficiency of the education sector budget (5) improve transparency (and thus accountability) by increasing consultations with parents, local communities, private sector and civil society in the planning, implementation and review of education programs.

The rest of the section will cover select policy interventions aiming at different objectives (quality, supply-side, demand-side, governance)

Quality Improvement

The PDEF era saw the successful implementation of some reform efforts and evaluated pilot activities. These include establishing regular national assessments that have been used regularly over the past decade as part of a learning assessment system. In addition, new curricula were

[244] All program descriptions are in English but acronyms refer to the acronyms in French

designed, one for the primary level in 2005 and one for junior secondary school level in 2011. The new pedagogical approach was a novelty for all teachers who, as of 2011, were meant to be gradually upgraded but in practice, newly recruited teachers were still being trained with the old program and the in-service training was not updated. To address this issue, Regional Centers for Training of Education Staff (Centres Regionaux de Formation du Personnel de l'Education - CRFPE) were created to replace former teacher training institutions and regional training poles. In the past, with the aim of increasing access to schooling, the minimum academic requirements to become a teacher had been lowered to having completed junior secondary school and obtained a "Brevet de Fin d'Etudes in order to recruit higher numbers of teachers. With the establishment of the CRFPE, the minimum academic requirement to enter these centres was raised to the Baccalaureate level.

Based on these PDEF reforms, several of the projects under PAQUET are interventions that focus on improvements to the quality of education, in particular with regards to teacher training. These include the Project to Strengthen the Teaching of Mathematics, Science and Technology (PREMST) and the Partnership for the Improvement of Reading and Mathematics in the Elementary (PALME).

These projects are complimentary to the Quality Improvement and Equity of Basic Education (PAQEEB). As is stated in its title, PAQEEB combines a focus on quality improvement together with equity by focusing efforts in poor, underserved areas. In terms of quality, PAQEEB focuses on improving learning outcomes of students especially in grades 1 through 4 while it also aims to improve quality in later grades as well. For junior secondary schools PAQEEB supports the development of a national program that improves science and math teaching and learning. In terms of equity, the project aims to improve access to basic education, especially in the Kaffrine, Tambacounda, Matam, Louga and Diourbel regions, the regions with the highest numbers of out of school children.

Cultural Adaptation

On the supply-side interventions, PAQUET includes the Schools and National Languages in Africa (ELAN) project and the Project of Modernization of Daaras.

Bilingual schools: The ELAN project is part of the initiative ELAN-Africa which was launched by eight French-speaking countries in Sub-Saharan Africa (Benin, Burkina Faso, Burundi, Cameroon, Mali, Niger, the Democratic Republic of Congo, and Senegal). Believing that the language of schooling acts as a barrier for many children in French-speaking Africa for obtaining a healthy basic education, especially in rural areas where French is rarely spoken (if at all), the ELAN-Africa initiative aims to promote and gradually introduce a bilingual curriculum at the primary level using two languages (a national language and French). Being taught in French and not in their local language leads to higher drop-out rates and lower performance scores. This argument is illustrated by PASEC results (see Fig. 7), which show that Burundi pupils perform better in terms of literary and mathematical skills. It is the only country in the sample that was educating its pupil in their native tongue at primary level, and gradually introducing French. Other factors are

certainly playing a role in Burundi's superior performance but teaching in the local language is an important factor.

Arabic-Islamic education: A product of colonial heritage, the public school in Senegal does not meet the social expectations of a large part of its population. The second most important reason for dropping out of Grade I was the lack of Arabic classes (reason for 19% of drop-outs[245]). Since 2002, the Senegalese State has introduced a reform around Arab-Islamic education which include the following three main reforms that aim to fill the supply gap in the existing education offers: Reform 1: The optional introduction of religious education into the public education system; Reform 2: The creation of Franco-Arabic Public Schools (EFA); Reform 3: The project of modernization of the *Daaras*.

The project of the modernization of the Daaras is the most recent one and will combine several supply-side interventions centring on curriculum, local language, learning environment and governance (See Annex 2 for further details on the Modernization of Daaras).

Poverty alleviation to improve access

As seen in earlier sections, schooling and child labour are important demand-side barriers and challenges to access to schooling, especially in poor households.

Poverty/Social Protection: In Senegal, there are no social welfare or monetary schemes to incentivise parents to send their children to school. However, support to school canteens is a component of social safety nets of the National Strategy for Social Protection (SNPS). The National Strategy for Social Protection (SNPS) also has a component on the reintegration of street children which links to the reform efforts of the Daaras. See Annex 2 *Box 6* for details on the school-feeding program in Senegal and its innovative approach centred on increasing parents' participation in school management, establishing a local supply chain supporting local economies and introducing a 'cash and voucher' method in partnership with local retailers.

Improving System Governance

PAQUET aims to move from input-based management to a results-based framework. Components include adopting school-based management reforms, which include the recent implementation of Performance Contracts (CDP) with almost 8,000 schools on a deconcentrated scale. Another example is the School Grant program with schools being provided grants that are linked to performance. The program led to improved performance of the students as evidenced by an impact evaluation report that concluded: "a well-targeted program improving resources to schools is likely to have important effects on student performance if it represents a permanent increase in school spending"[246] (See Annex 2 for details on the impact evaluation). It is also important to note that some Academies Inspectorates or Education and Training

[245] WB (2012) report
[246] WB report "School grants and Education Quality in Senegal"

Inspectorates can have their budgets reduced if they cannot justify the reasons of their under performance.

Conclusion

Both the education administrative data and the DHS data demonstrated that Senegal has made great strides over the past decade in terms of access to schooling by the general population but also by poor children. Poverty remains a main determinant/barrier to further schooling but both DHS data and poverty studies have shown that the extent of its influence has been slowly waning in time. While the HOI and Shapley decomposition point to a lessening of inequalities over time, vulnerability and inequalities between different regions of the country and different population groups remain strong. In terms of gender parity, Senegal's case can help 'bust the myth' of girls being disadvantaged in Muslim-majority countries as the gender parity index is fairly equal and slightly in favour of girls.

In line with global trends, the data analyses pointed to disparities in access to education linked to income poverty, rural areas, geographical location, gender, disability, language and minority. Low access in Senegal is also linked to deficiencies in learning processes, problems with the devolution and decentralization processes, weak coordination between public/private and non-profit sectors, inadequate budget efficiencies, uneven distribution of population, and religious background in some of the districts with the lowest access to schooling.

The increasing access trends have been accompanied by a decline in the quality of education, with worsening completion, repetition and drop-out rates. In most regions, teachers lack facilities such as classrooms and textbooks which, combined with the low rate of educational supervision, reinforces inequality in the education system. Public schools are no longer attractive despite their greater numbers (and therefore greater accessibility).

The alignment of the PAQUET policies with the overall country strategy as well as its strategic focuses on quality and improved governance results in relevant focus/reform goals given the access to education challenges in the country. The pilots on modernization of the Daaras, and the introduction of bilingual schools are hopefully going to be scaled up. As such it is important to devise a clear implementation strategy for the policies and the scaling of successful programs as well as create the fiscal space to mobilise more resources needed for the policy and program implementation. This includes mobilising resources towards social protection schemes to financially support the poorest households in sending their children to school.

Recommendations

Policies to address Failing Systems

Cultural adaptation, including Public consultations: One of the main challenges highlighted in the report is the need for the integration of alternative models of education to respond to the strong demand from the population for alternative models to the formal French model. As such, the current reforms and any future policies aimed at addressing this challenge must include extensive consultations with the population in order to understand their education demands. Since 80% of

out of school children have never attended school, the problem is far more about an unmet demand than it is about low quality instruction leading to drop-outs.

Alternative models of education: Focus on modernization of Daaras and the introduction of bilingual schools should be continued. Evaluations of the pilots should inform the next step (further piloting or first scaling of project) and support the mobilization of funds in order to offer alternative education models more attuned to the interest of the population and which may help increased enrolments at the primary level. Strengthening and expanding the offerings of technical and vocational education would support decrease drop-outs at the secondary level.
Strengthen the implementation of devolution within the larger PAQUET efforts to move into results-based management and improve accountability systems, with further support for the poorest regions or regions requiring more capacity building at district and school levels. A clear step by step implementation plan should be put in place as well as key performance indicators to track progress.

Complementing existing PAQEEB efforts focusing on efforts in poor, underserved areas with **fiscal transfer formula** channelling more resources towards schools needing more support is also necessary.

Improving budget efficiency, continue move towards performance-based budgeting: Given the particularly high level of investment in the education sector and the low quality of the system, it is imperative to continue the current reforms that aim to improve the governance and management of the education sector. School grants have shown to be impactful and so policies to increase the efficiency of budgets are to remain prioritised. The preliminary feedback from the performance-contracts with the schools have been negative (small to no impact) and an evaluation of the program should be able to point to areas of reform (as opposed to cancelling the program altogether).

The composition of the expenditures needs to change going forward as too many resources are channelled towards teachers' salaries and on 'access' projects (section 3.1.3). Changes in composition without decreasing budget lines to salaries may entail having to 'freeze' certain budget lines (e.g. teacher salaries and access projects) so that future incoming resources can be channelled towards capital expenditure and quality/management projects.

Policies to address Poverty

Given the importance of poverty as a determinant to access to schooling as well as the issues of child beggars, the lack of schemes to incentivize parents to send their children to school should be addressed. There is a large body of evidence to draw from on how to make such schemes effective in supporting education. The design of such schemes would be based on pilots in the poorest underserved regions.

Ensuring the provision of budget and financing to projects such as the reintegration of street children which links to the reform efforts of the Daaras is necessary.

Policies to address Language

Language is another notable challenge highlighted in the report. From a supply-side angle, it was noted that instruction in local language improves the students' academic performance. From a demand-side angle, lack of Arabic instruction was seen to be a contributor to dropping out or never enrolling in schools. The government will therefore have to test how to combine both the need for learning in Wolof (or other local language) and the demand for Arabic instruction while keeping the existing French schooling system in place.

Policies to address Other challenges

Birth certificate: There may be some seemingly 'low-hanging' fruits in terms of education policy that would improve access to schooling, especially for poor children: addressing the issue of birth certificate to pass the end of cycle exams. This is an administrative hurdle that is impactful on access to schooling, as 77% of out of school children are without a birth certificate and more likely to belong to poor socio-economic backgrounds.

Pre-school: The recent attention to pre-school education is welcome, especially given its positive impact on student performance in later grades. Steps should be taken in order to mobilise resources towards the creation of quality standards/curriculum and spaces in schools for pre-school education. Including the last year of pre-school as part of the compulsory basic universal education should be explored as it could help sustain and expand efforts for increased access to quality pre-school.

3.2 TURKEY

Overview

Country Context

Economy: Located at the intersection of Europe and Central Asia, Turkey is an upper middle-income country with USD 10,787.6 GDP per capita as of 2016.[247] Despite a recent plunge in growth in 2016, the Turkish economy seems to be improving in the first quarter of 2017 with a 5 percent growth rate.[248] While annual growth is projected to be 3.5 percent for 2017,[249] youth unemployment has reached a historical high of 21.4 percent[250] and consumer price inflation has risen again to 11.72 percent as of May 2017.[251] In the latest Human Development Index (HDI) Turkey ranks 71st among 188 countries and territories. From 1990 to 2015, Turkey's HDI value increased by 33.2 percent. However, the inequality-adjusted HDI is15.8 percent lower than the unadjusted figure.[252]

Administration: Turkey is ruled under a centralised administrative system. Local administrative agencies, namely provincial and district level local governments as well as municipalities, are authorised by the central government. Each province is administrated by a governor (*vali*) and each district in a province has its own administration and is managed by a district chief (*kaymakam*). Governors and district chiefs are directed by the Ministry of Interior. Municipal administrations consist of a mayor, an assembly, and a council. They are elected by the public every 5 years.

Demography: As of 2015, the population of Turkey is 78.6 million. The population is projected to reach 93.5 million by 2050. With half of its population under the age 31, Turkey has the largest youth population in Europe.[253] In addition to its local population, following the outbreak of the Syrian civil war, there are now more than 3 million Syrian refugees residing in Turkey.[254] While the Turkish population is on the rise, unemployment is also growing. In fact, the OECD's unemployment projections for Turkey imply that unemployment is likely to continue to be in double digits through the end of 2018.[255]. By the end of 2016, the population participating in the labour force was 30.5 million in Turkey out of 59.1 million persons aged 15 or above.[256] The Turkish labour force predominantly consists of male workers, as the labour force participation rate for women (above 15) is only 31.5 percent[257].

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[247] The World Bank (2017)
[248] http://www.tuik.gov.tr/HbGetirHTML.do?id=24567
[249] OECD (2017c)
[250] Labour Force Statistics, March 2017 http://www.tuik.gov.tr/HbGetirHTML.do?id=24628
[251] Consumer Price Index, May 2017 http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=24785
[252] UNDP (2017)
[253] Invest in Turkey (2017)
[254] 3.038.480 Syrians are under temporary protection in Turkey as of 8 June 2017. Directorate General of Migration Management (2017)
[255] OECD (2017b)
[256] Turkish Statistical Institute (2017a)
[257] Turkish Statistical Institute (2017b)

Table 7 Turkey Basic Indicators

	Indicator	1990s	2010s	exact year for 1990s	exact year for 2010s
Population	Population, total	53,994,604	78,665,832	1990	2015
	Population growth (annual percent)	1.7	1.5	1990	2015
	Population ages 0-14 (percent of total)	36.3	25.7	1990	2015
	Urban population (percent of total)	59.2	73.4	1990	2015
GDP	GDP growth (annual percent)	9.3	4.0	1990	2015
	GDP per capita, PPP (constant 2011 international $)	10,954	19,460	1990	2015
Poverty & Inequality	Poverty headcount ratio at $1.90 a day (2011 PPP) (percent of population)	2.6	0.3	1994	2013
	Income share held by lowest 20percent	5.8	5.8	1994	2013
	GINI index (World Bank estimate)	41.3	40.2	1994	2013
Other development indicators	Mortality rate, under-5 (per 1,000 live births)	74.5	13.5	1990	2015
	Prevalence of stunting, height for age (percent of children under 5)	24.1	9.5	1993	2013
	Improved water source (percent of population with access)	86.2	100.0	1990	2015
	Improved sanitation facilities (percent of population with access)	82.9	94.9	1990	2015
	Access to electricity (percent of population)	100.0	100.0	1990	2012
Education	Gross enrolment ratio, pre-primary, both sexes (percent)	4.1	27.6	1990	2013
	Gross enrolment ratio, primary, both sexes (percent)	104.2	106.9	1990	2013
	Gross enrolment ratio, lower secondary, both sexes (percent)	67.7	105.1	1994	2013
	Gross enrolment ratio, upper secondary, both sexes (percent)	49.2	95.4	1994	2013
	Pupil-teacher ratio in primary education (headcount basis)	30.5	19.8	1990	2013
	Pupil-teacher ratio in lower secondary education (headcount basis)	45.6	20.6	1994	2013
	Government expenditure on education as percent of GDP (percent)	3.4	4.8	1993	2013
	Expenditure on education as percent of total government expenditure (percent)		12.4		2013

Source: UNESCO Institute of Statistics Database and World Bank World Development Indicators Database

With a young population and growing levels of unemployment, and given the large influx of Syrian refugees to the country, providing quality education emerges as one of the main policy areas for the Turkish government to improve people's lives as well as their economic and social outcomes. This chapter will provide a description of the Turkish education system by focusing on the determinants of access to schooling, the challenges encountered, and the policies/responses planned.

Education System Overview

Education in Turkey is centrally administrated, planned, delivered and monitored. The Ministry of National Education (MoNE) is the main government body that holds the power of decision- and policy-making. MoNE has full control over the use of the education budget, the management of personnel, and the development of the curriculum. Under the MoNE's management there are provincial and district level directorates that act as MoNE representatives on the ground. The MoNE centrally oversees any institution operating in the education sector, and educational programmes need to be approved by the MoNE in order to be implemented.[258] [259]

In Article 18 of the Law Number 1739, the general structure of the Turkish National Education System is described as being composed of formal and non-formal education. Formal education includes pre-school education, primary education, secondary education and higher education institutions. There are also private education institutions offering pre-primary education, primary education and secondary education. Non-formal education is composed of all educational activities organized beside or outside formal education. In Article 3 of the same law non-formal education is described as being organized in an integrated manner with formal education so that they can complement each other and a student can gain similar qualities attending either one of them.

There are 12 years of compulsory and free education in Turkey. Primary education lasts for 4 years and is followed by 4 years of junior secondary school education. Secondary education, also known as high schools, have two main branches i) general secondary education, and ii) vocational and technical high schools.

Private schools in Turkey operate under MoNE accreditation. While for early years, Ministry of Family and Social Policies (MoFSP) also provides services, their main focus is on care. According to latest formal education statistics released by the MoNE, at the primary level there are 1,274 private primary schools as against 24,249 public schools catering for 4.97 million students.[260] Around 95 per cent of students of primary and lower secondary education are enrolled in public schools. While the pupil:teacher ratio is lower in private schools (except in vocational and technical high schools), 9.1 vs. 17.3 in primary, 9.8 vs. 17.2 in lower secondary, 8.5 vs. 17.2 in

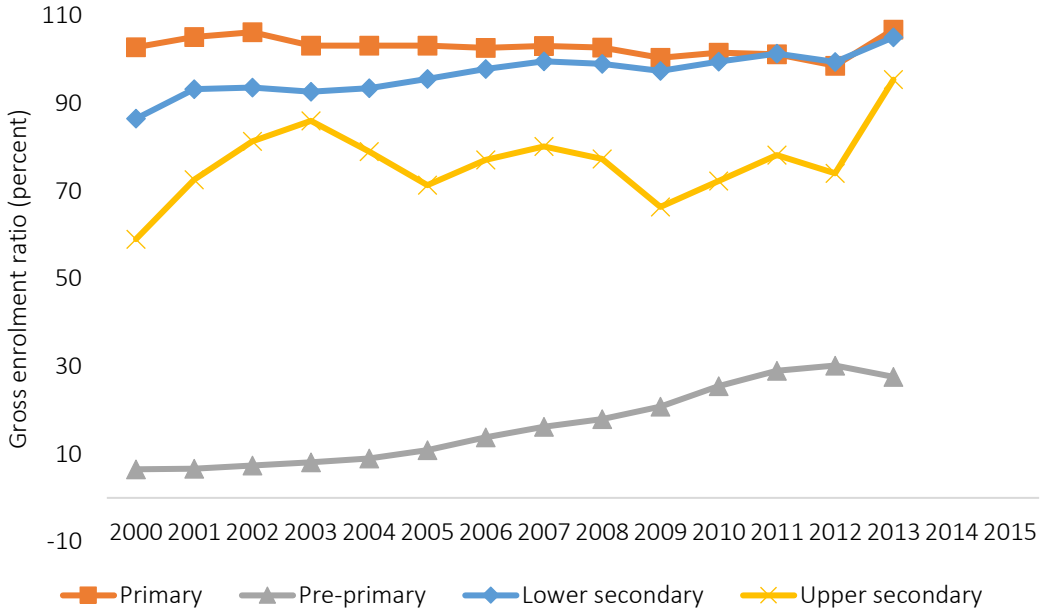
[258] World Bank Group (2014)
[259] UNESCO International Bureau of Education (2010)
[260] Ministry of National Education (2017)

general high school, and 12.8 vs. 11.3 in vocational and technical high schools, there is not much evidence available regarding the quality of education.[261]

From basic to secondary education, across all types of schools, there are 17,319,433 students enrolled in formal education under MoNE administration. Across the 62,250 schools, there are 682,761 classrooms where a total of 1,005,380 teachers work. Out of these 1 million teachers, around 2 percent (17,877) are contractual teachers, and the rest (987,503) have permanent contracts with the MoNE.[262]

Trends in Access to Schooling

Figure 34 Gross enrolment ratios for different levels of education, 2000 - 2013, Turkey



Source: UNESCO Institute of Statistics Database

There is an upward trend in access to schooling over the years at all levels of schooling. However, enrolment in preschool education remains low (see **Figure 34**).[263]

Every year the MoNE releases the most up-to-date education statistics in Turkey. The most recently published numbers (for 2017) show that net enrolment rate in basic education (primary and lower secondary) was 92.40 percent in 2001, and reached 98.7 percent in 2011. However, there appears to have been a deterioration in the last four years and the net enrolment ratio for basic education fell to 96.51 percent in 2017. When we consider the net enrolment ratios in primary and lower secondary education separately, the figures are 91.16 percent for primary

[261] This information is provided by Ministry of National Education through formal writing.
[262] Ministry of National Education Strategy Development Presidency (2017)
[263] According to Ministry of National Education (2017) in 2013, pre-primary net enrolment ratio is 27.7% for 3-5 year olds and 37.5% for 4-5 year olds.

education, and 95.68 percent for lower secondary education in the first semester of 2016/2017 academic year.[264]

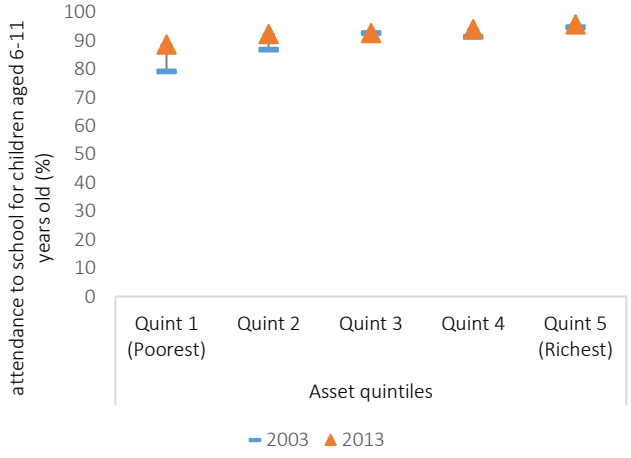
The net enrolment ratio in upper secondary education has followed an upward trend over time. In the last 15 years, the net enrolment rate in upper secondary education has increased from 48.11 percent to 82.54 percent in 2017.[265] Similarly, the rate of schooling in pre-primary education, particularly for children aged 5, rose in the last decade (from 39.72 percent (net) in 2013 to 58.79 percent in 2017).[266] However, a significant amount of progress is needed in order to achieve universal coverage.

At all levels of education, schools seem to be equally accessible for both male and female students. Turkey has made considerable success in closing the gender gap with respect to access to education in recent years. The gender gap in primary education was 7.75 percent back in 2001 and became -0.16 percent in 2017 indicating that now female students are more likely to be enrolled than male students. The gap has almost closed for all levels of education in favour of female students.[267]

Determinants of Access to Schooling[268]

Our microdata analysis using Turkish DHS data from 2003 and 2013 reveals that inequalities in access to schooling diminished throughout the years. The rate of schooling is significantly higher for children aged 6 to 11. However, enrolment rates for students aged 12 to 15, and finishing 8 years of education for students aged 16 to 18 are relatively low. Inequalities seem to occur due to income level of the household, language, and region that the household is located in. While there seem to be regional disparities, living in rural areas does not necessarily lead to worse outcomes. Household

Figure 35 Attendance in school by household wealth status 2003 – 2013, Turkey



Note: Authors' calculations using DHS 2003 and DHS 2013

[264] Ministry of National Education (2017)
[265] Ministry of National Education (2017)
[266] Ministry of National Education (2017)
[267] Ministry of National Education (2017)
[268] Based on 2003 and 2013 DHS data analysis

welfare, and not speaking Turkish as mother tongue (with the exception of schooling for children aged 6 to 11) are the main reasons behind various inequalities in access to education.

Poverty: Between 2003 and 2013, access to school rates increased for children living in the poorest households. While within-wealth-group improvements are visible, the rate of attendance in school is still lower when poverty status is higher (see Table 8).

An important positive finding is that welfare and income related educational disparities decreased over the years at all levels of education. The gap between children living in the poorest and richest households in completing 5 years of education narrowed down from 27 to 4.9 percent, and from 31.3 to 14.8 percent for 8 years of education (see Table 8). However, the disparities in income and assets still play a role in access to higher levels of education.

Table 8 Education outcomes by household wealth quintile, Turkey

Household wealth quintile	Attendance in school (6-11 year olds)		Attendance in school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	2003	2013	2003	2013	2003	2013	2003	2013
Quint 1 (Poorest)	79.1	88.5	65.4	83.5	68.5	94.5	43.9	80.7
Quint 5 (Richest)	91.2	93.9	89.8	97	95.5	99.4	75.2	95.5
Difference	12.1	5.4	24.5	13.5	27	4.9	31.3	14.8

Note: Authors' calculations using DHS 2003 and DHS 2013

The size of the family and the number of children at home. Household size, which can be a potential determinant for household's wealth status, indicates that in Turkey, while attendance in school looks alike for households with 1-2 or 3-4 children, the picture differs in more crowded households that have more than 5 children. Also, the number of children living in the household becomes a strong determinant of school completion (see Table 9).

Table 9 Education outcomes by number of children in the household, Turkey

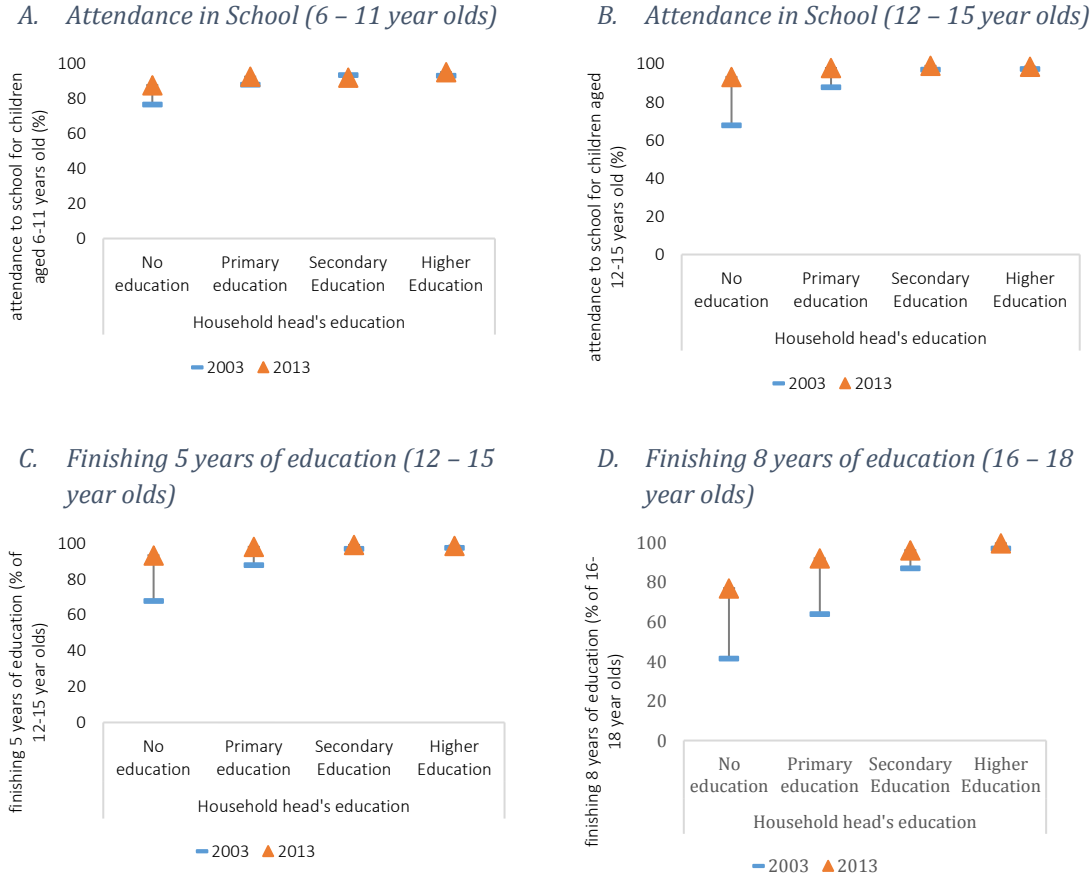
Number of children in the household	Attendance in school (6-11 year olds)		Attendance in school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	2003	2013	2003	2013	2003	2013	2003	2013
5 or more children	75.3	84.9	64	84.3	62.8	91.7	27.9	75.7
3-4 children	88.7	91.6	82.1	92.4	85.2	97.5	43	81.5
1-2 children	92.8	94.2	88.1	94.2	93.9	98.3	71.1	93.2

Note: Authors' calculations using DHS 2003 and DHS 2013

Education of head of household. Our DHS analysis shows that when the head of the household has no formal education, the access to schooling rate is lower compared to households with educated heads. However, there has been a significant improvement in access to schooling of

children from families where the household head has lower levels of education. The improvement in school attendance rates is most obvious for children (both for the 6-11 and 12-15 age groups) living in households where the head has no formal education. However, initially enrolling in a school does not guarantee completing 8 years of education when the level of education of the household head is less than secondary (see Figure 36). While there has also been a significant improvement in completion rates, disparities remain in terms of completing 8 years of education.

Figure 36 Education outcomes by household head's level of education, Turkey



Note: Authors' calculations using DHS 2003 and DHS 2013

Gender: Turkey seems to have been able to eliminate gender disparities in access to schooling. While the rate of female students finishing 8 years of education was significantly lower than their male counterparts in 2003 (56.5 percent vs. 79.3 percent), the gap decreased notably in 2013 (90.2 percent vs. 94.3 percent). This can be related to two significant legislative developments. In 1997, law No. 4306 extended compulsory education to 8 years, and in 30 March 2012 with law No. 6287 12 years of schooling was made free and compulsory. Along with this law, nationwide campaigns like "*Dad, send me school*" or "*Come on girls, let's go to school*" created substantial public

awareness of the importance of girls' education.[269] The Ministry's efforts to raise awareness on gender equality continues with programmes like "Promoting Gender Equality in Education Project".[270] This project which was conducted between 2014 and 2016 aimed at promoting gender equality in schools and contributing to promoting equality and gender sensitivity throughout the education system.

Table 10 Education outcomes by location of the household, Turkey

Location of the household	Attendance in school (6-11 year olds)		Attendance in school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	2003	2013	2003	2013	2003	2013	2003	2013
Rural	85.1	92.1	75.8	87.6	83.7	95.4	56.9	89
Urban	89.9	92.3	86.5	94.2	89.9	98.4	73.4	93.3
Difference(2013 minus 2003)								
Rural		7		11.8		11.7		32.1
Urban		2.4		7.7		89.9		19.9
Difference (Urban minus Rural)	4.8	0.2	10.7	6.6	6.2	3.0	16.5	4.3

Note: Authors' calculations using DHS 2003 and DHS 2013

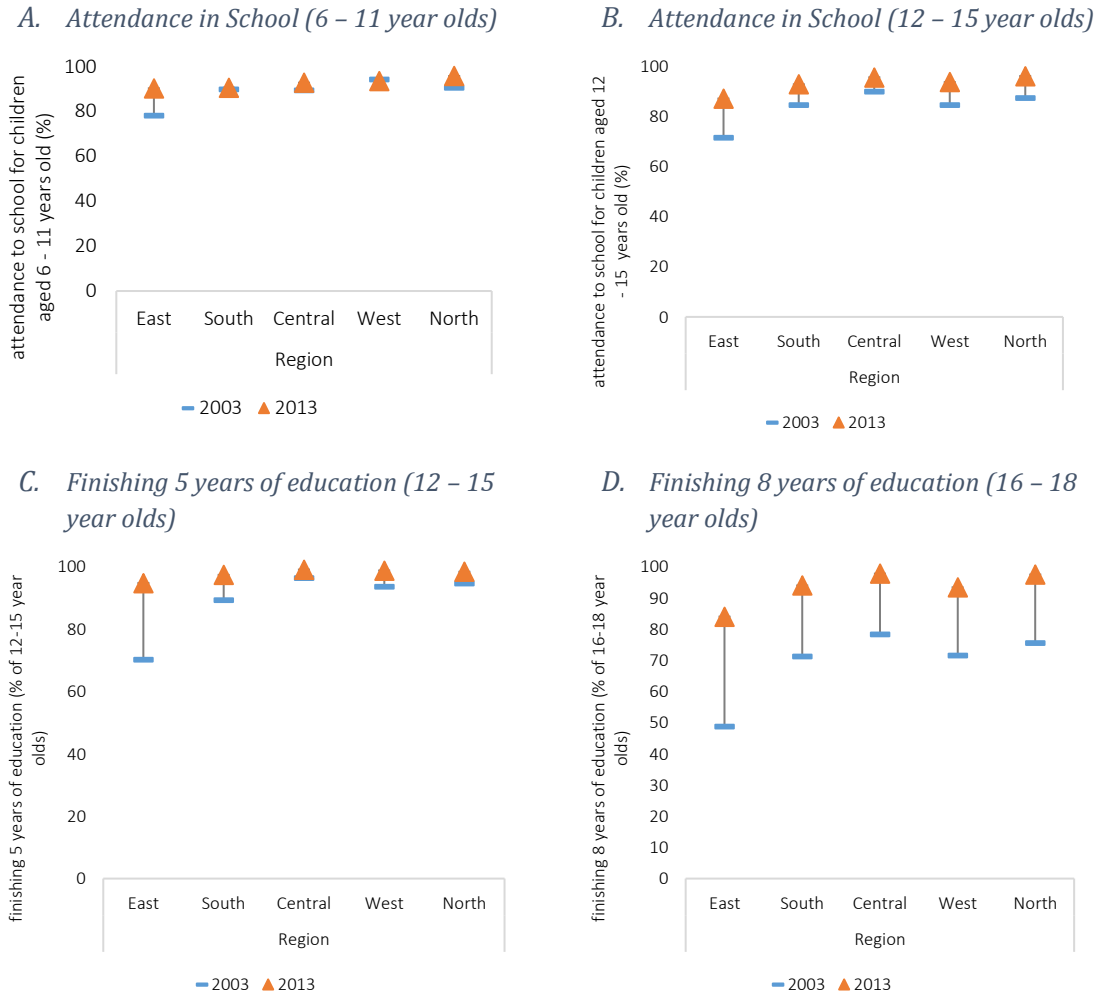
Location/Area of residence: Location of residence, in terms of living in a rural or urban centre, does not create an additional difficulty in access to schooling in Turkey. The location gap in attendance rate in primary education closed over the years. However, secondary school age children (12-15) living in rural areas are a little more disadvantaged than their urban counterparts. School attendance rates for 12-15 year olds reached 94.2 percent in 2013 whereas the same ratio was 87.6 percent for rural children in the same age bracket. School completion rates have followed a similar trend in both locations. However, it is worth noting that the rate of finishing 8 years of schooling for children aged 16 to 18 increased dramatically between 2003 and 2013 from 56.9 percent to 89 percent (see Table 10). The improvements in closing the gap between children living in urban and rural areas could be associated with the bussed education programme. Under this programme, since 1989 in pilot provinces and since 2006 in the country as a whole, MoNE provides school bus services for children who cannot go to school either because there are no schools in the vicinity or because there are limited means of transportation in the area

Location/Geographic regions: Between 2003 and 2013, there seems to have been a noticeable improvement within regions in school attendance, yet, inequalities across regions seem persistent in Turkey. Eastern Turkey (the most disadvantaged region in terms of education indicators in 2003) looks like a success story where attendance in school for primary education increased from

[269] Caner, Guven, Okten, and Sakallı (2015)
[270] See the Project website http://etcep.meb.gov.tr/ for details.

78.2 percent to 90.3 percent, and completion rates for 5 years of education rose to 94.8 percent from 70.2 percent during the aforementioned decade. While in 2003 less than half of 16-18 year old were finishing 8 years of education (48.8 percent), in 2013 this completion rate reached 84 percent. Although the improvements are promising, further steps are needed to eliminate regional disparities (see Figure 37).

Figure 37 DHS 2003-2013 Difference in access rates by regions



Note: Authors' calculations using DHS 2003 and DHS 2013

Language: Differences in language spoken at home seem to affect school completion rates more than initial enrolment at school. Over the years, the rate of school enrolment and completion for both 5 and 8 years of education increased among both non-Turkish and Turkish speaking households. The improvement is more visible in non-Turkish households. However, even though the language gap significantly narrowed with respect to attending primary education, finishing 8 years of schooling can still be burdensome for children from non-Turkish speaking households (see Table 11).

Table 11 Education outcomes by language spoken in the household

Language spoken at home	Attendance in school (6-11 year olds)		Attendance in school (12-15 year olds)		Completing 5 years of education (12-15 year olds)		Completing 8 years of education (16-18 year olds)	
	2003	2013	2003	2013	2003	2013	2003	2013
Non-Turkish	79.2	88.5	69.6	86.3	70	94.8	41.4	79.4
Turkish	91.9	94.3	88.3	95.3	94.7	99	77.3	97.1
Difference(2013 minus 2003)								
Non-Turkish		9.3		16.7		24.8		38
Turkish		2.4		7		4.3		19.8
Difference (Turkish minus Non-Turkish)	13.7	5.8	18.4	9	24.7	4.2	35.9	17.7

Note: Authors' calculations using DHS 2003 and DHS 2013

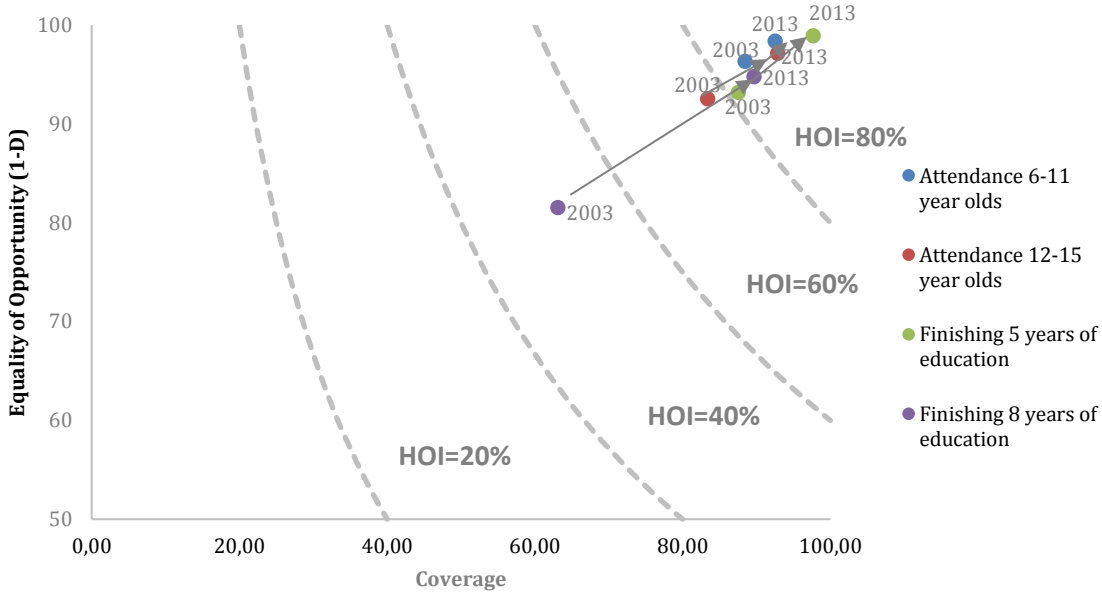
Disability[271]: According to the Population and Housing Census dated 2011, the proportion of children with at least one type of disability is 1.2 percent for children in the 0 to 4 age group, and 2.1 percent for children in the 5 to 9 year old group.[272] This rate is calculated, based on TURKSTAT numbers, as 2.3 percent for children aged between 3 and 9, 2.1 percent for children aged between 10 and 14, and 2.3 percent for children aged between 15 and 19.[273] According to the MoNE's formal education statistics, for the first semester of the 2016/17 academic year, the number of students enrolled in formal special education (including basic and secondary education) is 306,205. Of these students, 1,028 are enrolled in kindergartens within a special education school, and 1,708 children are in preschool level inclusive education classrooms.[274] Considering the number of children in the 3 to 5 age group with at least one type of disability, which is about 70,000[275] in Turkey, one can say that only approximately 4 percent of children with disabilities have access to special education in early years. While the number of students with special needs is higher in inclusive classrooms at primary and secondary level schools, the lack of data prevents us from providing more concrete information concerning the access to education for children with disabilities.

[271] Since DHS does not include a question on disability, we were unable to run analysis on the relation between disability and access to school.
[272] Turkish Statistical Institute (2015)
[273] Based on TURKSTAT's 2011 data. Source: Sarıışık (2016)
[274] Ministry of National Education (2017)
[275] Sarıışık (2016)

Measuring Inequality of Opportunity in Access to Education in Turkey using the Human Opportunity Index

Human Opportunity Indices for education indicators for Turkey are all at high levels as of 2013 (See Figure 38). HOI is the highest for finishing 5 years of education at 96.6 percent. Attending school for 6-11 year olds and for 12-15 year olds also have HOI indices greater than 90 percent with 91 and 90.2 percent respectively. The lowest HOI index is the indicator for finishing 8 years of education which was at 85 percent in 2013, pointing to the fact that there is still more room for improvement in enhancing equality of opportunity and also coverage for this indicator.

Figure 38 HOI, Coverage and Equality of Opportunities for Turkey, 2003-2013



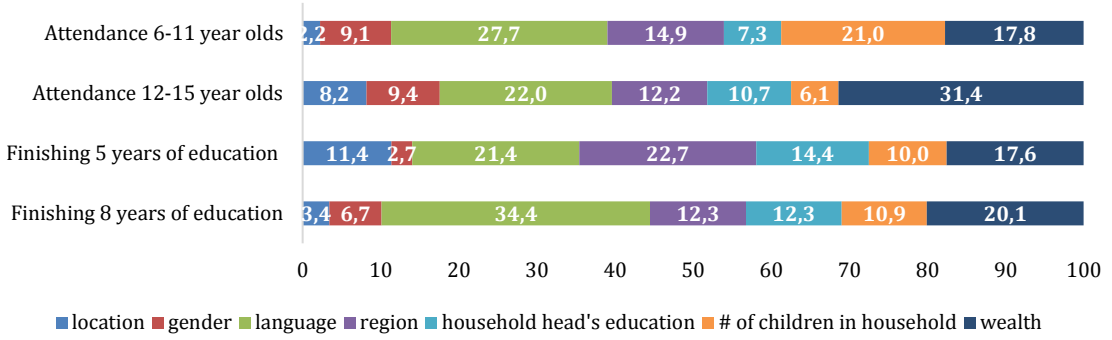
Source: Authors' calculations using DHS 2003 and DHS 2013

HOI for education indicators improved between 2003 and 2013 for Turkey and the largest improvement was observed for finishing 8 years of education. During this period the HOI increased by 5.8, 13, 15 and 33.5 percentage points for attendance in school for 6-11 year olds, attendance in school for 12-15 year olds, finishing 5 years of education and finishing 8 years of education respectively. Coverage improved while inequality of opportunities decreased for each indicator. Regarding finishing 8 years of education which is the indicator that showed the largest improvement in HOI, coverage increased from 63.1 percent to 89.6 percent while D-index decreased from 18.5 percent to 5.2 percent. In other words while in 2003 18.5 percent of those finishing 8 years of education would have had to have been reallocated from better off to worse off groups for there to have been full equality in 2013 this rate dropped down to 5.2 percent.

Remaining inequalities are mostly related to household wealth, language spoken at home and the region (See Figure 39). Remaining inequalities are low in Turkey as of 2013 as evidenced by the D-index ranging between 1.1 and 5.2 percent for the four indicators that have

been examined. Shapley decomposition results show that for Turkey in 2013, the main contributors to the remaining inequalities are language spoken at home, wealth, region and number of children in the household (higher than 20 percent only for attendance for 6-11 year olds). Language is the factor that contributes the most to inequality of opportunity for all four education indicators. Region, language and wealth taken together make up more than 60 percent of inequality of opportunities.

Figure 39 Shapley decomposition for 2013, Turkey



Source: Authors' calculations using DHS 2013

Regression results show that circumstances in general do not have a significant impact on education opportunities for children in Turkey, at least in terms of access. Finishing 5 years of education is achieved the most equally as it does not seem to be affected by any circumstance (as of 2013). For other education opportunities, the negative effect of being poor seems to have decreased over time but it has not disappeared altogether. Especially for finishing 8 years of education, living in a household in the 1st quintile (the poorest) is still at a major disadvantage (decreasing the likelihood of finishing 8 years of education by 26 percent). Inequalities regarding gender and language spoken at home also decreased from 2003 to 2013 and their negative marginal effect is at most 5.9 percent. Detailed interpretation of the DHS analysis for each indicator is displayed in the Annex 3, yet the overall picture can be summarised as follows*:*

Our DHS analysis that controls for the effect of various circumstances at the same time reveals that location, in terms of living in an urban or rural setting, does not cause a gap in access to education. Similarly, regression results do not imply any significant disparities in educational opportunities across regions (when controlling for other circumstances). Regressions show that disadvantages related to gender (being a girl) decreased over the years. Being a girl was found to create the largest negative effect for finishing 8 years of education in 2013 at 5.9 percent. The negative impact of being poor and having a household head with no or low education either decreased or disappeared for education indicators. Yet living in the poorest quintile (compared to living in the richest quintile) continues to decrease the likelihood of attendance in school for younger and older children and finishing 8 years of education. The chances of attending school for children in the 6-11 age bracket decreases in crowded households where the number of children exceeds 5. Speaking a language other than Turkish in the household has a much smaller

impact on education outcomes in 2013. Only for finishing 8 years of education does it have a negative marginal effect of more than 5 percent (5.9 percent).

Issues related to Quality of Education

While Turkey successfully decreased inequalities in access to education in many respects, inequalities in learning outcomes still persist. Household's wealth status seems to be one of the main causes of achievement gaps according to the results of the TIMSS 2011 maths and science tests for 4th grade students.[276] For mathematics, 66.7 percent of children living in the poorest households were able to pass the lowest achievement threshold as opposed to 91.4 percent of the children living in the richest households. For science, similar gaps can also be seen with respect to wealth status of the household (see Figure 41).

Similar to the case of 4th graders, 8th graders' achievement is also influenced by wealth status of the household and location of residence.. When compared to 1999's results, students' performance seems to have worsened in 2007 (see Figure 42 and Figure 43). This might have been an unintended consequence of 8 years of compulsory education where for the previous cohort, 8 years of basic education was not compulsory.

When students have an engaging environment in which intellectually stimulating resources are easily accessible at home, they perform better in mathematics. This holds true for both primary school children (4th graders) and pupils in lower secondary education (8th graders) (see Figure 44).[277]

To address problems related to the quality of education MoNE undertook recently a comprehensive update of the curriculum in schools. This task of the Ministry was under the scope of Development Plans, Government Plans and MoNE Strategic Plan for 2014-2019 and aims to meet the changing needs of the individual and the society by increasing the quality of education, to bring the basic skills and competences defined in the international and national documents to the students, to give priority to training on functional knowledge and values education.[278] The results of these changes on learning outcomes should be measured and evaluated.

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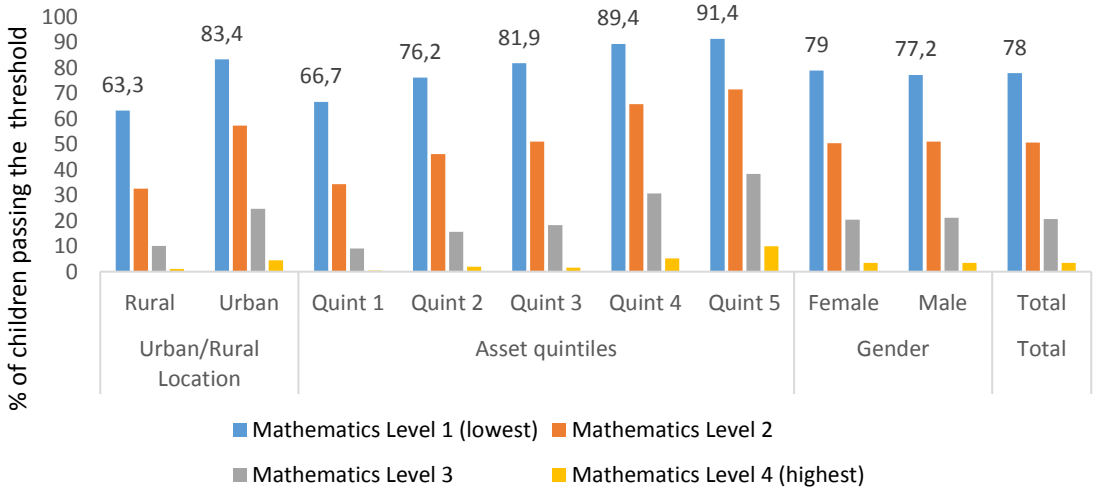
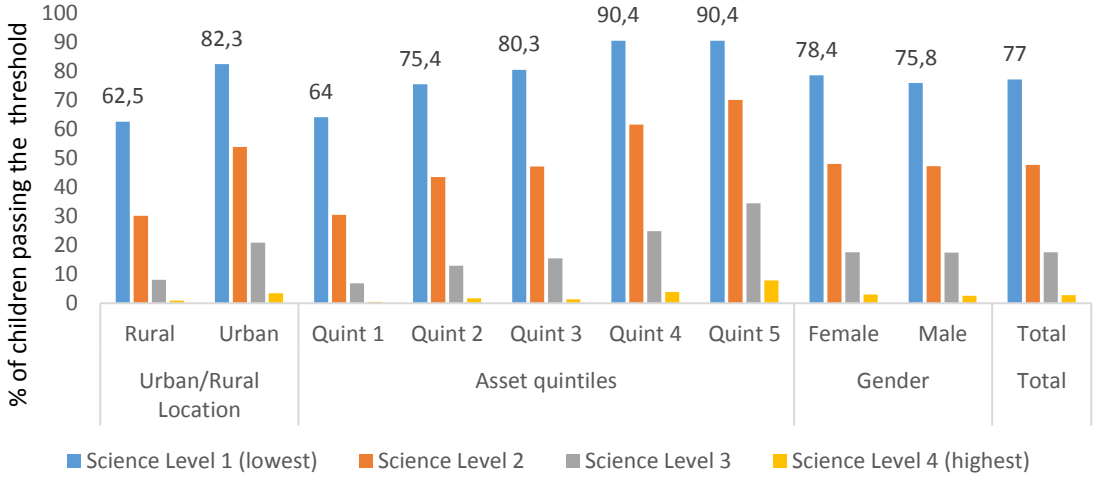
[276]Turkey participated in TIMSS 2015, however these results are not reported by these characteristics in TIMSS reports, and hence we used the data in UNESCO WIDE Database which reports the results from TIMSS 2011 as the latest data available.
[277] Students were scored according to their own and their parents' responses concerning the availability of five resources on the Home Resources for Learning scale. Students with Many Resources had a score of at least 11.9, which is the point on the scale corresponding to students reporting they had more than 100 books in the home and both of the home study supports, and parents reporting that they had more than 25 children's books in the home, that at least one parent had finished university, and that at least one parent had a professional occupation, on average. Students with Few Resources had a score no higher than 7.4, which is the scale point corresponding to students reporting that they had 25 or fewer books in the home and neither of the home study supports, and parents reporting that they had 10 or fewer children's books in the home, that neither parent had gone beyond upper-secondary education, and that neither parent was a small business owner or had a clerical or professional occupation, on average. All other students were assigned to the Some Resources category.
[278] This information is obtained from MoNE through formal writing.

Figure 40 Learning achievement in mathematics, % of 4th grade students passing the achievement thresholds, Turkey, 2011



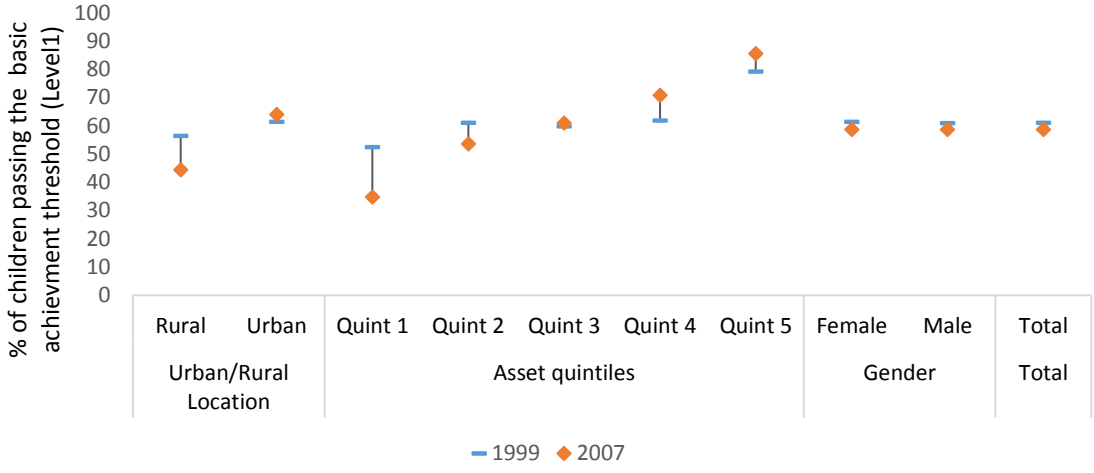
Source: UNESCO WIDE Database

Figure 41 Learning achievement in science, % of 4th grade students passing the achievement thresholds



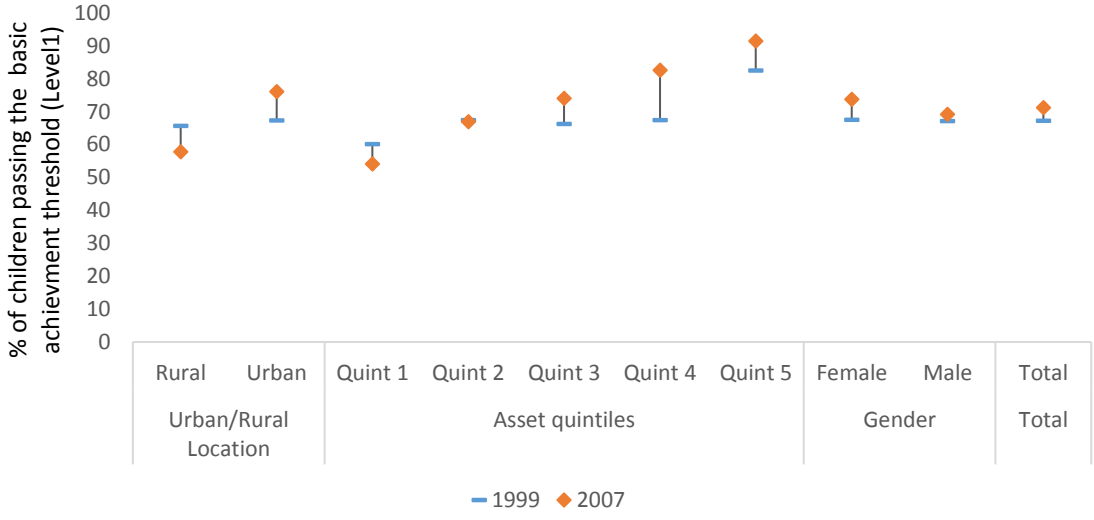
Source: UNESCO WIDE Database

Figure 42 Learning achievement in mathematics, % of 8th grade students passing the basic achievement threshold (Level 1)



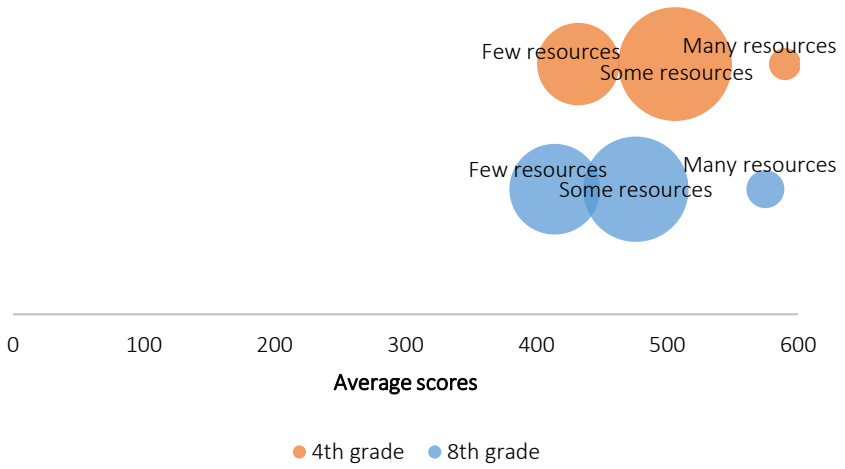
Source: UNESCO WIDE Database

Figure 43 Learning achievement in science, % of 8th grade students passing the basic achievement threshold (Level 1)



Source: UNESCO WIDE Database

Figure 44 Home resources and average score, TIMSS 2015 Mathematics



Source: TIMSS 2015 Report. Bubble size reflects the percentage of pupils in that group.

Challenges, Barriers, and Bottlenecks

Access to Education

Absenteeism of students: With the introduction of 8 years of compulsory education in 1999, access to education, particularly at the primary level, significantly increased in Turkey. As previous sections in this chapter showed, inequalities in access to education decreased, whereas there is still a way to go in increasing completion rates in higher levels of education. Challenges in education are not limited to completion rates. While enrolment rates at the basic education level are getting closer to 100 percent year by year, absenteeism in primary and secondary education is a problem that is clearly defined in the MoNE's 2015 – 2019 strategic plan.[279] Analysis of e-school data in a 2014 research study jointly organised by the Education Reform Initiative (ERI), MoNE and UNICEF Turkey indicates that "unexcused absence" both in primary and lower secondary education increased over the years. While average unexcused absence days in the first five years was 3.2 days in 2007, it reached 5.8 days in 2011. In lower secondary education, these days are even higher. In 2011, average unexcused absence reached 11.6 days. These analyses also find that between 2007 and 2010, the number of students who were absent more than 30 days without any excuse has quadrupled.[280] [281]

[279] Ministry of National Education Strategy Development Presidency (2015)
[280] Börkan, Levent, Dereli, Bakış, and Pelek (2014)
[281] However PISA 2015 results show that absenteeism is on a decline for the sample of PISA students (mostly 9th and 10th graders for Turkey). Yet despite the declining trend, the absenteeism remains high compared to OECD averages (Source: http://pisa.meb.gov.tr/wp-content/uploads/2014/11/PISA2015_UlusalRapor.pdf)

Access to early childhood education: Pre-primary and early childhood education are still not widely available in Turkey. The latest MoNE statistics for formal education show that the net schooling ratios in pre-primary education are 12.48, 36.15, and 70.43 percent or children age 3, 4, and 5 respectively.[282] A World Bank study carried out in 2015 showed that 2.7 million children between aged 3 and 5 are neither in preschools nor in child care, and 42,388 new preschools and child care centres are needed in order to reach the OECD average pre-primary enrolment rate.[283] However MoNE is planning to make pre-primary education compulsory and extend compulsory education to be 13 years by adding 1 year of pre-primary education. This could affect the pre-primary education enrolment rates positively.[284]

Quality Education

Teacher quality: While legislation, policies, and programmes are effective in increasing access to education, quality still remains an issue. Teacher quality, irrespective of the political and social circumstances in the countries, is among the foremost determinants of quality education in developed and developing countries.[285]

In fact in-service trainings are provided to the majority of the teacher work force in Turkey. In 2016, 1.729.016 teachers participated in 37.798 in-service training sessions held face-to-face or remotely, reaching 71% of teachers in only one year.[286] These trainings are created after studies to identify institutional needs and teachers' in-service needs, and are formed in cooperation with the departments of MoNE, other public institutions and organizations, civil society organizations and universities.

Yet our literature review and field visits also revealed that in Turkey, quality of education is closely related to teacher quality, and there is still room for improvement despite the large number of in-service trainings already provided. Pre- and in-service trainings are where teachers gain necessary skills. However, recent studies and international tests on learning and teacher qualifications suggest that, in Turkey, these trainings do not always meet the contemporary needs of the education system.[287] A qualitative research study undertaken at a university's faculty of education in 2014 suggested that in-service training was not responding to teachers' needs, and most of the time a newly graduated teacher did not feel ready to meet the current needs of the classroom.[288] While technological tools such as interactive boards and tablets are being introduced into classrooms reasonably quickly, teachers may not always be completely informed about new tools and their use. A more hands-on, practice based in-service training would enhance teachers' capacity to cope with new developments.

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[282] Ministry of National Education (2017)
[283] World Bank (2015b)
[284] According to the press statement of the Minister of National Education: http://www.hurriyet.com.tr/bakan-yilmaz-zorunlu-egitimi-13-yil-yapacagiz-40479257
[285] P. W. Glewwe, Hanushek, Humpage, and Ravina (2013)
[286] This information is obtained from MoNE through formal writing.
[287] ERG (2015)
[288] Köstereliogu and Bayar (2014)

Issues with teachers are not limited to lack of skills and capacity. Teachers' employability and available form of employment (full time teachers, contractual teachers etc.) create significant problems in the sector. Analysis carried out using the 2013 Labour Force Survey (LFS) finds that 1 in every 4 education faculty graduates aged 25-29 are not employed.[289] Of those who are, nearly 20 percent are not practicing teachers.[290] In other words, these analyses show that only 6 in every 10 education faculty graduates are working as teachers as they are trained to be.

Test based education system: The Turkish education system heavily relies on national standardised tests which all students are subject to in order to continue higher levels of education. These standardised tests make students and the whole education system focus more on the test subjects and techniques and pay less attention to other matters related to the students' creative and intellectual development. This issue was also acknowledged by the MoNE in the 2015 – 2019 Strategic Plan where subjects like arts, sports and culture are being acknowledged as areas that require attention.[291] Moreover, there seem to be significant gaps between the number of students entering a school and the number of graduates. To prepare for national exams in the last year of high school many students are either transferred to "open high schools" or private basic high schools which used to be private teaching institutions and provide teaching services tailored to the national exams (called "*dershane*").[292] Another negative consequence of this system is that students are trained in subjects which do not necessarily match their skills. This is likely to become apparent later in terms of labour market mismatches.

Inclusive education: Inclusive education means providing equal opportunities to anyone irrespective of their disability status, ethnic identity or any other categories that may face discrimination.[293] Turkey's main position regarding inclusive education concentrates on education of children with special needs. Legislation is well established and detailed, starting from the first diagnosis and then continuing with monitoring and guidance. However, although the legislation is well defined, the coverage is still low, and a lack of data also prevents more concrete conclusions.

To promote inclusive education MoNE also has a programme titled operational "Programme on Supporting Inclusiveness where Roma Citizens Live in High Density". This programme aims to offer better inclusive education opportunities for children and families.

Syrian refugee crisis: Following the outbreak of the Syrian civil war, the resettlement of Syrian refugees and providing services for them became an issue for host countries and communities. Turkey has more than 3 million Syrians as of June 2017, and about 33 percent of them are school age children.[294] Currently Syrian children are either in temporary education centres (TECs),

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[289] ERG (2015)
[290] ERG (2015)
[291] This is both mentioned in the MoNE 2015 – 2019 Strategic Plan, and also in our meeting at MoFSP.
[292] See http://www.haberturk.com/gundem/haber/1183997-sinav-kaygisi-gozde-liseleri-bosaltti
[293] ERG (2016)
[294] Number of Syrians under temporary protection in Turkey is 3,049,879 as of 15 June 2017. Number of children from age 5 to 18 is 1,020,598. See http://www.goc.gov.tr/icerik6/temporary-protection_915_1024_4748_icerik

public or private formal schools or they are out of school.[295] As of December 2016, 60 percent of school age Syrian children are enrolled in [either in TECs or formal education] schools.[296] Temporary education centres will gradually be closed and all Syrian school age children will be integrated into Turkish education system. This will increase classroom sizes, and more attention will be need to be given to inclusive education in order to ensure that all children benefit from the education provided.

Education Financing

As the Ministry of National Education (MoNE) is the main government body administering formal education, their duties also include education financing. As of 2017, the MoNE's budget makes up 77 percent of the total public education budget. Throughout the last decade, the MoNE's budget increased from 16.6 billion TL to 85.0 billion TL.[297] In nominal terms, this corresponds to a fivefold increase in the last decade. However, when adjusted for inflation, 2017's MoNE budget is only 2 times larger than 2006's.[298] As MoNE's budget has increased over the years, the share of GDP that it represents has also risen (see Figure 45). Yet MoNE budget share in GDP, 3.54 percent[299], is still lower than the Education 2030 Framework for Action's recommended 4-6 percent. Moreover, Turkey's expenditure on education as percent of total government expenditure continue to remain below the suggested 15 percent level (see Figure 14 in Chapter 2).

The MoNE's budget comprises of 6 main items: i) human resources, ii) social security premiums, iii) purchase of goods and services, iv) transfers to public boarding schools and bursaries, v) financial expenses, and vi) financial transfers. Nearly 70 percent of the total MoNE budget is allocated to human resources related expenses.[300] The number of students enrolled in formal education is one of the most important indicators of education spending. Turkey spends USD 2,894 per student at primary level. This is notably lower than the OECD average of USD 8,477.[301] As a result of recent developments in education regulations, Syrian students of primary school age will be involved in the formal Turkish education system.[302] In other words, the number of students under MoNE's umbrella will increase and there will be significant investment costs. Currently, the budget allocated for investment related expenses remains at the 10 percent level. However, with the abovementioned extensions, MoNE will need to expand its financial resources for the recruitment of new teachers, building of new classrooms, and student expenses. The current level of investment share in MoNE's budget may fall short in responding to these new needs.

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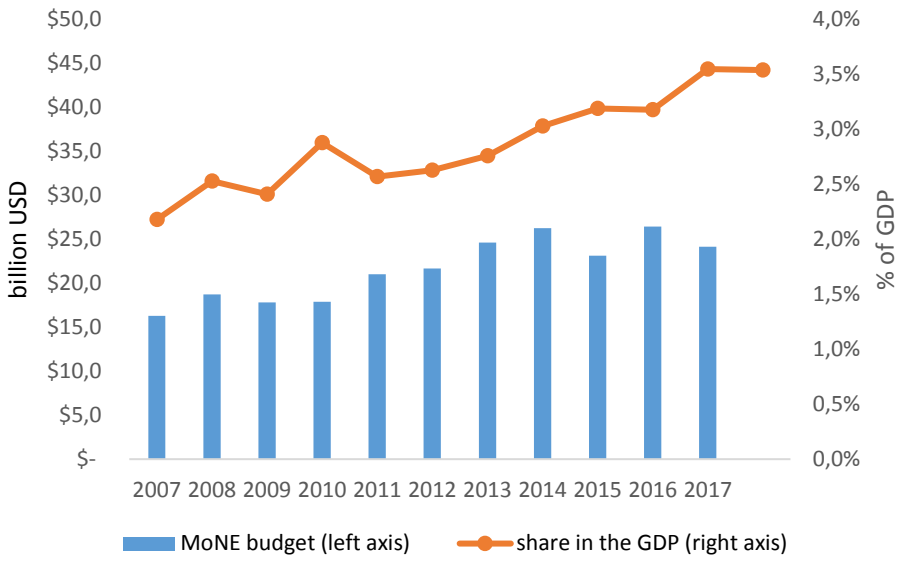
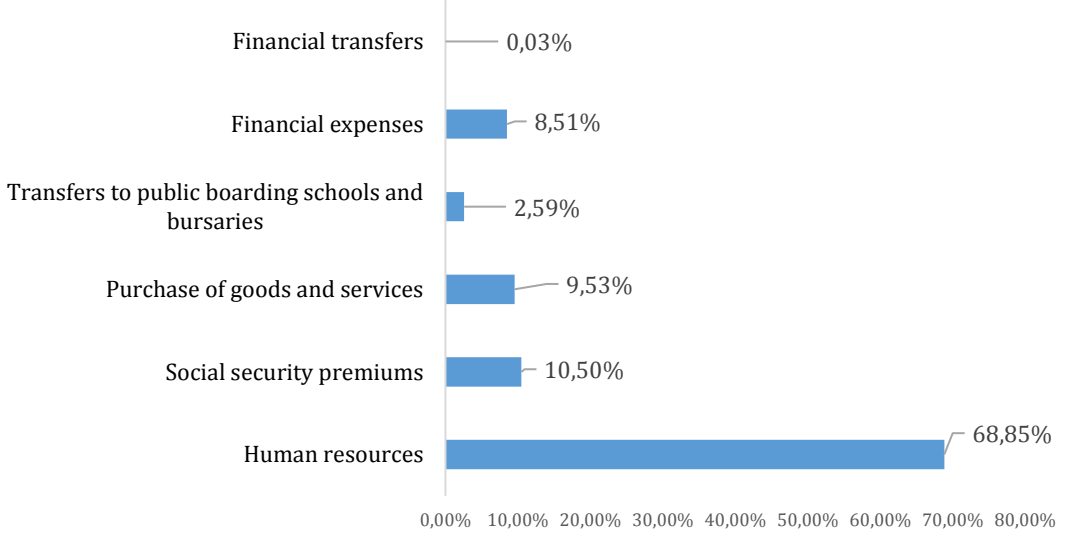
[295] In TECs Syrian teachers also work and in order to improve their pedagocial capaicities trainings have been provided to them by the MoNE.
[296] Madra, Aydagül, Aksoy, and Kayalı (2017)
[297] Ministry of National Education strategy Development Presidency (2016)
[298] ERG (2017)
[299] ERG's estimation. ERG (2017)
[300] Ministry of National Education strategy Development Presidency (2016)
[301] OECD (2017a)
[302] Number of Syrian students in formal education in 2016 = 496.653 (165.672 in formal MoNE schools, 330.981 in TECs), projected number of Syrian students as of 2017/18 academic year is 500.000. Source: Ministry of National Education strategy Development Presidency (2016)

Figure 45 MoNE budget and its share in the GDP, 2006 - 2017



Source: Ministry of National Education Strategy Development Presidency (2016)

Figure 46 Distribution of MoNE's budget



Source: Ministry of National Education Strategy Development Presidency (2016)

Policies

The MoNE's 5 year strategic plan is based on three main areas: i) access to education, ii) quality education, and iii) institutional capacity. When preparing the strategic plan, the MoNE consults with stakeholders, and also benefits from top policy documents prepared by other government bodies. The MoNE's most recent strategic plan was released in 2015 and covers the period until 2019. This document serves as a guideline and identifies strengths and weaknesses of the MoNE as the main government body responsible for education.

Long term strategic plans

Access to education: Providing equal opportunities for all children at all levels of education is one of the main missions of the MoNE as defined in the 2015 – 2019 strategic plan. Strategies and targets regarding access to school cover topics ranging from enrolments in preschool education to reducing unexcused absence days in schools. The targets outlined in the document include increasing the average years of schooling to 9.1 years (which was 7.6 in 2014) and the net schooling ratio in preschool for children age between 4 and 5 to 70 percent by 2019. Another target is to reach a rate of 92 percent for children in first grade of primary education who have received at least one year of pre-school education. Reducing dropout rates from 2014's 38.2 percent to 27 percent, and rate of absenteeism to 10 percent in primary education and 20 percent to secondary education are also among the main goals to be achieved.[303] In order to achieve these targets, policies and programmes regarding i) alternative education delivery models, ii) expanded financial support mechanisms, iii) more rigorous monitoring mechanisms in terms of detecting absenteeism, iv) refinement of the school management systems and dialogue between teachers, parents and schools are being planned in collaboration with different government bodies and stakeholders.

Quality education: Improving the quality of education is crucial in ensuring that all children have access to the broad range of skills and knowledge required in the 21st Century. The MoNE aims to reduce repetition rates and wants to increase students' academic success. From increasing the number of books that are recommended to be read by students to increasing the number of "nutrition friendly schools" and schools with "white flag" certificate, the MoNE aims to improve quality education. Despite the tendency of the standardised test based system to make students only focus on academic courses, particularly in later grades, the MoNE also wants to increase the availability and participation in sports, science, and arts related activities.

A student monitoring and evaluation system is also planned to be implemented by MoNE to increase the quality of education.[304] In this way, it will be possible to monitor and evaluate student success from pre-school till the 12th class. In addition, free support and training courses are

[303] Ministry of National Education Strategy Development Presidency (2015)
[304] This information is obtained from MoNE through formal writing.

offered to schools in order to provide equal opportunities in education and students are provided access to the resources they need.[305]

Institutional capacity: The MoNE aims to improve institutional capacity by investing in human resources and physical, financial, and technological infrastructure. Under this target, the MoNE focuses on the pupil-teacher ratio and aims to reduce this from 19-18 to 15 at basic education level by 2019. Increasing libraries and multi-purpose lounges in schools, school subsidies and in-service training capacity are other issues that the MoNE considers crucial to providing better services.

The MoNE aims to invest in teacher quality as a strategy which addresses both quality education and institutional capacity issues. The recently published strategy document emphasises four main aims: i) to improve the status of teaching occupation, ii) to improve conditions of work environments for teachers, iii) to get necessary precautions taking into account differences across regions and institutions, and iv) to upgrade the career and rewarding system.[306] The MoNE identifies differences in teacher turnover as one of the main problems underlying inequalities in quality education and regional disparities. As of 2016, the average number of years of practicing teaching occupation in the same location is 11.4 in Turkey. This falls to 6.4 in South East Turkey whereas it is 14.2 in Aegean region. While a teacher only stays an average of 1.8 years in Şırnak, they stay 15.6 years in Izmir.[307] In order to reduce inequality between regions, the MoNe introduced a new hiring strategy from 2016 onwards. The MoNE hired 20,000 "contracted teachers" who are expected to serve for 4 years in the school that they are centrally appointed to. At the end of each year their contract is reviewed and, provided there are no issues, it is renewed for another year. Once they have completed the 4 years their status is upgraded to permanent staff. After fulfilling these requirements the teachers are expected to continue their work in the same location for at least 2 more years. Contracted teachers are also required to enter the Public Personnel Selection Examination (KPSS). However, they can only be appointed to a position after successfully passing the face-to-face interviews.

Disability: Policies for Children with special needs[308]

Starting from the diagnosis phase, the MoNE's approach to children with special needs is to ensure that they are treated in accordance with their needs. Through application to the Guidance and Research Centres (RAM) which makes the decision on whether individuals need special education or not and the special education evaluation board established under the RAMs children are evaluated and then referred to the appropriate education environment. In this context, it is essential for individuals who need special education to continue their education (in all types and stages) through inclusive education in the same class together with their peers in full-time or in special education classes on a part-time basis. However, by taking into account the needs of these

[305] This information is obtained from MoNE through formal writing.
[306] Ministry of National Education General Directorate of Teacher Training (2017)
[307] Ministry of National Education General Directorate of Teacher Training (2017)
[308] All information summarised here is obtained from MoNE document through formal writing.

individuals special needs education institutions are also established. The Ministry of National Education opens up special education programmes and institutions for preschool, primary school, junior high school, vocational and technical high school and these programmes and institutions are established under the MoNE Special Education and Guidance Services General Directorate.

71,542 students are provided education in 1557 institutions and schools affiliated with the General Directorate of Special Education and Guidance Services. Within the scope of inclusive education services, 40,887 students receive education in 11,088 special education classrooms. Through inclusive education services;

- In pre-school, 1721 students receive education in 1699 classrooms,
- In primary school, in 72,813 classrooms 79,080 students receive education,
- In lower secondary education, in 93,008 classrooms 105,344 students receive education,
- In upper secondary education, in 13,937 classrooms 33,726 students receive education.

Students who are in need of special education and who cannot attend school due to health problems during the compulsory education period are offered home education services or in the hospitals for the students who are in treatment in health institutions due to their health problems. Within this scope, 7467 students are provided home education services and 958 students are provided hospital classroom education.

Pre-school education for children in need of special education between 37-66 months is compulsory in Turkey and it is essential that children continue their education in the same class as their peers through inclusive education in primary education institutions. However, for children between the ages of 37 and 66 months who cannot continue their education through inclusive education special education kindergartens and for children between 48-66 months special education kindergartens within the schools and institutions can be established. In addition, special education kindergarten and special education centres (schools) can be opened for children 0-36 months old,

The Ministry of National Education (MoNE) also provides non-formal education services in order to equip individuals with special education needs with knowledge and skills in vocational, social or cultural fields. Non-formal education courses and trainings are provided in the scope of lifelong learning.

In addition, support services are provided in private institutions through education programs prepared by the Ministry in accordance with disability groups, grades and obstacle characteristics and individual development competencies in the private education institutions which continue to operate under the Ministry of Education, General Directorate of Private Education Institutions. According to the Law No. 5378, a certain proportion of the special education services is covered by the budget allocated from the Ministry's budget.

Free transportation and catering services are provided to encourage the pupils with special education needs to facilitate their access to education institutions and to provide equal opportunities in education.

MoNE has recently started Inclusive Education for Children Having Disabilities Project.[309] The Project aims to increase children's access to quality inclusive education in pre-primary level and 1st grade at the primary level. Apart from increasing access to education for the long run the project aims to improve children's employability in the future and their integration in economic and social life.

Gender: Increasing girls' access to school

Turkey stands out as a successful example of a country narrowing the gender gap in access to education. Increasing girls' educational enrolment was among the main goals of MoNE. To this end, there have been, and still are, nationwide projects implemented in collaboration with public and private partners. "*Come on Girls, let's go to school (Haydi Kızlar Okula)*" was the first significant attempt to reduce gender disparity in education simply by increasing girls' access to education.[310] Implementation of the programme began in 2003 in the 10 provinces[311] where girls' school enrolment was lowest. The programme has been jointly implemented by the MoNE and UNICEF, and was scaled up to the national level within 3 years. As of 2006 all 81 provinces of Turkey were subject to this programme. The implementation of the programme was coordinated at both central and provincial levels. In every province, a provincial committee had been set up and they were the main party responsible for the execution of the programme on the ground. The members of provincial level committees were provincial directors of education, health, social services, agriculture, population and citizenship affairs, directors of religious affairs (mufti), vice governors and mayors. NGO and press representatives as well as primary education supervisors were in this committee. While this was a national programme introduced through central government bodies, composing local teams and involving them throughout the implementation process resulted in great success in increasing girls' school enrolment rates. The programme was established on the following core principles. Firstly, the programme began with the identification of girls who had either never been to school or who had dropped out. This was followed by family visits aimed at persuading family members on how important involving girls in education was. While household visits were being held, national and local level advertising campaigns were on the go. The publicity was wide-ranging and attention grabbing. Finally, the programme also tracked progress by monitoring girls' school attendance. The programme was run for 4 years and ended in 2007 with 239,112 girls enrolled in formal education. [312]

Haydi Kızlar Okula was the first and most prominent attempt at increasing girls' participation and worked quite well but was not sufficient on its own. The MoNE therefore continued its mission and introduced a subsequent project called "Technical Assistance for Increasing School Attendance Rates Especially for Girls"[313] (Özellikle Kız Çocuklarının Okula Devam Oranlarının Arttırılması Projesi – KEP I & II). The aim of this project is to i) increase girls' attendance rates in

[309] Information about this Project is obtained from the Ministry of National Education through formal writing.
[310] Yazan (2013)
[311] 10 provinces in the first phase were: Ağrı, Batman, Bitlis, Diyarbakır, Hakkâri, Muş, Siirt, Şanlıurfa, Şırnak, Van.
[312] Gümüş and Gümüş (2013)
[313] EuropeAid/133119/IH/SER/TR

primary and secondary education, ii) refine labour skills and competence, and iii) raise awareness.[314] The first phase of the project started in 2011, and in 2015 a new start was given with a stronger focus on keeping girls in schools. The project is being implemented in 15 selected provinces. Within the scope of this project, 64,500 individuals have been reached, 31,500 people have been trained, 9,424 household visits have been completed, 10,588 household surveys have been conducted, and 5,022 girls have been returned in schools.[315]

Location: Bussed education

The MoNE provides a bussed education service for children who cannot go to school either because there are no schools in the vicinity or because there are limited means of transportation in the area. Bussed education started as a pilot programme in a total of five schools in two provinces in the 1989 – 1990 academic year, and it has reached all the provinces of Turkey by 2006-2007 academic year.[316] It is provided for children at primary or secondary schools, or in special education. Primary and secondary school children who are transported to school with this service are also provided meals at school. Within the scope of this application, identification, and planning of the students who will receive this service are carried out by the provincial directorates of the Ministry of National Education according to the Regulation on Access to Education through Transportation.

Various research studies[317] have concluded that bussed education has a positive impact on extension of 8 years compulsory education, particularly for girls and children from poor families. They also found an improvement in academic success and a decrease in costs. There are also some drawbacks relating to bussed education. Children who start the day very early to reach school by bus often feel tired at least during the first class of the day. Moreover, if children live in a rural area with harsh winters, it may not even be possible to go to school from the villages.[318] In the 2016 – 2017 academic year, 817,799 students were transported to school by bus. 1/3rd of these students (32 percent) are in primary education and 68 percent are in secondary education.[319] The operationalisation and budget support for bussed education is shared between the MoNE and the Social Aid and Solidarity Promotion Fund (SASF). The MoNE expects to receive 700,000 TL for food expenses of bussed students and 295,000 TL for transportation costs of special education children from the SASF.

Quality: Use of ICT in Education- FATIH Project

The FATIH project was launched with the aim of enhancing educational opportunities for all children through the use of educational technologies. The FATIH project is based upon five main principles: accessibility, productivity, and equality of opportunity, measurability, and quality.[320]

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[314] Ministry of National Education strategy Development Presidency (2016)
[315] (Özellikle Kız Çocuklarının Okula Devam Oranlarının Arttırılması Projesi (KEP - II), 2017)
[316] This information is obtained from MoNE through formal writing
[317] (Küçüksüleymanoğlu, 2006); Şimşek and Büyükkıdık (2017); (Yurdabakan & Tektaş, 2013)
[318] (Küçüksüleymanoğlu, 2006); Şimşek and Büyükkıdık (2017)
[319] Ministry of National Education (2017)
[320] Movement of Enhancing Opportunities and Improving Technology (FATIH) (2017)

It aims to provide students with the freedom to invest in their own areas of interest and develop 21st century skills using technology. A main component of the FATIH project is to provide interactive boards in every classroom and tablets for students from the 5th grade onwards. To be able to benefit from these instalments, schools need to have the necessary infrastructure. Tablets and interactive boards were therefore first distributed to schools that are ready to make use of them. As of 2017, 432,288 interactive boards have been placed in classrooms. Next year, in 2018, 295,000 more interactive boards are planned to be provided to new classrooms. To date, 45,653 multipurpose printers have been given to schools. The number of tablets distributed has reached 1,437,800. Of these tablets, 1,132,361 were distributed to 9th grade students (with the exception of vocational high school students), and 305,439 to teachers (with the exception of vocational high school teachers).[321] The Directorate General for Innovation and Education (YEGITEK) is the main MoNE body responsible for the implementation of the FATIH project. In addition to FATIH, they run an online social educational platform called Educational Informatics Network (EBA). While the platform is still a work in progress, EBA allows teachers to upload content and students can also follow the material and work together with their peers and teachers.[322] EBA is integrated into FATIH with the aim of having a more meaningful impact than the simple provision of new technological tools.

Although it stands out as an innovative, well-intended and comprehensive educational reform initiative, the FATIH project is still a work-in-progress and challenges remain. As similar programmes from around the world suggest, information and awareness concerning how and why these technologies should be used is of critical importance. Furthermore, the FATIH Project would benefit from a more structured plan in terms of the uploaded content and use of materials. For example, studies analysing the impact of Peruvian "*One Laptop per Child*" project suggest that defining teaching and learning outcomes and designing a friendly model to realise these outcomes are crucial for success.[323] While there are not any publicly available research reports evaluating the impact of the FATIH project, YEGITEK's internal studies state that 55.9 percent of all teachers are using interactive boards. 70.7 percent of teachers are active users of the EBA platform. This study also finds that interactive boards increase student engagement in the classroom. 54 percent of teachers indicated that the training provided within the scope of the FATIH project contributed to their teaching skills.[324]

FATIH remains a promising programme with the potential to help children access educational content and develop a great set of contemporary skills and knowledge. However, a stronger implementation strategy and technical support from the MoNE as well as ensuring that teachers and parents are on board are critical to the success of the programme. Furthermore, teachers

[321] Numbers provided at our interview with YEGITEK.
[322] EBA (2017)
[323] ERG (2014)
[324] These findings are based on internal reports that have been conducted by YEGITEK (General Directorate of Innovation and Educational Technologies). We were not provided the full report, however received the output of the Project during our field visit.

must be aware and responsive to the rapid pace of technological change to efficiently make use of the technology in a classroom environment.

Conditional Cash Transfers

Ministry of Family and Social Policies provides cash transfers to the poor and vulnerable families in need with the condition of sending their children to school. The budget of the programme is financed by Social Assistance and Solidarity Fund resources. Within the context of the program, almost 4.9 billion TRY have been allocated to families.[325] Within the scope of the program starting from 2003, payments are sent directly to the bank account of the mother of the children. The transfer amount varies with level of education and gender. In order to increase girls' enrolment in education, the transfer amount for girls is higher than for boys. For children in primary education, families are paid 40 TRY for girls, 35 TRY for boys, and for children in secondary education families are paid 60 TRY for girls and 50 TRY for boys.[326] Additionally CCT is also provided to the families of the children in pre-primary education. An impact evaluation of the CCT programmes have found a significant increase in enrolment rates. Secondary school enrolment rates were also increased and the report concludes an overall positive impact on achieving the intended results.[327]

Syrian children's integration in education

Syrian citizens under temporary protection in Turkey receive education in the public schools or Temporary Education Centres (TECs) opened in line with the circular no 2014/21. A variety of studies are being conducted by the Ministry of National Education to ensure that Syrian students are able to receive equal education and education in the same conditions for Turkish students.

In order to provide a quick response to the situation, the Directorate of Migration and Emergencies was established under the Lifelong Learning Directorate of the MoNE. Temporary Education Centres (TECs) located in provinces with large numbers of refugees were opened up to accommodate the needs of education of Syrian children. Temporary Education Centres also provide service inside refugee camps. In these centres Syrian children are taught by Turkish teachers and Syrian volunteer teachers. TECs will gradually be closed in 3 years and all Syrian children are planned to be integrated into formal Turkish schools. To this end the MoNE is currently building new schools and classrooms to be able to provide enough physical space for the children.[328]

According to November 2016 data of General Directorate of Immigration, Syrian children at school age (833,039 children) are being gradually registered to the public schools affiliated with the Ministry of National Education.[329] In 14,942 public schools affiliated with MoNE (outside of

[325] Obtained from Ministry of Family and Social Policies through formal writing
[326] Ministry of National Education strategy Development Presidency (2016)
[327] Republic of Turkey Ministry of Family and Social Policies (2012)
[328] Ministry of National Education strategy Development Presidency (2016)
[329] The information in this paragraph is provided by Ministry of National Education through formal writing.

TECs) 169,121 Syrian children under Temporary Protection and 24,322 Iraqi children are being educated making in total 193,503 students trained in Turkish curriculum. Additionally, in 404 temporary training centres in 20 provinces, 291,039 students, all of whom are from Syria, are trained in intensive Turkish teaching. Overall 59% of Syrian students are enrolled in schools in Turkey.

Children of seasonal workers

There are a large number of people who work as seasonal workers in Turkey and because of this temporarily move out of their residence. Most seasonal workers leave their homes in spring and come back by the end of autumn. Due to this temporary change in location of residence, children of seasonal workers may miss school. With its serious commitment to provide all children equal opportunities for education, the MoNE recently introduced a public notice named "Children of seasonal agriculture workers and semi-nomadic families' access to school".[330] According to this notice, in the provinces which these workers immigrate to and emigrate from, 3 teachers in every province will team up to track these children's attendance in schools. To facilitate this process, there is an e-school system by which these students' information is also transferred to the new school that they are temporarily attending. In this way, these children's attendance and academic records become easily trackable. Since these measures have only recently begun to be implemented there is a lack of data on their effects.

Conclusion

In the last fifteen years Turkey has made significant progress in improving access to education for all groups of children. With the law no. 4306 enacted in 1997 8 years of basic education became compulsory, and this accelerated girls' enrolment in formal education. In the following years, with the law no. 6287 (enacted in 2012), compulsory education is extended to 12 years. These regulations have been translated into a substantial increase in enrolments in upper secondary education in the last 15 years.

While challenges remain, especially in learning outcomes, the strategic plans and projects are promising. MoNE's strategic plan documents indicate that the Ministry identified the main problems and defined concrete targets and plans. The system established for schooling of special needs children stands out as a good example. With the involvement of other government institutions, and the legislations stating that compulsory education starts from 36 months onwards for special need children, better coverage and higher chances of inclusion may be on the horizon. With nationwide programmes for girls' education, bussed education for students living far from schools, and conditional cash transfers towards financially vulnerable households, Turkey tries to eliminate wealth related inequalities in education. On top of these, Turkey is in the progress of instalment of education technologies via tablets distributed to students from 5th grade onwards and interactive boards in all classrooms. With the aim of increasing quality education in

[330] Ministry of National Education Directorate of Basic Education (2016)

all classrooms, FATIH project can be seen as a tool to mitigate regional disparities across the country.

Yet there is still room for improvement in improving coverage for the vulnerable groups such as the poorest, children having a disability and refugee children. This suggests a need for higher and more efficient spending as well as capacity improvements at both the ministerial level as well as on the ground.

Recommendations

While Turkey`s determination and hard work on improving education systems and outcomes are clear, there are areas of improvement and remaining challenges. Based on previously carried out analysis and ongoing programmes and policies, the following areas stand out to be worth stressing in the way forward:

Policies to address Poverty and location

Mitigating the impact of poverty and regional disparities in access to schooling: Analysis of the most recent DHS data (DHS 2013) for Turkey implies that poverty and regional disparities still appear as an obstacle in access to education in Turkey (See **Table 8** and **Figure 37**). More and continued effort on mitigating the effect of these circumstances would be a good strategy in improving access to education.

Reaching universal enrolment rate in primary education: Implementation of nationwide education campaigns supported legal regulations and enrolment rates grow fast until 2013 where the primary school net enrolment rates reached 99 percent for both boys and girls. However, the latest official MoNE statistics show that net schooling rate in primary education fell down to 91 percent for both genders (for year 2017). Acknowledging MoNE's significant work and enthusiasm, this decline remains a question that requires attention.

Policies to address Disability

Increasing coverage for children with special needs in education: While legislation is well defined, the number of children with special needs in education are lower than the number of children who need to be in special education. Despite all the intentions, coverage seems to be low and lack of data prevents providing more concrete policy recommendations. In this respect, it is important to collect data on access rates of the children having a disability to track the issue. It is also necessary to make improvements on the field through teacher trainings, and incentive and control mechanisms that ensure children having a disability are enrolled and get the special attention that they need in the classroom.

Policies to address Failing Systems (Governance, Financing, Quality)

Eliminating the unexcused student absenteeism cases: Despite the fact that 12 years of education is free and compulsory, the rate of student absenteeism appears to be a problem. As unexcused

absenteeism rates have quadrupled in recent years, there is a need to improve monitoring and tracking systems in order to understand why children are not attending school.

Improving the quality of education: Turkey`s current test-based education system does not give students the right incentives to focus on learning and to develop a critical mind set. As test results are the main determinants of university entrance, students pay more attention to getting higher results in those exams than trying to actually learn content. This systemic issue is bundled with quality problems regarding teachers. It is therefore necessary to ensure an interactive and creative schooling environment where both students and teachers would enjoy engaging and producing while learning. MoNE's recently published teacher strategy document has potential for responding to these challenges.

Significant amount of investments needed regarding inclusion of Syrian children in formal education: In Turkey, about 40 percent of Syrian school age children are out of school. While new legislation is becoming effective in enrolling children the total number of children in need of formal education is also expected to increase. This will lead to an increased need of institutional investment (both in terms of human resources and physical capacity) and will create a challenge in Turkey's education budget. In the current MoNE budget structure, investment related expenses makes up less than 10 percent of total MoNE budget. However, aforementioned expansion plans may require more budget than already allocated.

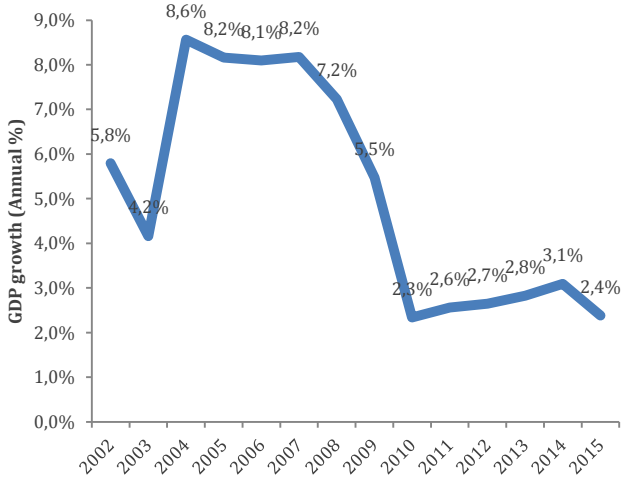
3.3 JORDAN

Overview

Country Context

Economy: Over the past 10 years, Jordan has pursued structural reforms in education, health, as well as privatization and liberalization. However, its economy has been significantly affected by external crises such as the Iraq crisis (2003), the 2008 financial crisis and finally the Syria crisis since 2011. The Iraq and Syrian crises affected the economy through disrupted trade routes, lower investments and lower tourism inflows. The 2008 financial crisis worsened the existing budget shortages as GDP growth rates plummeted from around 7.2% in 2008 to 2.3% in 2010.

Figure 47 Jordan GDP growth (annual %)



Source: World Bank World Development Indicators

The Syrian crisis in 2011 has not allowed the country to bounce back to pre-financial crisis GDP growth rates and Jordan's economy continues to face low growth (see Figure 47), a dependency on grants and remittances from the Gulf economies as well as high unemployment and pressures due to its scarce natural resources. As Syrian refugees in urban areas are granted access to public services (including health, education, shelter, water and electricity), the pressure on national resources (including water in refugee camps) and subsidized services has dramatically increased. Fiscal and monetary policies have been tightening in an effort to reduce the debt-to-GDP ratio as part of an IMF-required fiscal reform plan, which does not facilitate the efforts needed to stimulate job-generating growth. In terms of poverty, the rate of child poverty is on the increase, reaching 19% in 2012[331].

Administration: Jordan is divided into twelve governorates (*muhafazah*) by the administrative divisions system of the Ministry of Interior. Each is headed by a governor appointed by the King. In 1994, four new governorates were created: Jerash, Ajloun, Madaba and Aqaba. Governorates are further subdivided into districts (*liwa*) and often into sub-districts (*qda*). The 12 governorates are Capital (Amman), Irbid, Zarqa, Balqa, Mafraq, Jerash, Ajloun, Madaba, Karak, Tafilah, Ma'an and Aqaba. Geographically, the governorates of Jordan are located in one of three regions: the

[331] UNICEF (2014)

North Region, the Central Region or the South Region. Socially, the population centres of Amman, Salt, Zarqa and Madaba together form a large metropolitan area in which business interactions in these cities are under the influence of Amman while the cities of Jerash, Ajloun, and Mafraq are mostly under the influence of the city of Irbid.

Table 12 Jordan Basic Indicators

	Indicator	1990s	2010s	exact year for 1990s	exact year for 2010s
Population	Population, total	3,358,453	7,594,547	1990	2015
	Population growth (annual %)	4.5	2.4	1990	2015
	Population ages 0-14 (% of total)	46.2	35.5	1990	2015
	Urban population (% of total)	73.3	83.7	1990	2015
GDP	GDP growth (annual %)	1.0	2.4	1990	2015
	GDP per capita, PPP (constant 2011 international $)	6,661.4	10,239.7	1990	2015
Poverty & Inequality	Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)	-	-	-	-
	Income share held by lowest 20%	-	-	-	-
	GINI index (World Bank estimate)	-	-	-	-
Other development indicators	Mortality rate, under-5 (per 1,000 live births)	36.6	17.9	1990	2015
	Prevalence of stunting, height for age (% of children under 5)	20.5	7.8	1990	2012
	Improved water source (% of population with access)	96.3	96.9	1990	2015
	Improved sanitation facilities (% of population with access)	97.3	98.6	1990	2015
	Access to electricity (% of population)	94.8	99.5	1990	2012
Education	Gross enrolment ratio, pre-primary, both sexes (%)	19.4	32.2	1990	2015
	Gross enrolment ratio, primary, both sexes (%)	101.6	97.3	1990	2014
	Gross enrolment ratio, lower secondary, both sexes (%)	90.0	86.5	1996	2014
	Gross enrolment ratio, upper secondary, both sexes (%)	72.2	73.8	1996	2014
	Pupil-teacher ratio in primary education (headcount basis)	26.5	19.9	1991	2003
	Pupil-teacher ratio in lower secondary education (headcount basis)	-	19.9	-	2003
	Government expenditure on education as % of GDP (%)	7.5	-	1996	-
	Expenditure on education as % of total government expenditure (%)	21.6	-	1996	-

Source: UNESCO Institute of Statistics Database and World Bank World Development Indicators Database

Demography: According to the 2015 population census[332], Jordan has a young population with 4 million (42%) out of 9.5 million below the age of 18. The adult literacy rate is high at 98% and

[332] Government of Jordan (2016) "2015 Jordan Population and Housing Census"

11% of the population aged 5 and above has some degree of functional disability (with 2.7% with acute or total functional disability).

Non-Jordanians represent 30% of the total population. Syrians are the largest group at 1.3 million, followed by Egyptians (0.6 million), Palestinians (0.6 million), Iraqis (130,000), Yemenis, Libyans and other nationalities (around 250,000). Of the 1.3 million Syrians hosted in Jordan, 655,833 are registered as refugees[333] of which around 141,000 (11%) live in camps, while the vast majority live in non-camp settings in rural and urban areas.

Waves of immigration: In addition to the Palestinian refugees, the other large immigration/refugee waves are the Iraqi (2003) and the Syrian (2011-today) ones. Many of the Iraqi refugees were from the upper-class (doctors, businessmen, former government officials) and brought investments with them. The cash influx supported the Jordanian economy but boosted inflation and wage shortages, exacerbating existing inequalities. Fewer poor Iraqis settled in Jordan for lack of financial means to emigrate[334] and the ones who did are a particularly vulnerable and overlooked group[335]. The Syrian refugees are from different socio-economic backgrounds, they do not bring investments with them and are poor in Jordan (as even the educated ones have difficulties in getting work permits). Syrians in camps are dependent on humanitarian aid and those living in host communities are increasingly dependent on external assistance (government and international). Many are "turning to negative coping strategies such as limiting food consumption, restricting children's access to education, engaging in illegal activities, resorting to child labour or accepting early marriage"[336].

These waves of immigration have led to increased competition for resources and are draining the ability of the government to meet the needs of its own citizens. As such the needs of vulnerable Jordanians citizens have grown and the quality of services has deteriorated, affecting both Syrians and Jordanians in host communities.

Education System Overview

The Ministry of Education (MoE) is responsible for the pre-primary, primary and secondary levels of education in Jordan. Some administrative powers have been decentralised at the governorate and school-level as the country is moving towards results-based management. However, the ultimate decision-making rests with the MoE. Post-secondary education is the responsibility of the Ministry of Higher Education and Scientific Research (MoHESR). The Technical and Vocational Education and Training (TVET) and applied vocational education are administered by the Vocational Training Corporation (VTC), under the authority of the Ministry of Labour.

Jordanian public schools are single sex schools, the language of instruction is Arabic, the academic year begins in September and ends in June, and the official primary school entrance age is 6. The

[333] UNHCR (2016)
[334] Sassoon, J (2011)
[335] http://www.irinnews.org/feature/2013/06/06/amid-syrian-crisis-iraqi-refugees-jordan-forgotten
[336] MPIC (2017)

system is structured so that the primary school cycle lasts 6 years, lower secondary lasts 4 years and upper secondary 2 years. The Basic Compulsory Education cycle has a 10-year duration and encompasses grades 1-10 (primary and lower secondary levels). 11th and 12th grade are free but not compulsory and constitute the Upper Secondary cycle. This last cycle is divided into comprehensive secondary education (academic and vocational) and applied secondary[337]. The former is managed by the MoE and concludes with the General Secondary Education Certificate (*Tawjihi*) in academic and vocational strands. Applied secondary education provides intensive vocational training and apprenticeships, concludes with the award of a certificate (not the *Tawjihi*) and is managed by the Vocational Training Corporation.

Compulsory education is free for Jordanians and Syrians (Iraqis had their fees waived in 2008), the curriculum is designed by the MoE and textbooks are produced and distributed by the MoE, free of charge at the compulsory stage and with a small nominal fee at upper secondary level.

In Jordan, the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) provides basic education free of charge to all Palestinian refugees, including some vocational training courses. Over 118,500 students are enrolled in 174 UNRWA schools, most of them running in double-shifts, and students in the fourth, eighth and tenth grades take national quality-control tests in the core subjects – Arabic, English, science and maths[338]. School children in UNRWA schools follow the host authorities' curricula and textbooks i.e. the Jordanian curriculum.

Trends in Access to Schooling

To assess trends in access to schooling in Jordan, this chapter relies mainly on primary data from the Demographic and Health Survey (DHS). Where relevant, secondary data such as UIS/UNESCO data, UNICEF reported EMIS/government data and UNICEF/UNHCR data on refugees are used. It is important to note from the outset that these administrative and survey data do not always coincide, a situation that is common in many countries but particularly acute in Jordan in the wake of the unprecedented refugee influx to the country and for all data prior to the 2015 Jordan population census.

Gross Enrolment Rates

High Enrolment Rates and Gender Parity (UNESCO and Administrative data). In Jordan, access to basic education has been a priority in all the country's successive development plans. As a matter of policy, the government has provided every village and community with 10 or more school-going children with a school[339]. This has enabled children in poor and remote areas to gain

[338] https://www.unrwa.org/activity/education-jordan
[339] http://www.kinghussein.gov.jo/resources3.html

access to education. As a consequence, Gross Enrolment Rates (GER) were already noticeably high in 1996, with GER at primary level at 101% and improvements in lower secondary and upper secondary GERs between 1996 and 2002, reached 96% and 77% respectively. In 2012, the GER at primary level and lower secondary dipped to 89% and 87% respectively, a result of both the usage of old census data from 2004[340] (affecting the reliability of the estimates) and the refugee influx from 2011-2012. By 2014, GER rates increased at primary level, probably due to the response of the Jordanian government (the number of double shift schools increased, registration without a civil card was allowed, combined with enrolment campaigns) and international donors who focused heavily on primary schools.

Table 13 Gross Enrolment Ratios until most recent year, 2014

GERs	**1996**	**2002**	**2012**	**2014**
Pre-primary	27.2%	32.8%	32.2%	32.8%
Primary	101.1%	105.7%	88.7%	97.3%
Lower secondary	90.0%	96.4%	87.3%	86.5%
Upper secondary	72.2%	76.8%	77.9%	73.8%

Source: UNESCO Institute of Statistics

Jordan has achieved gender parity in primary enrolment since 1979 and kept a good record in primary enrolment gender parity since. In both 2012 and 2014, GER for girls versus GER for boys were 88.2% vs 89.2% and 97.6% vs 97.1% respectively, moving from a slight disadvantage for girls in 2012 to a slight disadvantage for boys in 2014. In lower secondary, gender parity remains around 100, with a slight advantage for girls in both years. This is in contrast to the average upper middle income country which still enrol more boys than girls. Jordan also has one of the highest female literacy rates in the region at 95.2%[341].

Worsening trends: Upper secondary enrolments in 2014 decreased by over 5% from 2012, probably due to a combination of lower government and international focus on adolescents, blocked enrolments in formal public schools for children aged 3 years above the grade age[342], pressures for child labour as well as higher incidence of early marriage in the incoming Syrian populations than the hosting ones. In addition, for those enrolled in school, there is a high rate of student absenteeism. 40% of students in Jordan reported skipping at least one entire day of school without authorization in the previous two weeks, compared to the OECD average of 15%[343].

[340] The GER is calculated as the total enrolment "in a specific level of education, regardless of age, expressed as a percentage of the population in the official age group corresponding to this level of education" The population in the official age group is a projection based on the latest population census. The older the census the less precise is the estimation and as such trends may not be properly representative of the reality.
[341] NCHRD (2016)
[342] explain this policy more in the footnote + section 3
[343] NCHRD (2016)

Gender parity is unequal at upper secondary level, at around 115 in favour of girls both in 2012 and in 2014, with female enrolment rates 10 percentage point higher than male enrolment rates. This could be due to several reasons including higher pressures for adolescent boys than for adolescent girls to work/provide for the family, higher levels of violence in male schools and lack of labour prospects upon completion of upper secondary cycle (thus dis-incentivising formal school attendance and moving to non-formal/informal schools, work or apprenticeships). A study from the National Council for Family Affairs (2010) found that female child labour is rare, with employment among girls (5-17 years) of less than 0.5%[344].

Out of school children: Estimates on out-of-school children vary according to sources and the reference population.

Not all students can access schools due to income level, geographic location, disadvantaged status, special educational needs and disabilities, family obligations and refugee status. As a result, there are ***over 110,000*** *out of school children in Jordan.* **Human Resource Development strategy**

According to the Brussels report (2017), in December 2016, over **40,000** (i.e. 17%) of registered school-age refugee children (5-17 years) were out of school. According to UNICEF (2014), 41% of 5 year old children (KG2) are out of school as opposed to 1.1% of 6-11 year olds and 4.2% of 12-15 year olds. These UNICEF statistics do not include the refugee population but it is likely that this pattern of large numbers of out of school children concentrated around the KG2 level can also be found in the refugee populations.

Determinants of Access to Schooling

Given the high level of access to primary and secondary education in Jordan, disparities in access to education in Jordan are small. They are more prevalent at the secondary level and are mainly linked to income poverty, intergenerational transmission of education, child labour, disability and refugee status.

Attendance and Completion Rates[345]: Between 1997 and 2012, attendance rates for 6-11 year olds improved by almost 10 percentage points from 89.3% to 98%. Attendance rates for 12-15 year olds and completion rates (finish 5 years of education and 8 years of education) increased slightly to 94.3%, 97.9% and 93.9% in 2012. For attendance of 6-11 year olds, in 2012 there are no significant disparities between the urban and rural areas, region, number of children at home, poverty and gender.

Poverty: For the attendance rate of 6-11 year olds, the low correlation between poverty and school attendance only slightly lower attendance rate among the poor may seem surprising at first.

[344] UNICEF (2014)
[345] Based on 2005 and 2015 DHS data analysis

It could be explained by several factors: (1) As seen earlier, the long standing policy of providing a school for every community with 10 or more children of school-age has enabled poor children in remote areas to enrol by breaking down the classic barriers of lack of schools or transport costs to schools (2) Child labour particularly affects older children in poor households[346], as such there is not a high opportunity cost to attending school for the younger children, especially since schooling is free and compulsory (3) The lowest wealth quintile may not be acting as a good proxy for poverty in middle-income Jordan if that quintile includes large numbers of households that are above the poverty line (4) The DHS is a nationally representative sample that includes refugees in camps. The latter are registered and have been provided cash-support and schooling by international organisations with a lot of focus on the younger children. Therefore, while they are definitely a poor and vulnerable group, the ones in camps are being provided access to schools, lowering the correlation between poverty and access to schooling.

In addition, in 2012, the number of refugees was significantly lower than today, as more refugees have continued to enter the country since then, with the majority staying in host communities rather than camps. It is probable that today the disparities between poor and non-poor in access to schooling may have increased since 2012.

Poverty plays a larger role in access to schooling for older children and this can be seen even in the 2012 DHS data. There is a 9 percentage point difference in the attendance rate for 12-15 year olds between the poorest and the richest wealth quintiles and almost 12 percentage points difference in the completion rate of 8 years of schooling. The causes for these disparities are multi-faceted but include, as noted earlier, the increasing pressures to work for older children in poor households, especially boys as well as the higher incidence of early marriage for girls from lower socio-economic backgrounds.

Gender: The DHS 2012 finds that boys are slightly disadvantaged compared to girls in access to schooling at secondary level, with male attendance rates for 12-15 year olds at 93.4% (vs 95.2% female attendance) and a 91.7% completion rate of 8 years of education (vs 96.3%). These findings are in line with the GERs reported in the UIS/UNESCO database, with male child labour and violence in male schools likely being significant contributors to this disparity.

Location/Area of residence: There are almost no differences between urban and rural centres in access to schooling for children of primary school level age. The disparities are slightly more noticeable at secondary level. What is of particular interest is that older children have lower access rates in urban areas, instead of the more classic finding of lower access rates in rural areas.

This could be explained by differing labour markets. There are more opportunities for work in urban centres and thus more incentives to drop-out of school at secondary level. A report from

[346] UNICEF (2014) "Working children and their families and professionals agreed that the main reason for child labour in Jordan is poverty (Focus group in Ramtha)" p.35

the National Council for Family Affairs Report (2007) showed that Amman had the highest numbers of working children[347].

Table 14 Education outcomes by location of the household

		Attendance to school (6-11 year olds)		Attendance to school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
		1997	2012	1997	2012	1997	2012	1997	2012
Urban/Rural Location	Rural	88.8	98.3	92.7	96.9	96.8	98.2	84.5	96.5
	Urban	89.5	98	93.7	93.7	97.8	97.8	89.9	93.4

Note: Authors' calculations using DHS 1997 and DHS 2012

Location/Geographic regions: There are no significant disparities in access to schooling across all indicators. There are probably higher disparities between regions in terms of quality of education.

Table 15 Education outcomes by household head's level of education

		Attendance to school (6-11 year olds)		Attendance to school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
		1997	2012	1997	2012	1997	2012	1997	2012
Household head's education	No education	88.9	91.2	86.2	81.6	93.5	87	79.2	80.9
	Primary education	89.2	95.9	90.9	88.2	97.6	96.7	88.1	87.1
	Secondary Education	88.9	98.4	95	95.3	98.3	98.7	89.9	94.9
	Higher Education	90.5	99	98.7	97.2	98.9	98.5	97.5	98.4
TOTAL	TOTAL	89.3	98	93.5	94.3	97.6	97.9	88.9	93.9

Note: Authors' calculations using DHS 1997 and DHS 2012

Education of Head of Household: In 2012, at primary level, the education of the head of household (HH) leads to the largest disparity in access to schooling, almost 8 percentage point difference between the attendance rate of 6-11 year olds at 91.2% for children with HH with no education versus 99% for children with HH with higher education.

Completion rates of 5 years of education are also some of the lowest for children in HH with no education at 87% versus 98.5% for children in HH with higher education (11.5 percentage point

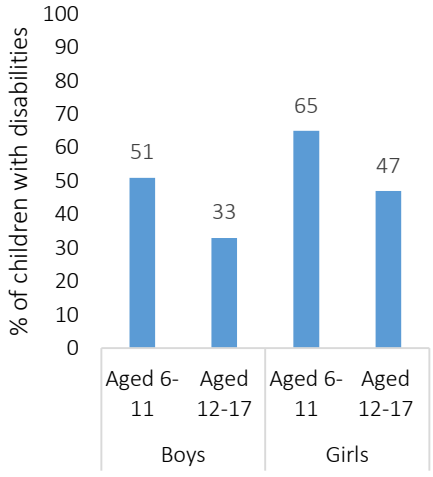
[347] UNICEF (2014)

difference). The gaps are smaller between primary aged children with HH with primary education versus children with HH with higher education (2-3 percentage points).

The disparities increase more significantly at secondary level. In 2012, in terms of attendance rates for 12-15 year olds, there is almost a 16 percentage point difference between children in HH where household head has no education (81.6%) and children with HH where household head has higher educational attainment (97.2%).

With respect to completion rates of 8 years of schooling, the difference is of 17.5 percentage points, with completion rates for children where household head has with no formal education at only 80.9%.

Figure 48 Percentage of disabled children among Syrian refugee groups in Jordan



Source: JENA

These results point to an intergenerational transmission of education (or low education) and could be due to the circumstance of the household head not having any formal education, acting as a proxy for extreme poverty. In a country with high literacy rates such as Jordan, having no formal education, not even at primary level, is associated with high incidence of poverty with consequent higher pressures for older children to drop out of school and work.

Disability. The DHS 2012 does not offer numbers on access to schooling for disabled children. Generally speaking, *statistics on disabled children in Jordan are incomplete for both Jordanians and refugees*. According to MoNE statistics, 7,239 students with disabilities entered primary and secondary education in 2011, of whom 3,640 were male and 3,599 female[348] and according to the population census there is an overall 11% disability rate across the population in Jordan (including both Jordanians and non-Jordanians), from mild to severe disability, though the census did not go into detailed analyses of the background those reported disabled.

With an 11 percent disability rate coupled with the low numbers of teachers trained in inclusive education, few specialised facilities in the country, and the already poor state of many schools in Jordan (and thus unlikely to be accommodating to children with disabilities), it is likely safe to state that disabled children are disproportionately affected by low schooling access rates[349].

[348] https://documents-dds-ny.un.org/doc/UNDOC/GEN/G15/196/46/PDF/G1519646.pdf?OpenElement
[349] NCHRD (2016)

For the 2015 Joint Education Needs Assessment[350] (JENA), household interviews were carried out across the different regions, focusing on Syrian refugee groups in Jordan. While the sample of school-aged children with disabilities was too small to draw any statistical conclusions, results can be considered as indicative for the Syrian refugee population. 6% of households reported having a member with a disability, with only 46% of children with disabilities attending school.

Age. Younger disabled children seem to be more likely to attend school (51% and 65% for boys and girls with disabilities aged 6-11 respectively, versus 33% and 47% for boys and girls with disabilities aged 12-17).

Gender. Girls with disabilities are more likely to be attending school than boys. Combining age and gender, 6-11 year old girls with disabilities are twice as likely to attend formal education as older boys with disability (65% vs 33%)

Measuring Inequality of Opportunity in Access to Education in Jordan using the Human Opportunity Index

Using the DHS data, this section will analyse the inequality of opportunity in education using the Human Opportunity Index (HOI) approach[351] (see Annex 1 for further details on methodology and interpretation).

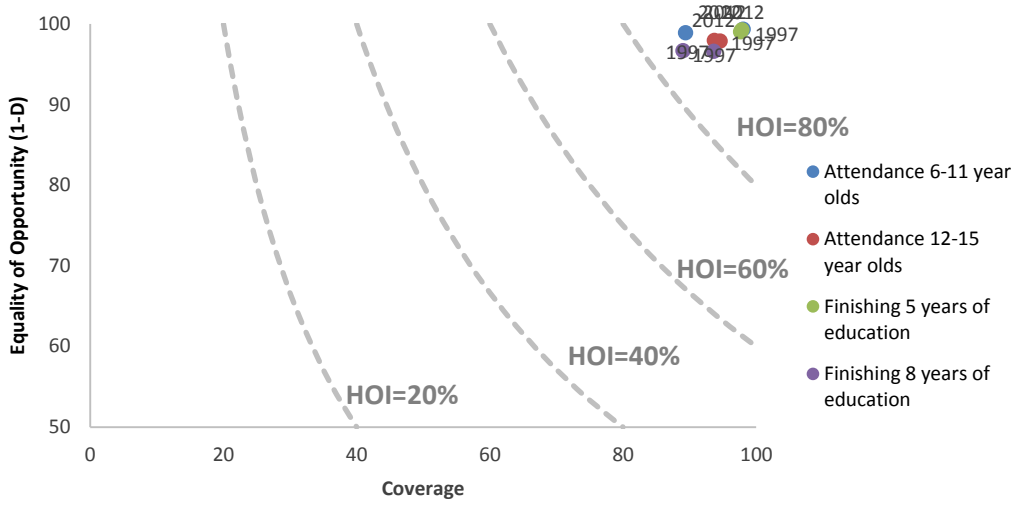
The Human Opportunity Index

The HOI is high for education indicators for Jordan (See Figure 49), *signalling relatively low inequality in access to schooling linked to circumstances.* This is in line with the discussions in the previous section which found relatively high attendance and completion rates across indicators and circumstances, especially at the primary level.

[350] The JENA is carried out to inform the Education Sector Working Group, the coordinating group of international organisations and NGOs (with MoE attendance) on education programming for the Syrian crisis in Jordan.

[351] The Human Opportunity Index (HOI) was initially presented as a methodology by the World Bank in the study Barros and others (2009) to measure inequality of opportunities for children in Latin America. So far it has been used in other multi-country studies including South Asia (Rama et al, 2015), Africa (Dabalen et al, 2015) and also for single countries including Pakistan (Newman, 2012) and Egypt (Aran and Ersado, 2013).

Figure 49 HOI, Coverage and Equality of Opportunities for Jordan, 1997-2012



Source: Authors' calculations using DHS 1997 and DHS 2012

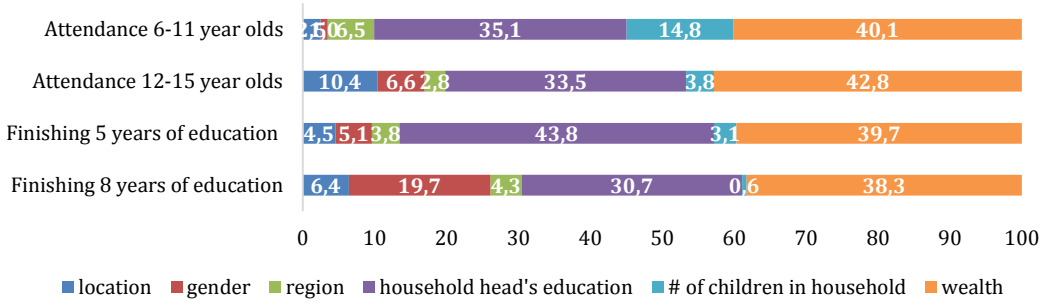
Both for indicators on attendance to school and indicators on finishing education, HOI is above 90 percent. In 2012, HOI was 97.4, 92.6, 97.2, 90.4 percent respectively for attendance to school for 6-11 year olds, attendance to school for 12-15 year olds, finishing 5 years of education and finishing 8 years of education. While overall the HOI is high for all four indicators, there is still room for progress for attendance to school for 12-15 year olds and for finishing 8 years of education. **This corroborates the findings in section 2.2 regarding the relatively lower access to education in children of secondary level age vs primary level age.**

HOI was already high in 1997 for Jordan for education indicators and in the 15 years between 1997 and 2012 it continued to improve. HOI was 88.4, 91.8, 96.7 and 86.1 percent respectively for attendance to school for 6-11 year olds, attendance to school for 12-15 year olds, finishing 5 years of education and finishing 8 years of education. Equality of opportunities was already high in 1997 with D-indices of 1.1, 2, 1, and 3.3. **In other words in 1997 only 1.1 percent of the coverage on attendance of 6-11 year olds needed to be reallocated to the worse off groups to achieve full equality in coverage across groups.** Consequently, advances in the HOI between 1997 and 2012 are mostly due to increases in coverage. Coverage increased especially for attendance to school for 6-11 year olds and finishing 8 years of education. Coverage of attendance to school for 6-11 year olds increased from 89.4 to 98 percent during this time period while coverage of finishing 8 years of education for 16-18 year olds increased from 89 percent to 93.6 percent.

Shapley Decomposition: While the inequalities are very low for access to education and finishing it, the remaining inequalities are mostly wealth related (See Figure 50). Shapley decomposition results show that for Jordan in 2012, wealth is the factor that contributes the most to inequality for attendance to school for 6-11 year olds, attendance to school for 12-15 year olds and for completion rates of 8 years of education for 16-18 year olds. For completion rates of 5 years of education for 12-15 year olds, household head's education is the factor that contributes the most

to inequality. **Taken together household wealth and household head's education explain around two-thirds of inequality of opportunities for all four outcome indicators on education access.**

Figure 50 Shapley decomposition using DHS 2012



Source: Authors' calculations using DHS 2012

Overall, **region of the household, location of the household (urban/rural) gender of the child and number of children in the household contribute very little to inequality** compared to wealth and household head's education. Only for completion rates of 8 years of education for 16-18 year olds does gender's impact become significant. It makes up 19.7 percent of the overall inequality pointing to gender inequalities for older children. The findings from the Shapley decomposition fall perfectly in line with the discussions of correlations in the previous section.

Probit regression results

The DHS regression results show that generally, circumstances have an insignificant or very small impact on attendance to school for younger children and finishing 5 years of education (see Annex 4 for details). Circumstances play a larger role on attendance to school of older children and completion of 8 years of education.

Location, region, number of children: In line with earlier results, regression results show that living in rural areas is not negatively associated with education indicators for Jordan. The regional disparities are also very small and negligible. The number of children in the household does not affect education outcomes of the children.

Gender: Gender does not create inequality of opportunities in Jordan, except for completion rates of 8 years of education where boys are 2 percent less likely complete than girls i.e. gender has a significant negative impact on school completion for older boys.

Poverty and education of head of household: Poor children and children whose household head has no education are less likely to attend school or finish school but the impact is smaller for attendance to school for 6-11 year olds and completion of 5 years of education compared to attendance to school for older children and completion of 8 years of education. In order words, in line with both correlations and HOI findings, poverty has a larger negative impact on access to schooling in older children and children from families where the head of household has no education.

Quality: Performance

While inequalities in access to education are relatively small in Jordan, disparities with regards to learning achievement are much higher, as revealed through the Early Grade Reading and Math Assessments (EGRA and EGMA) as well as the Trends in International Math and Science Study (TIMSS) and the Program for International Student Assessments (PISA)[352]. Only 68% of girls achieved proficiency in reading at the upper secondary level, but it is still much higher than the low 31% of boys achieving proficiency in reading at the upper secondary level[353]. Every year, more than half of school students fail their *Tawjihi* exams[354].

In terms of performance, UNRWA students consistently achieve better results at lower costs per pupil than students from private or government schools[355], even though many of their schools run in double-shift and the curriculum is the same as in public schools (see section 3.3. for more details).

International Assessments[356]

This section looks at the TIMSS (Trends in International Mathematics and Science Study) rounds of 1999 and 2011. TIMSS is an international assessment that reports every four years on the achievement in mathematics and science of fourth and eighth grade students. It also provides extensive data on the country, school and student backgrounds.

Table 16 Achievement in TIMSS Mathematics test by background characteristics for 8th grade students in Jordan, 1999 and 2011

		Mathematics							
		Level 1		Level 2		Level 3		Level 4	
		1999	2011	1999	2011	1999	2011	1999	2011
Location	Rural	49.3	51.2	22.8	22.2	6.7	3.9	0.5	0.4
	Urban	63.2	57.5	34.8	28.3	13.5	6.6	2.7	0.4
Asset quintiles	Quint 1	50.2	36.3	21.8	9.9	6.8	0.9	0.4	0
	Quint 2	61.7	50.7	30.2	20.9	10.7	3.7	1.7	0.3
	Quint 3	60.3	58.7	30	25	9.8	3.8	1.3	0.3
	Quint 4	69.6	70	41.8	37.9	15.2	9.2	2.8	0.2
	Quint 5	82.5	75.7	54.2	44.9	25	12	6.5	1.3
Gender	Female	61.9	**60.1**	31.5	27.2	10.6	5.8	1.6	0.5
	Male	57.6	**49.1**	31.9	23.9	12.6	4.9	2.6	0.3
Total	Total	59.4	54.5	31.5	25.5	11.6	5.4	2.1	0.4

Source: UNESCO WIDE Database

[352] Queen Rania Foundation website. http://www.qrf.org/initiative/equity-education
[353] NCHRD (2016)
[354] NCHRD (2016)
[355] UNRWA https://www.unrwa.org/what-we-do/education
[356] Based on TIMSS 2011 (https://timss.bc.edu/TIMSS2011/international-database.html) and Akour, et al (2015)

Table 16 and Table 17 show that across all levels, urban schools are outperforming rural schools in 2011 but urban/rural inequities have decreased between 1999 and 2011. In terms of gender, overall girls tend to outperform boys. The disparity is not noticeable at level 4, however it is significant in lower levels and peaks at level 1. This disparity between boys and girls' performance at level 1 has only increased between 1999 and 2011, for both Mathematics and Sciences.

Students in the lowest wealth quintile (quintile 1) are consistently performing significantly worse than other quintiles, especially when compared to students in quintile 5.

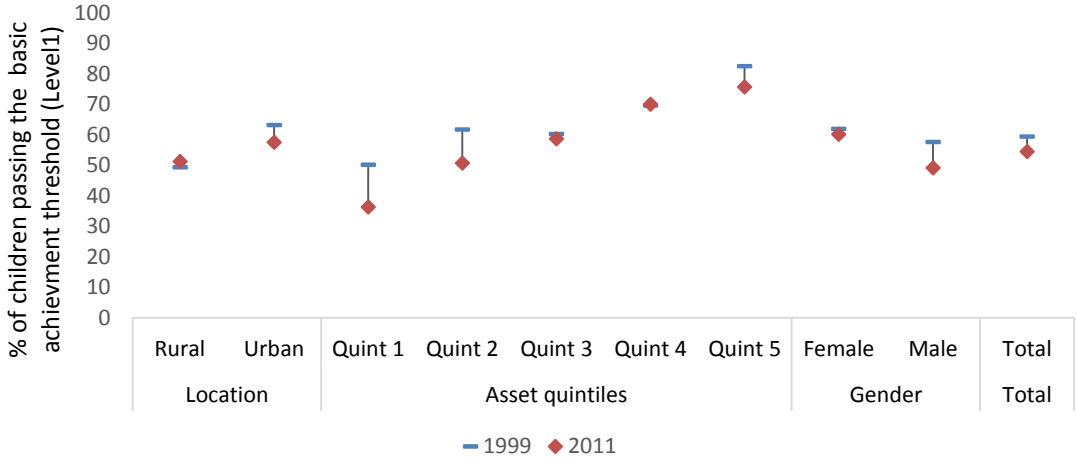
Figure 51 zooms in on level 1 performance in mathematics. It shows that overall, the performance in mathematics has gotten worse between 1999 and 2011 at level 1. This worsening trend is largest for boys, in urban centres and for the lowest two quintiles (with a small decrease in quintile 5 performance). These results may be due to several inter-related issues. For example, the worsening trends in urban versus rural areas could be due to the larger incentives for child labour since opportunities are more abundant in urban centres. The decreasing performance of the poorest students could be due to the government focus on access between the years 1999 and 2011, which came at the expense of quality. This is a common phenomenon in many countries whereby increasing access is achieved by lowering the qualifications needed to become a teacher in order to increase the supply of teachers and by building more schools or renting more spaces but with less attention to the quality of the learning environment. With high numbers of teachers with weak qualifications and high pupil to teacher ratios (see section 3.2 and 3.3), Jordan seems to be suffering from this trend, which would explain the worsening of students' performance in mathematics level 1.

Table 17 Achievement in TIMSS Science by background characteristics for 8th grade students in Jordan, 1999 and 2011

		Science							
		Level 1		Level 2		Level 3		Level 4	
		1999	**2011**	**1999**	**2011**	**1999**	**2011**	**1999**	**2011**
Location	Rural	59.5	69.6	32.6	41.1	10.2	11.8	0.8	1.3
	Urban	72.7	73.5	44.8	48.3	17.3	16	3.4	1.9
Asset quintiles	Quint 1	62.7	62.4	32.8	29.2	10.4	5.4	0.8	0.1
	Quint 2	72.5	71.4	41.6	40.6	13	10.9	2.8	1.2
	Quint 3	70.5	76.5	42.9	48.1	13.6	11.9	2.3	1.6
	Quint 4	78.2	83.8	50.9	61.1	20.5	22.2	2.8	1.9
	Quint 5	86.8	85.9	64.4	66.7	31.8	27	7.4	3.8
Gender	Female	73.3	**80.7**	44.1	52.4	15.9	16.2	3.1	2
	Male	65.9	**62.8**	39.4	38	15	12	2.3	1.1
Total	Total	69.1	71.5	41.5	45	15.4	14	2.7	1.5

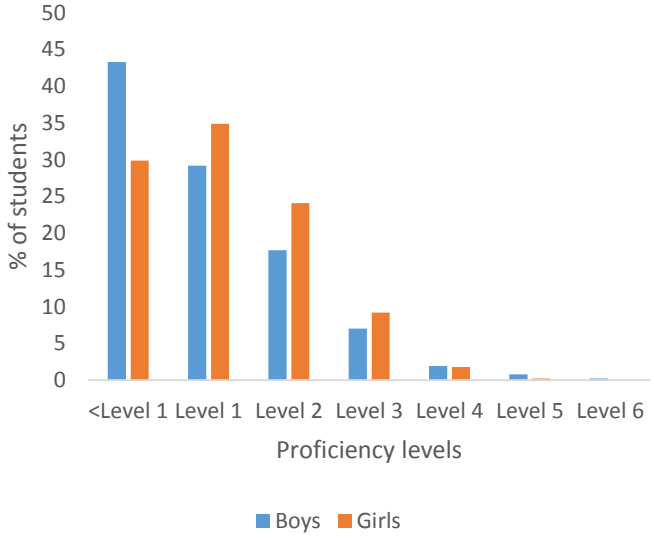
Source: UNESCO WIDE Database

Figure 51 Learning achievement in mathematics, passing the basic achievement threshold (level 1) (TIMSS 1999-2011)



Source: UNESCO WIDE Database

Figure 52 Percentage of Jordanian students at each combine math proficiency level in PISA 2012 by gender



Source: Akour (et al) (2015)

The worsening performance of boys could be due to several factors including higher pressures for child labour (and as such, probably higher absenteeism rates), higher incidences of violence in boys' schools (male teachers teach in boys schools), lowered expectations of return to investment in schooling due to the generally low quality of schools and/or mismatched curricula to necessary job market skills, low capacity of boys schools versus girls' schools in motivating and generating interest in mathematics. In addition, boys' schools may suffer from higher disciplinary issues than girls' schools. It is worth noting that this gender gap in mathematics is reversed from the general global trends, where boys tend to outperform girls. As such, it requires special attention to correct it and ensure the trends get further exacerbated in the future.

Other data sources point to the gender gap in achievement between girls and boys. According to MoE statistics, girls outperformed boys on the Al Tawjehe exam in almost all streams for the years

2006 and 2013[357]. The PISA trends in gender performance resemble the TIMSS ones, with girls outperforming boys in mathematics at the lower levels (level 1, 2 and 3) with no or negligible disparities at levels 4, 5, and 6[358].

Challenges, Barriers and Bottlenecks

Access to schooling by vulnerable Jordanians and refugees faces challenges both on the demand side (perception of education, child labour, economic barriers including transportation, early marriage, violence, lack of community/family engagement) and the supply-side (low quality due to teacher training issues, poor and unsafe school environment, outdated curricula, administrative hurdles, governance issues such as lack of effective accountability and leadership or lack of involvement of community and parents in school management)

Demand-Side Barriers

With the high enrolment rates seen in section 2 at primary level, the main issues with access to schooling are linked to drop-outs (except in the case of refugees and disabled, where never enrolling is also significant issue).

Table 18 Reasons for students dropping out of school

Reason	%
Work because in need of income	27.6
Bad treatment from teacher	17.2
Low interest in school	14.9
Can't read and write	14.9
Parents' pressure to leave school	4.6
Health situation	2.3

Source: NCFA 2012

The findings in Section 2 showed that in Jordan, the main determinants of access to schooling include poverty status, gender and education of the head of household. These were sometimes inter-related and as such so are the cultural demand-side barriers and socio-economic demand side barriers explored in this section. For instance, gender and child labour are closely interlinked, as are child labour and poverty status, and poverty status with education of the head of the household.

According to the National Council for Family Affairs report (NCFA 2012)(see table 2.15), the number one reason for dropping out of school is child labour (28%), followed by violence in school (17%), low interest in school (15%) and illiteracy challenges (15%).

[357] Akour et al (2015)
[358] Akour et al (2015)

Table 19 Relationship between working children and their parents' level of education

Education level	Father (%)	Mother (%)
Illiterate	18	26.7
Primary	22.7	24.7
Basic	22.0	18.0
Secondary	26.9	24.7
Diploma	4.3	3.3
Bachelor	4.0	1.8
Master	1.1	0.6

Source: NCFA (2012)

Culture and parental attitudes:

Low parental education levels. The NCFA 2012 found that parents with low levels of educational attainment are more prone to sending their children to work and are less persuaded about the benefits of education, passing on their negative perception on education to their children[359]. These findings are corroborated by the findings in section 2.

Low quality of education. This negative perception of education is not just based on the level of education of parents. It is also linked to the low quality of the education system and weaknesses in the system (see section 3.2 for governance failures and 3.3. for resource issues). As the majority of students failing the *Tawjihi* exam are left with no clear alternatives, it is not always clear to parents and students that there is a clear return to investment in education.

Low future job prospects. In addition, even those who pass the *Tawjihi* and joining university, they may not necessarily get a job given the oversupply of university students (and chronic undersupply of skilled craftsmen and technicians)[360]. This mismatch of skills leads to high rates of youth unemployment at 31.8%. With such dire prospects and in the face of economic constraints, even more educated parents may not keep their low performing children in schools and enrol them instead into apprenticeships or labour to 'learn a skill'.

Traditions and society. In certain sectors of society and occupations, it is often expected that the child will work in the family business. This is particularly true when the family business is a shop or farming. One UNICEF study finds for instance that: "*Jordanian children from families who raise cattle are more likely to be involved in work than children who are not*"[361].

Low parental involvement: Finally, low parental involvement in schools and in supporting their children leads not only to lower access rates (through higher risks of drop-out) but also affects the quality of the education by way of weak school accountability for performance.

[359] UNICEF (2014)
[360] NCHRD (2016)
[361] UNICEF (2014)

Child labour and gender: As seen earlier, the number one reason for dropping out of school is due to work because the household is in need of income, thus poverty is a strong barrier to access to schooling via child labour. There is therefore a strong link between low access to school and child labour, with differential gender impact. For many families in Jordan, women's work is restricted to the household and as such children may need to contribute financially, especially if the male head of the household is deceased or unable to work[362].

Table 20 School enrolment rates based on gender and labour force participation

Work situation	Age and Gender			
	Ages 6-15		Ages 16-17	
	Male	Female	Male	Female
Enrolled children	96.7	97.6	81.1	85.4
Enrolled children (not working)	97.5	97.6	88.7	85.8
Enrolled children (working)	55.9	91.0	23.2	30.0

Source: NCFA (2012)

Gender. As seen in **Table 20** above, for children aged 6-15, the enrolment rate for boys not engaged in labour is 97.5% but drops significantly down to 56% for boys engaged in labour.

While child labour negatively affects the enrolment rates for working girls, the enrolment rate still remains high at 91% i.e. 35 percentage points higher than the enrolment rates of working boys. The differential impact of gender on enrolment rates of children engaged in labour decreases for older children: both boys and girls aged 16-17 are very negatively impacted by engagement in labour.

For the 16-17 age group, only 30% of girls engaged in labour are enrolled versus 23.2% of boys i.e. only around 1 in 3 'working' girls are still in school and only 1 in 5 'working' boys.

The link between boys' labour and its consequent high negative impact on enrolment rates for 6-15 year olds (and especially for 16-17) could be due to a combination of the following: (i) labour is usually outside the home and these external job demands may lead to high absenteeism rates (eventually drop out or not able to pass the tests) or having to drop school altogether for a full time job. This work is needed to contribute financially to their family's earning power or to provide for their new family (in case of early marriage). As a matter of fact, the NCFA 2010 report[363] indicates that the biggest reason for child labour is to earn additional income for their family (38 per cent) with 87% of the children satisfied with their work. The two largest areas of employment for children are automobile repairs (36%) and agriculture (27%).

[362] UNICEF (2014)
[363] UNICEF (2014)

Early Marriage. Challenges such as early marriage do persist in some communities, and 10% of girls are married before turning 18 years old[364]. Girls who are working are usually involved in domestic labour and the employment rate among girls aged 5-17 is less than 0.5% according to the NCFA 2010 report[365]. The drastic reduction in enrolment for girls aged 16-17 (Table **20**) who are working could be due to early marriage and the girls assuming the traditional role of stay-at-home spouse. The housework may lead to higher absenteeism rates (increasing risks of drop out) or quitting school altogether.

Culture and female employment. Girls and young women's participation in labour outside the household is very low. As such there are relatively fewer incentives to drop-out of school for girls than for boys. Staying in school for certain girls can also be seen as increasing their marriage prospects. However, all this 'extra' education of girls does not translate into more women joining the work force. The labour force participation rate for young women aged 15-24 is only 9 per cent, while the corresponding percentage for young men is 41 per cent[366].

Urban/Location. Even though many working children are employed in the farming sector, child labour can be still be considered a mostly urban phenomenon. The report showed that 79% of working children work in urban areas, while 21% work in rural areas[367]. Amman employs over 32% of all working children. This can mean that cities offer more economic/work opportunities to children than rural areas.

Cost of schooling/transport/distance to schools: Generally, the main indirect costs associated with attending school in Jordan are transport costs. Given the high supply of schools across the country, transport costs have generally been moderate thus leading to the large school access rates. However there remain some poor and under-served areas, with transportation costs thus becoming a barrier to access for the poorest families. Among the refugee population, there are transport issues both inside and outside of camps. It is important to note that the high temperatures can sometimes make walking to school very difficult. Therefore, even small distances can become a barrier, leading to transport needs/costs.

Violence, maltreatment and discrimination: Concern for safety and violence are major demand-side barriers. A national survey on the prevalence of violence at home and in schools that was conducted by UNICEF in 2007 revealing that two thirds of children in Jordan are subjected to verbal abuse by their parents (70 per cent), school teachers and administrators (71 per cent), around 34 per cent of children are physically abused by parents/legal guardians, and about 57 per cent by school teachers and administrators[368]. A study by Abu Hamdan (2005) found that "*the most important reason for working children to leave the school is the unfriendly behaviour of*

[364] NCHRD (2016) and UNICEF (2014)
[365] UNICEF (2014)
[366] UNICEF (2011)
[367] UNICEF (2014)
[368] https://www.unicef.org/jordan/protection_6079.html

teachers towards children, poor teaching methods and the use of severe punishments" [369]. Corporal punishment by teachers and principals in formal schools is more widespread in male schools[370] than female schools. This has led many boys to drop out of school altogether or to join non-formal schools where they feel less subjected to violence (from both teachers and other students) and whose flexible hours accommodate their work schedules[371].

Refugees. Refugees complain about violence during their commute to school, discrimination in host communities, violence and maltreatment in schools[372] not only from teachers but also from students.

Disability. As seen earlier, there are not enough statistics on disability and access to schooling. However, parents may fear discrimination against their children by teachers or students and as such there may be low demand for schooling for their disabled children.

Dom minority group[373]. The Dom are a Jordanian minority-group that is marginalized and often discriminated against. In 2016, UNICEF organized focus groups to discuss the elements of their marginalization. Of the boys and girls who participated, only 10 percent were currently enrolled in school, in spite of expressing a desire to attend schools[374]. The major barriers to their access to schooling are discrimination, violence and bullying in schools. Both students and parents reported children being physically and verbally abused by their teachers or made to clean the schools instead of attending classes. Students were also bullied by peers, with no consequences from their teachers. Another significant barrier was their seasonal mobility due to their parents' economic migration patterns and not being allowed to enrol in schools in new location.

Supply-side: Education System Governance

Governance: Jordan's education governance structure is characterised by a high degree of centralisation in decision-making, control and regulations at the level of the Ministry of Education (basic education), the Ministry of Labour (vocational education) and the Ministry of Higher Education (tertiary education). However, there is limited co-ordination between ministries which leads to uncoordinated responses to cross-cutting issues of access and quality as well as little accountability and incentives for the performance of leaders of schools, vocational training institutes, colleges and universities[375]. According to the World Bank's 2015 Systems Approach for Better Education Results (SABER) assessment of schools' autonomy and accountability, Jordan's

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[369] UNICEF (2014)
[370] NCHRD (2016)
[371] UNICEF/JENA (2014)
[372] UNICEF (2014)
[373] UNICEF (2016): "The Dom community is highly heterogeneous. This report is based on a series of discussions with the two major sub-groups, the Bani Murra and Turkman, both self-identified titles. Due to the historic discrimination faced by this community, members of the group tend to hide their original ethnic identity, and instead resort to adopting a Jordanian, Bedouin, Turkman or more generally an Arab identity to better assimilate with the surrounding community."

[374] UNICEF (2016)
[375] NCHRD (2016)

system is 'emerging' in several aspects including the budget: the MoE provides the majority of the budget and controls some items but there is some level of decentralisation as a portion of the school operational budget that is prepared by the principal though he/she is not required to consult parents or community members in the preparation or execution of the budget. Coupled with the fact that there is no school assessment in Jordan to evaluate overall school performance nor stakeholder accountability mechanisms, nor routine monitoring and evaluation mechanisms, this lack of parental/community involvement means that principals have few incentives for performance and efficient use of budgets, and the system in general is not geared towards enhancing its effectiveness. Additional issues with respect to governance, access and quality of schooling include the lack of data tracking systems of at-risk of drop-out children and a lack of enforcement of laws regarding access[376].

Teachers' management: The current teachers management system does not incentivize training, good performance and results[377] and appraisals seem to prioritise textbook completion over performance. Teachers who assume more leadership responsibilities or carry out extracurricular activities beyond their basic job do not receive extra allowances. While career progression is nominally linked to indicators like performance, training and results, it is not widely implemented[378]. This lack of correlation between performance and remuneration, coupled with the difficult teaching conditions, demotivates teachers and they do not seek to attend training or self-development courses.

Administrative Barriers:

Registration. As a result of the 2006 and 2013 amendments to the Education Act, non-Jordanian Arab students can be admitted into Jordanian public schools if they register with certain legal documents (e.g. residency card or refugees' civil registration card). This created a major hurdle for access to education as many parents are reluctant to provide registration documents for fear of deportation. Rules are also slightly different for the different nationalities of refugees (Syrians vs Iraqis vs Palestinians vs Yemenis), which adds to the general confusion. In 2016, the need to provide certain documentation from refugees was lifted. However, it may take a while for refugee parents to be aware of this new rule and to 'trust the system' and feel comfortable enrolling their children.

*3 year gap - age rule***.** Children can be admitted to a grade level only if their age is a maximum of 3 years above the regular age for that grade. For instance, a child can only enrol in grade 1 (regular age 6) up to the age of 12. A 15-year-old child cannot therefore enrol in grade 3 (age 8) as he/she would be over the 3 year gap threshold. Given that many refugee children have missed schooling for different periods of time, this rule seriously impacts their access to formal schools. If the age threshold is exceeded, they can be enrolled in the non-formal education programmes offered by

[376] NCHRD (2016)
[377] NCHRD (2016)
[378] NCHRD (2016)

the MoE and international organisations or will join informal learning centres such as the *Makanis* (see section 4 for in-depth description of *Makanis*).

Rules on disability access. Students with disabilities are allowed to enrol in schools that can address or accommodate their type of disability. There are very few that offer specialised facilities and/or have trained teachers, so it is likely that mainstream public schools refuse entry to disabled children or that parents do not attempt to enrol them. Additionally, a medical model serves as the basis for students to access education, giving medical authorities the absolute power to determine the needs of the disabled and leading to inadequate placements in schools[379].

Shortages in quantity and quality of school supply:
Refugees. In recent years, the public school system's capacity to accommodate students has been substantially strained due to the influx of refugees. This additional pressure on the education system also affects the quality of education that some Jordanian children will receive. In 2015/2016, the enrolment of Syrian students was 8.75 times that of 2011-2012[380]. While the number of double-shift schools increased by about 100 to a total of 200 (about 11.7% of all schools), it is not a long-term solution as double-shift schools notoriously provide lower quality education. The MoE estimates that accommodating Syrian students in public education will require an additional 260 new schools[381]. For the children that are not able to enrol in formal public schools, there exists non-formal education and informal educational facilities, however there are limitations in access.

According to the Jordan Response Plan[382], an estimated 97,000 Syrian refugee children remain out of formal education: an astounding "*97% of school-aged Syrian refugee children are at high risk of non-attendance, 300 new schools would be needed to meet the national standard of 19 classes per school and 8,600 teachers would be needed to meet the national standard of 17 students per teacher*".

Disability. Based on the small survey carried out for the JENA on disabled refugee children, the most quoted reason for not attending school was the school not being physically accessible or lacking specialist education services[383]. The Special Education Directorate at the MoE estimated that only 10 percent of MoE schools were considered accessible for students with disabilities in 2012[384].

Pre-school and private schools supply trends: Attention to the importance of pre-school has recently emerged and Early Childhood Education is a pillar of the new HRD strategy moving forward. In terms of school supply, the government has a significant shortage of public school

[379] NCHRD (2016)
[380] NCHRD (2016)
[381] NCHRD (2016)
[382] JRP (2015)
[383] UNICEF/JENA (2014)
[384] NCHRD (2016)

offerings at the pre-school levels[385]. Private schools are more numerous at the pre-school stages, thereby somewhat compensating for the lack of public school offerings for those age groups. Private schools diminish through the primary level and taper off to forming a very small part of total schools at the secondary stage. The private schools at primary and secondary level in Jordan are typically elite expensive schools. Private schools can charge fees and therefore they have more resources and tend to perform better than public schools.

Supply-side: Quality

Teacher qualifications: Teacher quality in Jordan is constrained by problems in recruitment and selection, as well as training on both the pre-service and in-service levels. The main challenges revolve around the lack of support or motivation of teachers, the unsuitable initial and continuing teacher education (28% of public school teachers received pre-service training and only 43% received in-service training in the past two years[386]) and the lack of appeal of the teaching profession to high quality applicants (relatively lower admissions criteria for education programs). This leads to low education quality and poor performance of students in national and international assessments (as seen in earlier sections).

Areas with fewer resources such as the South of Jordan and rural areas faced steeper challenges in recruiting qualified teachers given their budget constraints and the few incentives provided for teachers to work there. This affects performance, with 81% of students in rural schools failing the Tawjihi as against 47% of all schools.

Disability. There is a lack of adequate training for public school teachers and staff working with students with disabilities and special needs as well as a lack of coordination between the training and curricula offered by the Ministry of Social Development (in charge of students with moderate to severe mental disabilities) and the ones in the MoE.

Curriculum: Another main supply-side quality challenge pertains to the national curriculum and assessment system that are considered outdated and do not meet the labour market requirements[387]. In spite of some of the curriculum reforms between 2009 and 2016, according to the HRD report, there is still "*too much emphasis on rote learning and on traditional pedagogies and delivery techniques*"[388]. The MoE reformed the curricula and textbooks of grades 1-3 in 2014 but external reviews concluded that the revisions did not improve basic primary level competencies[389].

[385] EMIS Database MoE
[386] NCHRD (2016)
[387] NCHRD (2016)
[388] NCHRD (2016)
[389] NCHRD (2016)

Box 5 Quality Education: the case of UNRWA's higher student performance[390]

Higher performance. Given the UNRWA's resource-constrained administration serving refugee students who continually face a multitude of adversities, it is surprising that UNRWA students outperform public schools in Jordan by a year's worth of learning.

Goal and Methodology. A mixed methods study was undertaken to better understand the reasons for success at UNRWA schools and their positive performance relative to comparable public schools, using a mix of econometric techniques, review of pedagogical practices and classroom time-on-task through structured methods, usage of SABER tools and qualitative data collection.

Findings on why UNRWA achieves these performance results include:

- "UNRWA selects, prepares and supports its education staff to pursue high learning outcomes. It has its own teacher training academy based in Amman.
- Time-on-task is high in UNRWA schools and this time is used more effectively than in public schools
- UNRWA schools have a world-class assessment and accountability system
- UNRWA schools are part of a wider community and culture of learning that supports the child. Parental and community involvement are relatively high."

Source: World Bank. 2014. *Learning in the face of adversity: the UNRWA education program for Palestine refugees.*

Learning environments: The quality of the basic infrastructure of public schools in Jordan is highly variable, with considerable complaints of poor learning environments, especially in rented schools.

Supply-side: Education Financing

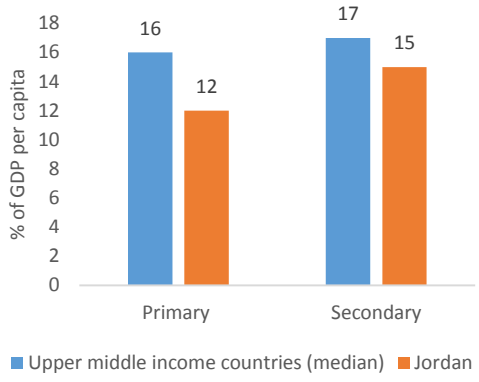
Resources invested: room for improvement: Jordan invests about 3.5% of its GDP (Table **21**) on education and almost 10% of its total government expenditure[391].

Table 21 Selected Education Indicators

Public Expenditure on Education (2013)	
As % of GDP	3.5
As % of total government expenditure	9.7
Teacher/pupil ratio in primary (2014)	16
Percentage of repeaters in primary (2012)	0.6
Primary to secondary transition rate (2010)	99.1

[390] World Bank (2014b) *Learning in the face of adversity: the UNRW education program for Palestine refugees.*
[391] http://wbgfiles.worldbank.org/documents/hdn/ed/saber/supporting_doc/CountryReports/SAA/SABER_SAA_Jordan.pdf

Figure 53. Per pupil expenditure by school level (% of GDP per capita)

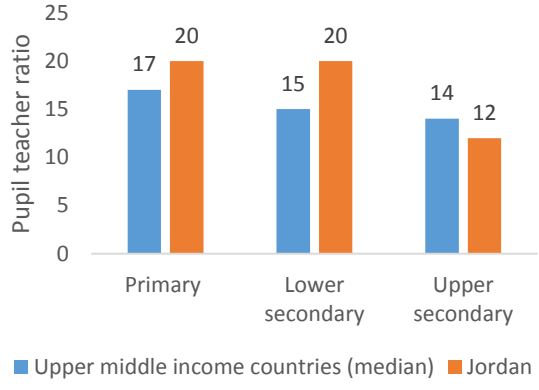


Source: UNESCO Institute for Statistics (UIS)

In terms of resource allocation, according to the EPDC Jordan 2014 report[392], Jordan's per pupil expenditure (PPE) in primary education is 12 percent. It is therefore below the median PPE in primary for upper middle-income countries which is 16 percent.

While Jordan is trying to decrease its debt to GDP ratio and thus adopting fiscal tightening measures, education should not be a sector affected by those measures. On the contrary, spending could be increased to be on par with other countries at similar level of economic development. Jordan spends less per pupil at the primary level than at the secondary level. While the details of spending are not available, generally speaking *spending in secondary level per pupil* is higher as teachers' salaries are higher and more materials are needed for the curriculum of later school grades.

Figure 54 Pupil teacher ratio by school level



Source: UNESCO Institute for Statistics (UIS)

The pupil teacher ratio (PTR) can be considered not only a proxy for learning quality also as a resource availability indicator. In that respect, Jordan's pupil teacher ratio (PTR) is 19.9, therefore on average there is one teacher for every 19.9 primary school students. The higher the number, the more students the teacher needs to supervise and the lower the 'resources available'.

Jordan's primary PTR is above 17, the median PTR in primary for upper middle-income countries. Consequently, in Jordan there are fewer 'resources' available i.e. there are fewer teachers available than in other upper middle-income countries (in line with the PPE trends). Similarly, the secondary PTR is higher than the primary PTR so more resources are invested at the secondary level (also in line with the PPE trends).

[392] https://www.epdc.org/sites/default/files/documents/EPDC%20NEP_Jordan.pdf

Composition of spending: While Jordan has lower spending levels than other upper middle income countries, changing the composition of the spending and improving the efficiency of the spending may be more important than increasing the overall education spending envelope.

In the last 10 years of data available, current expenditures at both primary and secondary level were always above 80%[393]. In 2010, primary current education expenditures stood at 93%, which only left 7% for capital expenditures.

These low capital expenditures may explain the often cited generally poor school conditions. In addition, given the relatively weak monitoring system in place, these low capital budgets at the school level could lead to schools charging some sort of fee to parents in order to be able to provide the minimum standards of quality. This could adversely impact access to schooling for the poorest students.

In 2010, 88% of the primary education budget went to staff salaries so most of the recurring budget goes to the salaries and wages of teachers and education sector staff. In 2011, the entire recurring budget in both primary and secondary levels went to staff salaries. One possible explanation for this trend is the 2011 Syrian crisis and influx of refugee children. As the government increased the number of double-shift schools and tried to send teachers to the temporary make-shift schools, it had to increase its spending on teacher salaries. Only 7% of the education budget for primary public schools was left for non-salary expenditures and only 11% at the secondary level.

Inefficient budgets: Given the poor TIMMS results in 2011 (output), and with 93% of the primary education budget spent on recurrent expenditures and 89% at secondary level (input), it can be concluded that the budget spending in Jordan is inefficient, particularly when it comes to staff salaries. As seen earlier, on the supply side this is due to a combination of poor school facilities, scarcity of qualified teachers and a need for a reformed curriculum and school management. All these challenges need to be addressed in order to increase the efficiency of spending and need to be addressed as the overall spending on the education budget increases to align with other upper middle-income countries and meet the education objectives of the country.

Policies[394]

Long-term strategic education plans

As a resource scarce country, Jordan has prioritized education based on the belief that developing its human capital will assist achieving its economic and social development goals. The country began a comprehensive review of its education system in the late 1980s[395] and a second wave of reforms in the 2000s through the Education Reform for the Knowledge Economy (ERfKE) framework with phase 1 running from 2003-2008 and phase 2 from 2009-2016. While progress

[393] World Bank data between 2001 and 2011
[394] See Annex 4 for more details on policy examples
[395] International Bureau of UNESCO (2006)
http://www.ibe.unesco.org/Countries/WDE/2006/ARAB_STATES/Jordan/Jordan.pdf

in several ERfKE components has occurred, the implementation was far from complete and was hindered, amongst other reasons, by the Syrian crisis. Therefore these components were brought forward through the next educational strategy document for 2016-2025, the National Strategy for Human Resource Development plan (NSHRD or simply HRD)[396]. Aligned with the Jordan 2025 Vision, the HRD inputted the evaluation of the ERfKE and *the implementation has been taken into account from the start* by defining who will have ownership of the various sets of projects, the sequencing and the practical activities and the resources required. General overview will be carried out with an HRD Reform Board and an independent HRD Results and Effectiveness Unit will act as watch-dog of the entire reform.

Response to the Syria Crisis

As a response to the Syria crisis, Jordan prepared a National Resilience Plan (NRP) in 2014 and by end 2014, the Jordan Response Platform for the Syria Crisis (JRPSC) was created. Any new projects by NGOs and international organisations need to be submitted for approval to the government which will gauge them against the JRP framework, thus limiting the duplication of efforts and amplifying synergies. All projects aimed at providing assistance to refugees should also benefit the hosting community and *at least 30% of beneficiaries should be Jordanians*.

The education component of the JRP focuses on access, quality of school and increasing the government's capacity to plan and deliver education for all given the extra pressures brought on the system. Examples of access to school projects include two nation-wide "Learning-for-All" campaigns which were conducted to encourage enrolment, identify out-of-school children and provide referral and registration support. The JRP's education plan also includes non-formal/remedial/catch-up classes for children for example the joint MoE-UNICEF "Catch up" program, a program for children who have missed 3 or more years of education and so cannot enrol in formal schools (see Annex 4 for details). Another example is the UNICEF supported Makani "My Space"[397]. With an estimated 50,000 school-aged Syrian children not eligible to join the formal school system, the Makanis constitute an alternative, innovative approach to expanding learning opportunities for out-of-school children (see Annex 4 for details).

Violence in schools: Demand-side Policy example

As seen earlier, violence in schools was an often cited reason to drop out, especially in boys schools. The Ma'an campaign is a national campaign to reduce violence by teachers against children and promote a New Way of Discipline and its evaluation showed it had significant effects on curbing violence in schools[398].

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[396]CHRD (2016)
[397] UNICEF 2016 TOR for Makani Assessment Review
[398] Evaluation report should be officially available in July 2017.

Poverty: Demand-side Policy examples

Around 90% of Syrian refugees in Jordan live below the poverty line, compared to 14.5% of the national population[399]. As seen in earlier sections, the cost of schooling and child labour are an important demand-side barriers therefore social protection programmes such as cash transfers are essential to support access to school. There are social protection programmes in Jordan (see Annex 4 for more details). These include *programs under* the National Aid Fund, the Zakat Fund and the Jordan Hashemite Fund for Human Development.

International organisations/NGOs. There are a few cash and in-kind transfer programs to support the livelihoods of refugees by UNHCR, Norwegian Refugee Council, Danish Refugee Council, Oxfam UNRWA. An example of cash transfer that has particularly benefited access to schools is the UNICEF Jordan Child Cash Grant (CCG) (see Annex 4).

International organisations/NGOs such as WFP, NRC and others have also started organising buses inside the refugee camps to help transportation of children to schools (and therefore alleviating the transport cost barriers and safety concerns).

Failing Systems: Supply Side Policy examples[400]

Teacher training: A large focus of the policies under ERfKE, continued under the HRD strategy, is on improving quality by reforming teacher policies/professional development as well as updating the curriculum, assessment and learning resources. Some of the current teacher training initiatives are being led by the MoE in conjunction with non-governmental initiatives such as the Queen Rania Teacher Academy (QRTA) (See Annex 4 for further information), the Jordan Education Initiative (JEI) and the Early Grade Reading and Math Project (RAMP).

Access and schools supply: In order to cope with the increased educational demands stemming from the refugee influx, the response to the Syrian crisis included[401] setting up44 schools in refugee camps, 198 double-shift schools established by the MoE, 47 catch-up centres, over 150 in Makani centres.

Early Childhood Education. As seen mentioned earlier, there is a significant under-supply of government provided KG1 and KG2 infrastructure, with the majority of physical infrastructure for ECE offered by the private sector. The HRD strategy plan includes a major sub-component of the ECE program focusing on the upgrade and expansion of primary school facilities.

Upgrading the physical learning environment: An interesting initiative to get around limited available budget for capital expenditures (as seen in section 3.3) is the Madrasati initiative. Madrasati has mobilized the resources of individuals and over 140 partners from the private

[399] ODI (2017)
[400] More details in Annex 4
[401] Brussels (2017) and UNICEF TOR

sector and civil society to upgrade the physical and educational learning environments of Jordan's most neglected public schools[402] (see Annex 4 for details).

Technology: There have been several initiatives in the past to introduce technology in teaching methods (e.g. the Jordan Education Initiative since 2003[403]) and several current ones (e.g. MoE and UNICEF partnering with Orange to bring digital learning to public schools[404], Edraak – Jordan's Massive Open Online Course (MOOC)[405]). Several conferences in the last year have brought together companies and initiatives pertaining to technology and education, including the No Lost Generation EdTech Summit in March 2017.

Non-Formal Education: Under ERfKE I and in partnership with Questscope, the MoE established a Non-Formal Education path in 2003 in order to offer an accredited alternative pathway to children who have been out of school for too long and thus are not eligible to return to formal education according to MoE regulations. "From 2003 to 2016, more than 13,000 young people have enrolled in NFE, and more than 500 MoE teachers received training as NFE facilitators to build the human resource capacity of MoE for the program"[406].

Conclusion

Both the UNESCO/education administrative data and the DHS data show that Jordan has done particularly well in terms of access to schooling across socio-economic backgrounds (including poor children) and regions. This is particularly true at the primary level both in terms of gross enrolment rates and attendance rates. In addition, Jordan has reached gender parity in access to education since 1979, mostly at the primary level as can be seen in UNESCO/DHS data. The Jordan case can help 'bust the myth' of girls being disadvantaged in accessing schools in Muslim-majority countries since, especially at the secondary level, male students seem to be at a disadvantage in terms of access rates. The prioritization of education within the successive Jordanian development plans has been driving the success in these high access rates.

Poverty remains a significant determinant/barrier to further schooling as seen from the DHS data analyses in section 2. While the HOI points to a lessening of inequalities over time, the Shapley Decomposition and regressions point to poverty or wealth as one of the main determinants of inequality and access to schooling. The second most important factor is the level of education of the head of household which is an indicator that is closely related to poverty levels. Unlike global trends, the data analyses did not point to strong disparities in access to education linked to location, geography or gender.

Lower access in Jordan is generally linked on the demand side to parental attitude and participation in school, early marriage, gender expectations, violence in schools, disability,

[402] http://www.qrf.org/initiative/madrasati
[403] UNESCO (2006) http://www.ibe.unesco.org/Countries/WDE/2006/ARAB_STATES/Jordan/Jordan.pdf
[404] https://www.unicef.org/jordan/media_11694.html
[405] http://www.qrf.org/initiative/edraak
[406] NCHRD (2016)

refugee status, minority status (Dom) and socio-economic reasons such as child labour and high transport costs. On the supply side, governance challenges included inadequate devolution and decentralization processes, poor budget efficiency, deficient teacher management processes and general insufficiencies in learning processes. The increasing access trends have been accompanied by a decline in the quality of education, with worsening performance on international assessment tests, completion, repetition and drop-out rates. With lower quality, low job prospects post-graduation and violence in schools, public schools are no longer attractive for older male students (and to some extent, older female students) in spite of their greater accessibility. The Syria crisis has only exacerbated these issues with the scarcity of work permits available for Syrians decreasing incentives to stay in school.

Recommendations

Policies to address Poverty and Location

With poverty being the main obstacle to access to schools, existing financial and in kind support programmes to poor families must continue to be evaluated, improved, expanded and financed. This is true for all poor populations in Jordan but especially for refugees since they have limited access to work permits and as such rely heavily on external assistance.

With poverty correlated to child labour and the latter correlated with higher drop-out rates, it is important to have updated statistics on income (household survey) and child labour. Since child labour seemed to be higher in urban centres which are generally easier to survey, at minimum a detailed child labour survey should be carried out in Amman. The updated income household and child labour surveys should be made available, at minimum, to all relevant government agencies as well as international organisations/NGOs in order to inform and better design their programmes.

Policies to address Gender and adolescents

Employment – a long term difficult challenge. Gender parity has been attained but the high and increasing rates of completion of secondary education, as well as performance in tests, for young women does not translate into higher numbers of women joining the workforce. Given the level of investment going into educating women, this low workforce rate is alarming, especially in a country that is resource poor like Jordan. Its economic development and social aspiration are dependent on a strong qualified workforce but if half of the population does not join, it constitutes not only 'wasted' education investments but also a serious impediment to further economic growth. A detailed analysis and survey of the female employment is recommended to form the basis for campaign, regulations and programs to allow higher female participation.

Employment is a challenge for the country as a whole, including for young men. Opportunities are few for Jordanians but even fewer for refugees. As such, as the Syria crisis becomes more protracted, it is likely that a fairly closed labour market will decrease demand for education or in any case, will remain low. Research into new income-generating opportunities for refugees, increasing work permits as well as telework (especially for women) would inform policies that would hopefully increase the perceived usefulness of education.

Continued expansion of Makanis, with their more flexible learning schedules, would support reaching male students who had to drop out of formal schools due to child labour demands. Expansion and strengthening of relevance of vocational training would also help retain more male students in higher grades.

Adolescent and youth. Even though access to schooling is an issue at the secondary level, many of the education initiatives are geared towards younger children (younger vulnerable Jordanians and younger refugees), with lesser focus on adolescents[407]. This is particularly true for refugees. While there are some projects geared towards adolescents and youth (e.g. Makani), the challenge lies in the lack of overall inter-agency coordination and holistic approach to education, protection, health and livelihoods, leading to a patchy response to the needs of this group. Unchecked, young people may turn to negative coping mechanisms (e.g. child labour, early marriage) but also increase the risk of recruitment to armed groups among Syrian refugees[408]. Improved overall quality of secondary schools (including lowered violence) and offering quality alternative pathways (vocational and non-formal) should be an imperative priority of education policies and projects.

Policies to address Disability

Disability is an obstacle to access to schools but building and implementing all the components needed to supply a true inclusive education is particularly difficult in an environment that is already stretched for resources. Nonetheless, given their particular high vulnerability, government and international organisations and NGOs should increase their existing efforts. A first step in programming for such projects would be to obtain data in order to support evidence-based policies and projects.

Policies to address language or include minorities

Arabic is the language of instruction and the language spoken at home by most Jordanians – as such there is not a pressing need (unlike other countries) for policies to align language of instructions with language spoken at home for improved learning. Even Dom children, while disadvantaged for many reasons listed earlier, speak/understand Arabic. However, given differences in accents and students coming from a different educational system, a special training should be provided for teachers to help them cope with large class sizes and methods to support the transition of refugee students into the Jordanian curriculum. Continued expansion of Makanis to reach out to vulnerable communities may provide extra learning support for Dom and refugees to adapt to the learning goals of a different education system.

Policies to address Failing Systems (Governance, Financing, Quality)

One of the main challenges highlighted in the report is the need to reform the governance structures in place towards increased accountability by moving to performance-based management across the board. This is true for school-based management but also for the overall

[407] Christophersen (2015)
[408] Christophersen (2015)

teachers' training and management system as well as the budget process, with the ultimate goal of increasing the efficiency of the human and financial resources of the sector.

While Jordan is trying to decrease its debt to GDP ratio and thus adopting fiscal tightening measures, education should not be a sector affected by those measures. On the contrary, spending could be increased to be on par with other countries at similar level of economic development. The increased resources should address the capital expenditure shortage, thus slowly shifting the composition of the expenditures.

In addition, the UNRWA case study pointed to the importance of teacher training and parental involvement in transforming efficiently limited resources into positive outcomes and student performance. Their experiences could feed into the Queen Rania Teacher Academy programs and other interventions aimed at improving the quality of education.

In terms of the future direction of education policies beyond the HRD plans, Madrasatis proved that involving the private sector can successfully fill gaps in the public sector offerings. There should be more research and planning to promote low-cost private sector provision and/or promote public-private partnerships to increase access to and the quality of education offered to Jordanian and non-Jordanian students.

In terms of technology and education, a flood of global initiatives are interested in working in Jordan, however it is very important to gauge carefully their usefulness for fear of wasting resources (time, human and financial) on initiatives that may seem innovative but ultimately may not be impactful. For example, a recent large-scale randomized evaluation of the "One Laptop per Child" program in Peru found that expansion of access led to substantial increases in the use of computers both at school and at home but there was no evidence found of effects on test scores in math and language409. While the potential for improved quality of education through use of technology is significant, a set of criteria and frameworks should be put in place to filter which initiatives should be backed by government and international organizations.

[409] Cristia et al (2017)

3.4 PAKISTAN

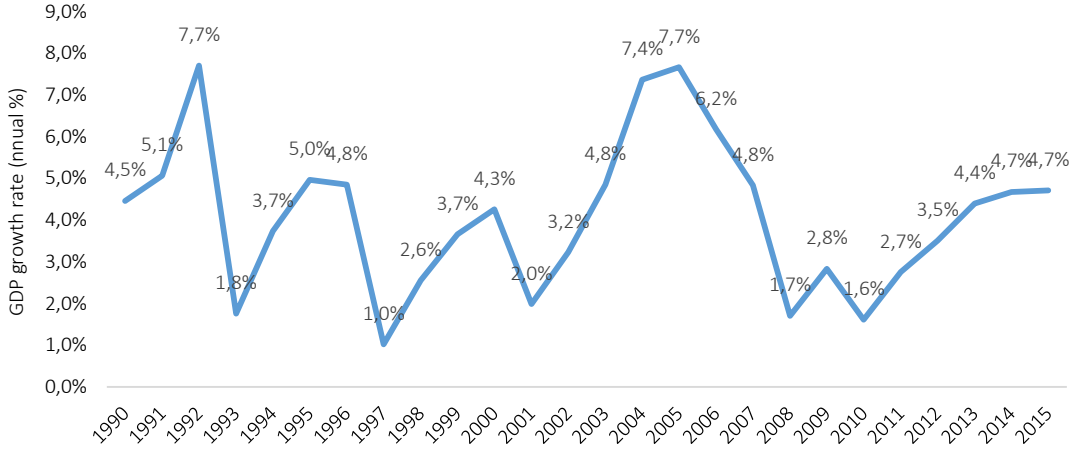
Overview

Country Context

Economy, Security, Disasters:

Pakistan is a developing country with a nominal GDP per capita of $1,428 and so ranks 147th in the world as of 2016. The country's economy is semi-industrialised, with a large informal sector estimated at 36% of the overall economy, and has been transforming from a predominantly agricultural to an industrial and service based economy over the past 20 years. Its growth poles are situated along the Indus River and the major urban centres in Punjab, its richest province. GDP growth rates have been volatile over the past 20 years as the country suffered from tense regional political relations, a fast-growing population, mixed levels of foreign investments and several disasters (See Figure 55).

Figure 55 GDP growth rate from 1990 to 2015



Source: World Bank World Development Indicators

With a population of around 190 million (the world's 6th largest), the number of people affected by natural disasters in the country is massive. The most recent major disasters affecting the GDP growth rate (see Figure 55) include the 2000 drought (1.2 million people affected, millions of animals perished), the 2005 Kashmir earthquake (73,000 people died and 3.3 million homeless), the 2007 Cyclone Yemyin (350,000 displaced, 1.5 million affected, more than 2 million livestock perished) and the 2010 floods (2,000 dead, 20 million affected)[410]. According to the World Bank, poverty (at the national poverty line) in Pakistan fell from 64.3% in 2001 to 29.5% in 2013[411]. Rural poverty remains a pressing issue as about 61% of the population lives in rural areas (see

[410] https://www.dawn.com/news/661518
[411] http://data.worldbank.org/country/pakistan

Table 22) and development there has been far slower than in the major urban areas. Inequality also remains a concern, with little progress noticeable between 1990 and 2015 (see Table 22).

Table 22 Pakistan Basic Indicators 1990s-2010s

	Indicator	1990s	2010s	Year for 1990s	Year for 2010s
Population	Population, total	107,607,640	188,924,880	1990	2015
	Population growth (annual %)	2.9	2.1	1990	2015
	Population ages 0-14 (% of total)	43.0	35.0	1990	2015
	Urban population (% of total)	30.6	38.8	1990	2015
GDP	GDP growth (annual %)	4.5	4.7	1990	2015
	GDP per capita, PPP (constant 2011 international $)	3,057.0	4,706.2	1990	2015
Poverty & Inequality	Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)	59.0	6.1	1990	2013
	Income share held by lowest 20%	8.1	9.2	1990	2013
	GINI index (World Bank estimate)	33.3	30.7	1990	2013
Other development indicators	Mortality rate, under-5 (per 1,000 live births)	138.6	81.1	1990	2015
	Prevalence of stunting, height for age (% of children under 5)	54.5	45.0	1991	2012
	Improved water source (% of population with access)	86.3	91.4	1990	2015
	Improved sanitation facilities (% of population with access)	23.7	63.5	1990	2015
	Access to electricity (% of population)	59.6	93.6	1990	2012
Education	Gross enrolment ratio, pre-primary, both sexes (%)		72.3		2015
	Gross enrolment ratio, primary, both sexes (%)	58.7	92.7	1990	2015
	Gross enrolment ratio, lower secondary, both sexes (%)		56.6		2015
	Gross enrolment ratio, upper secondary, both sexes (%)		35.4		2015
	Pupil-teacher ratio in primary education (headcount basis)	41.1	46.3	1990	2015
	Pupil-teacher ratio in lower secondary education (headcount basis)		17.3		2015
	Government expenditure on education as % of GDP (%)	2.5	2.7	1990	2015
	Expenditure on education as % of total government expenditure (%)	7.8	13.2	1993	2015

Source: UNESCO Institute of Statistics Database and World Bank World Development Indicators Database

The country spends a major portion of its budget on addressing challenges to national security, interest payments on its loans and some infrastructure developments leaving little fiscal room left for the social sectors. As a consequence, health and education indicators are very low, with 45%

of children under 5 presenting with stunted growth, high infant mortality for children under 5 at 81 per 1,000 live births, and large numbers of out of school children and high illiteracy rates. Pakistan has been spending around 2.5-2.7% of its GDP on education over the last decades and the delivery of its education services has been impacted in recent years by economic and social challenges. For example, Table 1 shows that Pupil-Teacher Ratio (PTR) in primary education has actually worsened and increased from 41.1 in 1990 to 46.3 in 2015, therefore factors such as teacher recruitment and/or number of classrooms in schools have not kept up with the increasing enrolment rates over time.

Administration: The administrative units of Pakistan consist of four provinces (Balochistan, Punjab, Sindh, Khyber Pakhtunkhwa), one federal capital territory (Islamabad), two autonomous and disputed territories (autonomous Gilgit-Baltistan and disputed/autonomous Azad Jammu and Kashmir). There are 6 tiers of government in Pakistan (1 Federal Government, 7 Provinces/Territories, 34 Division, 149 Districts, 588 Tehsil/Towns and finally several thousand Union Councils).

Punjab is Pakistan's most populated province, with 56% of the country's population (over 90 million people) and a number of important cities. The province also has high levels of illiteracy with over 3.8 million illiterates[412]. Sindh is the second most populous province which together with Balochistan are the two poorest provinces. Balochistan contains a desert and a mountainous region, making it the least densely populated province (see Table 23) with implications for the supply of schools. Khyber Pakhtunkhwa is the 3rd most populous province and has experienced significant security threats affecting the education sector.

Table 23 Main regional administrative division in Pakistan (population[413], area, density)

		Population	Area (km^2)	Density (per km^2)
ICT	Islamabad Capital Territory (federal)	1,151,868	906	1,271.38
BN	Balochistan (province)	13,162,222	347,190	37.91
KP	Khyber Pakhtunkhwa (province)	26,896,829	74,521	360.93
PB	Punjab (province)	91,379,615	205,344	445.01
SD	Sindh (province)	55,245,497	140,914	392.05
FATA	Federally Administrative Tribal Areas	3,930,419	27,220	144.39
GB	Gilgit-Baltistan (autonomous)	1,441,523	72,971	19.75
AJK	Azad Jammu & Kashmir (autonomous)	2,972,501	13,298	223.55

Source: Wikipedia "Administrative Units of Pakistan"

[412] Rehman et al. (2013)
[413] Year 2011

Urdu is Pakistan's national language whilst English has the status of 'official language'. The country is also home to an additional 70 additional languages and four of these (Punjabi, Pashto, Sindhi and Balochi) are provincial languages.

Education System overview

In 2010, the 18th Amendment to the Constitution of Pakistan devolved responsibility for education delivery and spending to provincial governments. Each province prepares its own Education Sector Plans. The federal ministry of education retains some limited mandates, mainly in curriculum development, accreditation and the financing of research and development.

The 18th Amendment also introduced Article 25-A in the Constitution of Pakistan under which the state is obliged to provide free and compulsory quality education to children of the aged 5 to 16.

The education system in Pakistan is generally divided into the following categories: Preschool (for 3-5 year olds); Primary (grades 1-5); Middle (grades 6-8); High (grades 9-10); Higher secondary (grade 11-12). On completion of grade 10, pupils may qualify for a Secondary School certificate. If they proceed to grade 12, they can sit a final examination for the Higher Secondary School certificate.

Responsibility for Vocational Education lies with the Pakistani Technical Education and Vocational Training Authority (PTEVTA).

The official medium of instruction in public schools is Urdu, with an introduction of English at later grades. However, there are also public schools in which the medium of instruction is Pashto (in KP), Sindhi (in Sindh) and other local provincial languages.

There are four main categories of formal education: (1) government Urdu (mostly) medium schools (2) private non-elite/low cost 'English medium' schools (3) private elite English medium schools (4) Deeni Madaris (madrasas) which offer an Islamic-oriented education, usually free of charge. The first two are the main school offerings in Pakistan, while the numbers of private elite schools and madrasas are a very small share of the total formal education offerings. Pakistan's education particularity lies in that low-cost private schools have proliferated in the last two decades and now an estimated 39% of the total primary school children enrolled are attending private schools[414]. There are also a number of non-formal basic education schools (feeder schools and Basic Education Community Schools), which can allow certain pupils to eventually re-enter the formal education system.

[414] AEPAM (2017) p.8

Trends in Access to Schooling

To assess trends in access to schooling in Pakistan, this chapter relies mainly on primary data from the Demographic and Health Survey (DHS) as well as administrative data as reported by Pakistan Education Statistics[415]

Gross Enrolment Rates and Select Administrative Data

Improving trends (UNESCO and Administrative data): In Pakistan, Gross Enrolment Rates (GER) have been increasing steadily over the past 10-15 years, with *steeper increases for lower secondary and particularly upper secondary.* Comparing 2003, 2012 and 2015 (see Table 24 and Figure 56), primary GER increased by 17% (2003 to 2012) and 9% (2012 to 2015). For lower secondary GERs, they increased by 45% and 29%. For upper secondary GER, the increase is 120% (2003 to 2012) and 52% (2012 to 2015).

Table 24 Gross Enrolment Rates for 2003, 2012 and 2015[416]

	2003	2012	2015
Primary (%)	78.2	91.4	92.7
Lower Secondary (%)	35.2	51.1	56.6
Upper Secondary (%)	13.0	28.6	35.4

Source: UNESCO Institute of Statistics Database

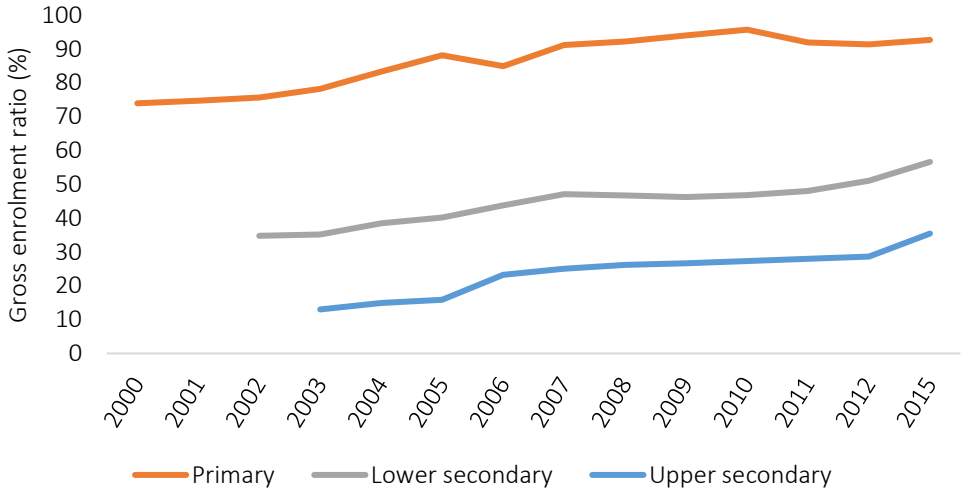
Great disparities: In 2015, the Gender Parity Index[417] is 0.86 for primary GER and 0.81 for secondary GER[418], in favour of male pupils. In addition, stark disparities can be noted between the different schooling cycles' GERs, with drastic reductions in enrolment for secondary cycles versus the primary one. In 2012[419], primary GER is 91.4%, lower secondary GER is 51.1% (i.e. only a little over half of primary GER) and upper secondary GER is 28.6% (less than a third of primary GER).

Disparities in enrolment are not only significant between schooling cycles but also between the different regions/province. Looking at the four main (and most populous) provinces, the primary Gross Enrolment Rates range from a low 62.2% in the less densely populated province of Balochistan to a high 104.1% in KP with Sindh (76.4%) and Punjab (88.5%) in the middle[420].

[415] Published by NEMIS (National Education Management Information System), managed by the Academy of Educational Planning and Management (AEPAM) under the Ministry of Federal Education and Professional Training
[416] UIS/UNESCO dataset
[417] Ratio of female to male values of a given indicator

[418] AEPAM (2017) p.25
[419] The same year as the last Demographic Health Survey
[420] Source: AEPAM (2015)

Figure 56 Gross Enrolment Rates 2000-2015



Note: UNESCO Institute of Statistics

Determinants of Access to Schooling

Similar to other OIC countries and global trends, the disparities in access to education in Pakistan are linked to household wealth, rural areas, geographical location, gender, disability, language and being part of an ethnic minority. A main difference is the sheer scale of the challenge given the population size of Pakistan, its vast geography (including deserts and high mountain ranges), the political challenges, and finally its frequent natural disasters that affect entire divisions/districts and often disproportionately impact the poor.

Using DHS data, this section will provide an overview of the main determinants of access to education and how indicators and correlates have evolved between 1990 and 2012[421].

Attendance and Completion Rates[422]: Between 1990 and 2012, attendance rates for 6-11 year olds improved by 36% or almost 20 percentage points from 54.6% to 74.5%. Attendance rates for 12-15 year olds also improved, although less significantly, with an increase of 20%. Completion rates (finishing 5 and 8 years of education) increased by 32% and 47% respectively. Even with this impressive increase, given how low the initial rates were in 1990, the completion rate of 8 years of schooling remains at 45.5 % in 2012, i.e. *less than 1 in 2 students aged 16-18 complete 8 years of schooling.*

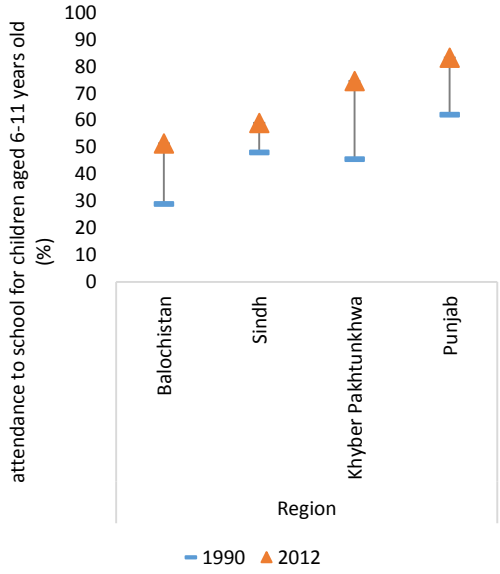
[421]In order to be consistent with DHS 1990, Gilgit-Baltistan region has been dropped from the DHS 2012 and Islamabad in DHS 2012 is assumed to be part of the Punjab region.

[422] Based on 1990 and 2012 DHS data analysis

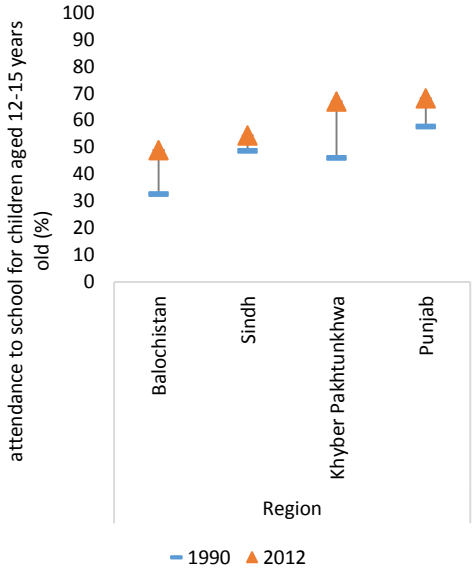
For all indicators both in 1990 and in 2012 there are significant disparities based on whether people live in urban or rural areas, their region, the education level of the head of the household (ed HH), the number of children at home, poverty and gender.

Figure 57 DHS 1990-2012 Difference in access rates by regions

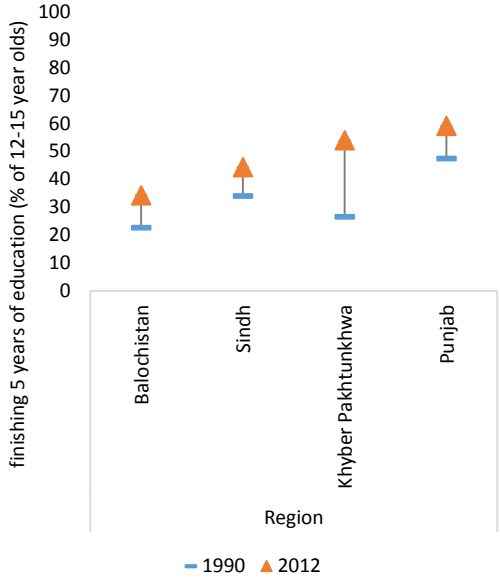
A. *Attendance in school (6-11 year olds)*



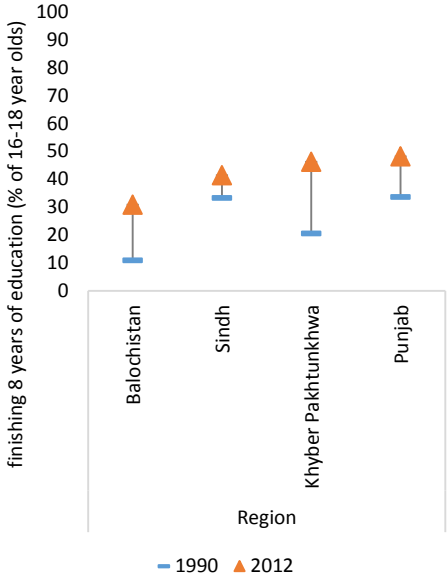
B. *Attendance in school (12-15 year olds)*



C. *Finishing 5 years of education (12-15 year olds)*



D. *Finishing 8 years of education (16-18 year olds)*



Note: Authors' calculations using DHS 1990 and DHS 2012

Location/Area of residence: Access and completion rates are higher in urban settings than rural ones. In 2012, urban attendance rates for 6-11 year olds and 12-15 year olds were respectively 16 and 20 percentage points higher than rural attendance rates for the same age groups.

However, the urban/rural divide has improved over time. Across all indicators, the percentage point difference between rural and urban rates decreased between 1990 and 2012. Rural attendance rates for primary and secondary-aged children are higher than rural completion rates for 5 years and 8 years of schooling. The latter stands at just 37% while the rural primary completion rate is 57%. This means that *almost 2 out of every 3 rural students from the older cohort does not manage to complete 8 years of schooling*.

Location/Regions: There are wide regional differences in terms of attendance and completion rates at primary and secondary levels.

In 2012, for both the 6-11 and 12-15 age cohorts, attendance rates are highest in Punjab, followed by Khyber Pakhtunkhwa, Sindh and Balochistan. Punjab's first place is significant since it is by far the most populous region. Unsurprisingly, the poorest region, and most sparsely populated Balochistan has the lowest access rates, with attendance rates for 6-11 and 12-15 years at 52% and 49% respectively and completion rates for 5 years and 8 years as low as 34% and 31%. This means that in Balochistan, 2 out of 3 children do not complete 5 years of schooling and almost half of the relevant age group do not attend primary or secondary school.

Across all indicators, the region that has made most progress between 1990 and 2012 is the Khyber Pakhtunkhwa region. Worryingly, Sindh did not progress much in terms of access and completion rates of the 12-15 age cohort.

Poverty: In terms of attendance rates for 6-11 year olds, all socio-economic categories experienced an improvement between 1990 and 2012, even the lowest/poor quintile which increased from 28% in 1990 to 45.3% in 2012. This remains a low access rate as it means that over half of the poorest children aged 6-11 are not attending school in 2012. The correlation between all indicators and poverty is very strong.

The 1990-2012 improvements experienced by 6-11 year old poor students are not present for other categories and indicators, which increased by only a few percentage points over the 22 year period, and have even worsened for the attendance of 12-15 year olds in the lowest wealth quintile.

Another worrying trend is that the divide (percentage difference) between the richest and poorest quintile has increased for all indicators except the primary attendance rate. Therefore, progress for the richest quintile has been steeper than progress for the poorest quintile, further exacerbating the divide between rich and poor in terms of access to schooling.

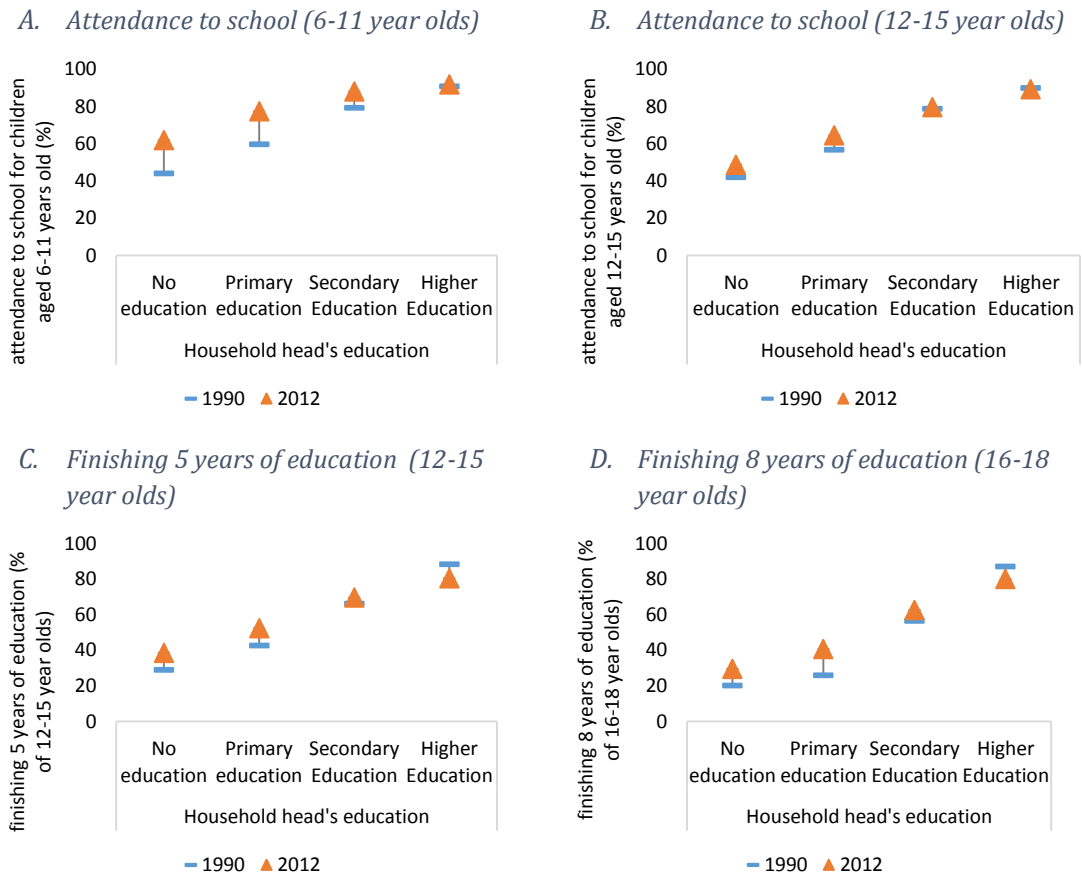
Table 25 Education outcomes by household wealth quintile

Household wealth quintile	Attendance to school (6-11 year olds)		Attendance to school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	1990	2012	1990	2012	1990	2012	1990	2012
Quint 1 (Poorest)	27.9	45.3	31.5	30.8	18.2	19.4	8.5	10.9
Quint 5 (Richest)	87.6	95.7	82.1	89.5	75	82	67.5	78.3
Difference	59.7	50.4	50.6	58.7	56.8	62.6	59	67.4

Note: Authors' calculations using DHS 1990 and DHS 2012

Education of Head of Household. The education of the head of the household is another determinant of access to education. This is to be expected since it is closely related to the poverty indicator/circumstance. Children who belong to households where the head has no education have the lowest access rates.

Figure 58 Education outcomes by household head's level of education



Note: Authors' calculations using DHS 1990 and DHS 2012

The difference in access between children with household head with no education versus head of household with higher education has improved across all indicators between 1990 and 2012, driven by increases in access rates by children belonging to the head of household with no education (see Figure 58). However, there are almost no improvements in access rates for 12-15 year olds (see Figure 58 Panel B), and even a decrease in access rates for students whose head of household has higher education. The latter may due to students enrolling in private schools as families with head of households with higher education tend to be wealthier and thus able to afford private education. Private schools are supposed to report their enrolment numbers to the government, however it does not always happen in practice and in the absence of a rigorous monitoring system, it is difficult to track students moving between public and private systems.

Number of children in the household: Another circumstance/indicator that is closely related to poverty is the number of children in the household. Classically, larger families tend to belong to the poorest wealth quintile. In line with this trend, the DHS data shows that attendance and completion rates for 6-11 year old and 12-15 year old cohorts are lowest for families with 5 or more children and highest for families with only 1 or 2 children.

The difference in outcomes between children in small versus large families has increased over time. Between 1990 and 2012, across all indicators, the percentage difference in access rates for children in families with 1-2 children minus the rates of children in families with 5+ children has increased significantly. Family size's influence has increased over time.

Table 26 Education outcomes by number of children in the household

Number of children in the household	Attendance to school (6-11 year olds)		Attendance to school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	1990	2012	1990	2012	1990	2012	1990	2012
5 or more children	52.8	70	51.9	56.6	37.3	44	28.7	31.9
3-4 children	56.6	77.4	54.3	66.4	40.3	53.1	30.4	42.2
1-2 children	59.6	81.8	54	70.5	46.9	64.1	33.7	50.6

Note: Authors' calculations using DHS 1990 and DHS 2012

Gender: Between 1990 and 2012, the Gender Parity Index, calculated by dividing the rate for girls with the rate for boys, has improved significantly across all 4 access indicators, going from 0.72 to 0.90 and 0.61 to 0.81 for 6-11 year old and 12-15 year old attendance rates respectively. Completion rates also improved significantly, going from 0.66 to 0.94 and 0.58 to 0.82 for completion rates of 5 years and 8 years of education. These rises are due to higher increases in access by female students than increases in access by male students.

Table 27 Education outcomes by gender of the child

Gender of the child	Attendance to school (6-11 year olds)		Attendance to school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	1990	2012	1990	2012	1990	2012	1990	2012
Female	45.6	70.3	39.8	57	31.9	51.8	22.7	41.2
Male	63.5	78.2	65.4	70	48.2	55.1	39	50.1
Gender parity index	0.72	0.90	0.61	0.81	0.66	0.94	0.58	0.82

Note: Authors' calculations using DHS 1990 and DHS 2012

Language: Generally speaking, Urdu is the medium of instruction in government schools, English in elite private schools and English is 'claimed' to be the medium in non-elite private schools.

Access and completion rate are significantly higher for children in households where the language spoken is Urdu versus other languages. In 2012, attendance rates to school by 6-11 year olds and 12-15 year olds are respectively 92% (Urdu) vs 72% (non-Urdu) and 83% (Urdu) vs 62% (non-Urdu). The percentage point differences between Urdu vs Non-Urdu is highest for the completion rate of 8 years of education. For the latter indicator, students who speak Urdu at home have higher rates by a large 26 percentage points over the non-Urdu category.

Table 28 Education outcomes by language spoken in the household

Language spoken in the household	Attendance to school (6-11 year olds)		Attendance to school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	1990	2012	1990	2012	1990	2012	1990	2012
Non-Urdu	53.5	72	52	61.5	37.5	50.4	27.7	41.1
Urdu	74.5	92.1	72.7	82.8	63.5	73.5	57	67.2

Note: Authors' calculations using DHS 1990 and DHS 2012

Disability: The DHS data does not report on disability. The Annual Status of Education Report (ASER)[423] survey includes children suffering from mild to severe disabilities. In terms of access to schooling, the ASER 2015 reports "that among children who were reported to have moderate to severe difficulties in hearing, 30% of them have never been enrolled in schools. Of the children who were reported as having moderate to severe difficulties in caring, 40% of them had never been enrolled in school. Of the children reported with moderate to severe difficulties in walking, 26% have never been enrolled to school. Finally, 18% and 11% of children being reported with moderate to severe difficulties in seeing and in understanding have never been enrolled in school, respectively"[424].

[423] ASER - The Annual Status of Education Report is the largest citizen led; household based initiative that aims to provide reliable estimates on the schooling status of children aged 3-16 years residing in all rural and few urban districts of Pakistan.

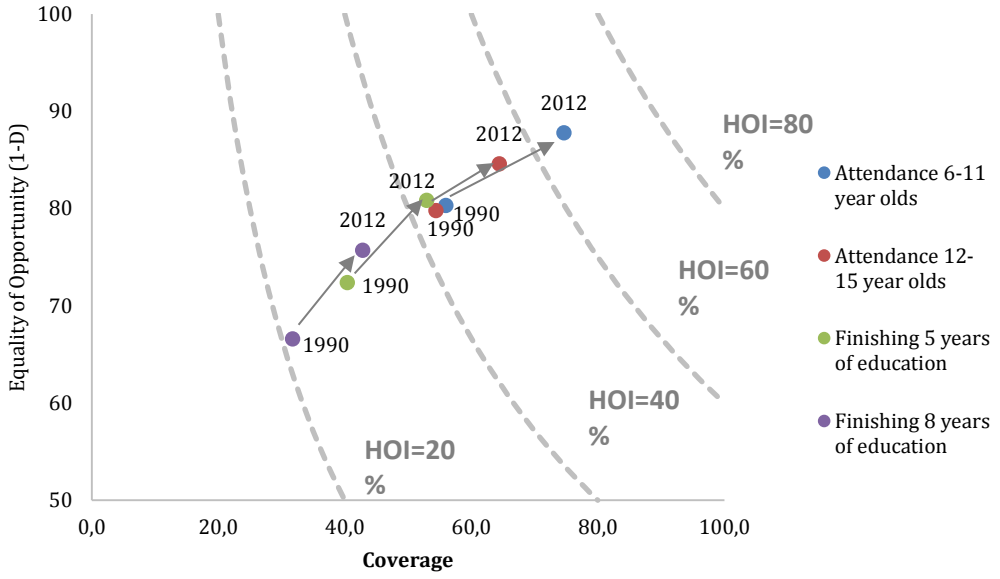
[424] ASER (2015)

Measuring Inequality of Opportunity in Access to Education in Pakistan using the Human Opportunity Index

Using the DHS data, this section will analyse the inequality of opportunity in education using the Human Opportunity Index (HOI) approach (see Annex 1 for further details on methodology and interpretation).

Human Opportunity Indices for education indicators for Pakistan remain low, especially for the completion rate indicators (See Figure 59). At 65.5 percent in 2012, the HOI is highest for the attendance to school for 6-11 year olds among other education indicators. Coverage and equality of opportunity is highest for this indicator compared to other indicators for Pakistan in 2012. The HOI is lower for attendance to school for 12-15 year olds at 54.5 percent. The HOI for finishing 5 years of education (For 12-15 year olds) and finishing 8 years of education (for 16-18 year olds) are below 50 percent each at 42.8 and 32.4 percent respectively.

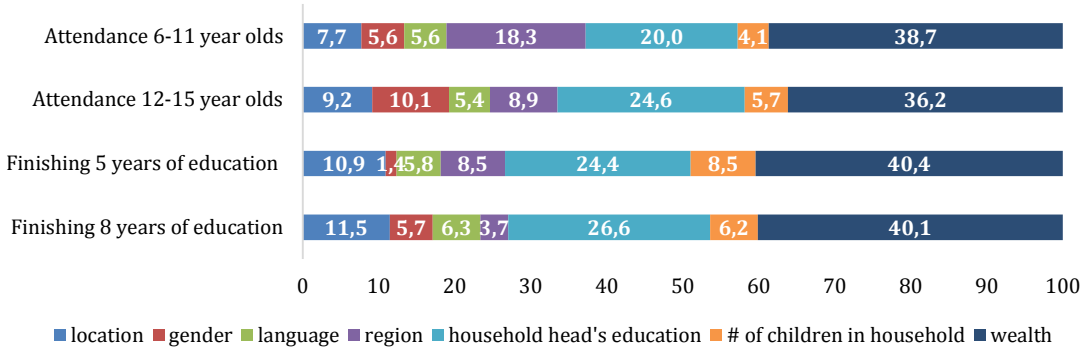
Figure 59 HOI, Coverage and Equality of Opportunities for Pakistan, 1990-2012



Source: Authors' calculations using DHS 1990 and DHS 2012

HOI for education indicators improved between 1990 and 2012 for Pakistan. During this period the HOI increased by 20.6, 11.1, 13.6 and 11.3 percentage points for attendance to school for 6-11 year olds, attendance to school for 12-15 year olds, finishing 5 years of education and finishing 8 years of education respectively. The improvements were due to both increases in coverage and improvements in equality of opportunities. However, coverage remains low and inequality remains high, especially for the indicators on finishing education.

Figure 60 Shapley decomposition for 2012



Source: Authors' calculations using DHS 2012

Household wealth contributes the most to inequality and it is followed by household head's education (See Figure 60). The Shapley decomposition results show that for Pakistan in 2012, wealth is the factor that contributes the most to inequality of opportunity for all four education indicators. More than or close to 40 percent of inequality in the education indicators can be explained by household wealth. Taken together household wealth and household head's education explain between 58.7 and 66.7 percent of inequality for all four indicators. Other circumstances all contribute less to inequality compared to wealth and household head's education.

These findings are in line with the ones in section 2.2 where poverty and low household education level are linked to low access levels. Wealth is highly correlated with the household head's education level and as such poverty can be seen as the largest barrier/circumstance that prevents access to education in Pakistan.

Probit regression results

Regression results show that circumstances continue to have a large impact on education indicators of children. Wealth has the largest impact and there has been no or little progress, in some cases even deterioration, in access to school for the poorest. In contrast, while gender remains an important circumstance for education opportunities, Pakistan seems to have been relatively successful in tackling the disadvantaged situation of girls in access to education.

Urban/Rural: Regression results show that living in rural areas does not have any large marginal effect on education indicators in Pakistan. This finding is in line with the Shapley decomposition results but in contrast with the correlation analysis, which found much lower access rates in rural areas compared to urban ones.

Geography/Region: The likelihood of attendance or finishing education in 2012 is significantly decreased when living in certain regions such as Sindh or Balochistan. Living in those regions affect the education opportunities most negatively.

Gender: Being a girl was found to decrease the chances of going to school and finishing school in 1990. However, its negative impact decreased throughout the years. This corroborates the findings in the correlations section.

Poverty and Education of Head of Household: In line with the findings in Section 2.2, the regression results show that belonging to a poor household or one with a head with no education continues to decrease the likelihood of attending school or finishing school to a substantial degree. Progress over time has mostly been in the attendance (not necessarily completion) rate for children living in households in the 3rd and 4th wealth quintiles.

Household size and Language: In 2012, both belonging to a household with 5 or more children and speaking a language other than Urdu in the household have significant negative effects on a child's education outcomes.

Quality: Learning

In Pakistan, inequalities in access to education are also compounded by disparities in learning achievements. The improvements in access to schooling over the past 10-20 years have not been accompanied by improvements in the quality of education or in learning achievements. The Annual Status of Education Report (ASER)[425] reports on learning achievements at different grades (Classes 1,3 and 5) of children in rural and urban areas and across regions. The ASER findings include:

Urban/Rural trend: The urban-rural disparities in learning favour urban children who perform better than rural children at all grades. This can be due to a higher level of drop-outs in earlier grades in rural areas. As seen in section 2.2, children living in urban areas are more likely to finish 5 years of education compared to children living in rural areas. However, the difference is highest for the lower grade (Class 1), decreases in higher grades (Class 3) and becomes barely noticeable at the highest primary grade (Class 5). This trend is true for both literacy (See Figure 61– Panel A) and numeracy (See Figure 61- Panel B).

Low national achievements: By Grade 5, while children living in rural and urban areas obtain similar levels of literacy and numeracy, learning remains fairly low and of concern.

Literacy. 4 children out of every 10 children are still not able to read a story and 2 children out of every 10 children cannot read a sentence (see Figure 61-Panel A).

Numeracy. 5 children out of every 10 children are still not able to complete a two-digit division and 2 children out of every 10 children cannot complete a two-digit subtraction (see Figure 61-Panel B).

[425] ASER - The Annual Status of Education Report is the largest citizen led; household based initiative that aims to provide reliable estimates on the schooling status of children aged 3-16 years residing in all rural and few urban districts of Pakistan.

Figure 61 Learning achievements by location (urban/rural) and by grade/class

A. Literacy *B. Numeracy*

Source: ASER 2015 National Report Urban, ASER 2015 National Report Rural

Provincial disparities:

Rural. Looking at rural students in the various provinces, stark disparities in achievements can be observed. In terms of the 4 main provinces, Punjab leads in the literacy category with about 70% of children able to read a story in Urdu/Sindhi/Pashto (in Class 5). It is followed by the much lower performing Khyber Pakhtunkhwa, Sindh and Balochistan, all well below 50%. Punjab's lead in numeracy is much lower, at almost 60% of children able do to a 2 digit division (in Class 5). KP and Balochistan come 2nd and 3rd, in the 40-50% range, and Sindh performs significantly worse than the other regions with less than 40% of children able to do a 2 digit division.

This differential learning achievement in rural areas may be due, amongst other reasons, to the strong political will in Punjab and KP that has pushed for educational reforms and the implementation of educational sector plans.

Urban. Looking at urban settings, while disparities remain among provinces, the trends are slightly different than those found in rural settings in Class 5. Firstly, with respect to literacy in urban settings Balochistan has higher levels of attainment than Punjab. Children in Class 5 in cities in Balochistan do better than Punjab (and the other 2 main provinces) in literacy categories. In terms of literacy, KP (and not Balochistan/Sindh) is the province with the lowest attainment. In terms of numeracy, Sindh cities lead, followed by cities in Punjab, Balochistan and KP.

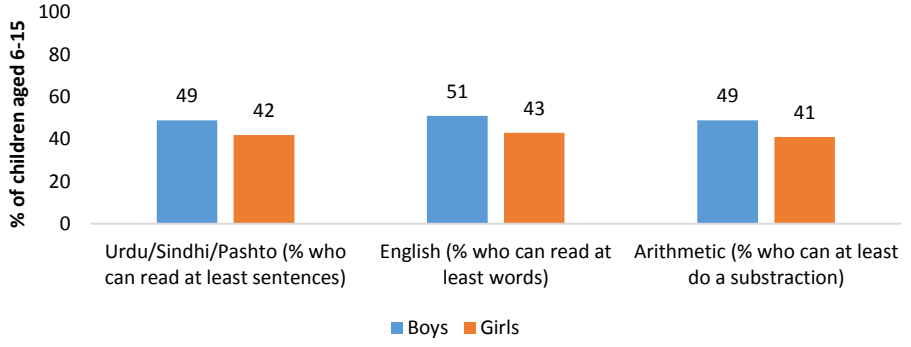
Table 29 ASER 2015 – Urban learning levels Class 5 by province/administrative unit

Class 5	% who can read story (Urdu/Sindhi/Pashto)	% who can read sentence (English)	% who can do division
Balochistan-Urban	70.7	70.7	44.8
Islamabad-Urban	93.9	100	98.5
Khyber Pakhtunkhwa-Urban	39.3	40.1	35.5
Punjab-Urban	56.2	57.7	52.6
Sindh-Urban	62.5	64.3	55.7
National-Urban	57.8	59.5	52.4

Source: ASER 2015 - Urban

Rural gender disparities: The gender disparities in access to schooling are reflected also in learning achievements. Both in the literary and numeracy categories, girls perform worse than boys.

Figure 62 Rural learning levels by Gender



Source: ASER 2015 - Rural

Poverty/Wealth: Poverty was shown in the previous section to be one of the strongest determinants of low access to school and a contributor to inequalities in access, especially in older children. In terms of learning outcomes, poverty remains a strong influencer as indicated in ASER-Pakistan (2015). In Pakistan, learning gaps between the richest and poorest wealth quintiles widen as children get older.

Disability: The ASER 2015 report tested the attainments of children living with a mild to severe disability. As expected, disability constitutes an impediment to learning, with children reported to have moderate to severe difficulties all clustered at the lowest level of the learning scale across the different assessment types (Reading, Arithmetic and English)[426].

[426] ASER (2015)

Out of school children (OOSC): As a household survey, the ASER is able to report on the learning achievements of OOSC. Unsurprisingly, their achievements are lower than children attending school.

Literacy. 60% of OOSC (aged 5-16 years old) in urban areas and as high as 67% of OOSC (Aged 5-16 years old) in rural areas cannot read any words or sentences (in Urdu).

Numeracy. 57% of urban OOSC (aged 5-16 years old) and 67% of rural OOSC (aged 5-16 years old) cannot recognize numbers or make a simple calculation.

Challenges, Barriers and Bottlenecks

Access to schooling by children in Pakistan is confronted with challenges both on the demand side (perception of education, child labour, economic barriers including transportation, early marriage, violence, lack of community/family engagement) and the supply-side (low quality due to teacher training issues, poor and unsafe school environment, outdated curriculum, governance issues such as lack of effective accountability and leadership or lack of involvement of community and parents in school management, as well as environmental challenges).

Demand-Side Barriers[427]

Culture. Parental attitudes:

Low demand due to mismatch of school skills and expected job. Some parents may not prioritise sending their children to school for one of a number of reasons. For instance, the opportunity cost of sending one's child to school increases as the *quality of education provided declines* since it lowers the parents' perceived/real rates of return to educating their children. This perception of low returns to education is also generated by the *mismatch of skills* learned in schools with the skills needed for the jobs that parents expect their children to have (low skilled jobs such as agriculture labourer, shops etc). The school's curriculum and skills offers are not deemed desirable by some parents. Another potential disincentive to schooling is *the medium of instruction not being the language spoken* at home. This creates difficulties for the child' s learning achievement. In certain regions where Urdu is not spoken, the school curriculum may seem irrelevant to some parents, especially those from poor backgrounds *with low educational attainments*. Traditionally, some children may be expected to work in the family business and parents may not deem high levels of education necessary, leading to low enrolment rates in the last grades of primary and secondary school.

Poverty, disasters and migration: In rural areas, parents may simply not have the time and capacity to supervise their children's education, leading to a higher likelihood of drop-out. In addition, migration due to poverty (families moving to find job opportunities) or natural disasters negatively impact enrolments of children as they are frequently uprooted from their schools. Pakistan has nomadic tribes in both urban and rural environments, and just like economic migrants' children, their children are also very likely to never enrol or to drop-out of school.

[427] most from UNICEF (2013)

Gender: Societal norms may impact boys' schooling levels as families expect them to start contributing to the family's livelihood at a certain age and thus the demand for education for their older boys decreases.

In terms of female education, the disparities in education between girls and boys can be attributed to society not viewing women as economic contributors or providers and usually confined to housework or low-skilled jobs. As such, their education is not viewed to be as important as boys and, in large families, they will tend to send boys to school more than girls. For older girls, it may seem unsafe to travel too far in order to protect them from violence and preserve their 'respectability'. For these girls, the presence of single-sex schools, with female teachers and within a short distance distance are pre-requisites for enrolment. The strength of the patriarchal norms vary widely within Pakistan and it is traditionally stronger in poorer and more rural areas and less prominent in urban settings and upper socio-economic classes.

Early or force marriage. In many rural and remote communities, young girls are promised in marriage, affecting their attendance to primary education, or get married early, affecting their attendance to secondary school. Once married, girls often drop out as they assume their traditional roles of homemakers which either makes attendance and performance in schools very difficult or simply makes intermediate/advanced education skills seem irrelevant for their roles.

Political Issues. In KP almost 10,000 schools have been blown up. The FATA have experienced challenges that has led many children to fall behind their academic schedules and there has been a rise in crime against young girls[428]. Many girls' school in particular have been destroyed and the families have been threatened with death for sending girls to school[429].

Health and nutrition: According to UNICEF (2013), malnutrition is a serious contributor to low access to schools, impeding enrolment in some cases and increasing drop-out risks. Children in rural areas are more likely to be stunted than children in urban areas. According to the National Nutrition Survey 2011[430], 1/3 of all children are underweight, nearly 44% are stunted, 15% are wasted, half are anaemic and almost one-third of these children have iron deficiency anemia. These rates have hardly changed over two decades according to the findings of a maternal and child nutrition study group published by Lancet in 2013[431].

Cost of schooling/Transport/Distance to schools: In Pakistan, public schools are free. Low-cost private schools charge, as their name suggests, a low fee to parents. Direct costs thus include schools fees, school materials and transport costs. These can act as barriers to access for children from poor households or households living in remote or unsafe areas. Indirect costs include the opportunity cost of attending school and thus not contributing to the household's livelihood. As wage-earning opportunities increase for older children, the opportunity cost of attending school increases and so do the incentives to drop out.

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[428] AEPAM (2015)
[429] CGNP (2016)
[430] from article: https://www.dawn.com/news/1299917
[431] from article: https://www.dawn.com/news/1299917

Child labour: One of the main drivers for child labour is poverty. As poverty is a main determinant driving low access to schooling (see section 2), child labour is expectedly one of the most significant impediments to demand for education in Pakistan. In a 2012 survey, the ILO estimates that 12.5 million children in Pakistan are involved in child labour[432]. According to the Global Slavery Index 2013, Pakistan comes third, after Mauritania and Haiti, in the prevalence of child labour[433].

It is very difficult to understand the profile of children involved in labour as the last National Child Labour Survey dates from 1996. However, UNICEF's analysis on child labour showed that, as the educational attainment level of the household head decreases, the likelihood of child labour increases leading to a falling probability of children attending school[434]. Results also point to increasing chances of entering labour as the child is older. Girls are 10% less likely to go to work than boys[435]. Finally, the probability of a child going to work and leaving school significantly increases when the household head is self-employed or engaged in agriculture or manufacturing. These are sectors with high poverty incidence amongst their working populations as more labour-intensive and as such have an increased likelihood that the family's livelihood will need supplementary income from children's work. Children are employed in agriculture, factories, small car workshops, shops, hotels, cinemas, vending on the streets, the fishing industry, mining, brick kilns, weaving, bracelet making, packing and construction[436]. Ultimately, the fact that existing child labour laws are not enforced indicates that Article 25-A of the Constitution is not being enforced as child labour goes against the fundamental right to education.

Refugees: Khyber Pakhtunkhwa, Balochistan and FATA still face the challenge of hosting a large number of Afghan refugees. According to UNHCR, as of February 2017 there are about 1.3 million registered refugees, with 4.3 million Afghans having been repatriated between 2002 and 2016[437]. The education of the first generation of refugees had been cut short by displacement in the 1980s. As such, second and third generations face additional barriers to access to education due to self-perpetuating cycles of poverty (and thus child labour) and strict socio-cultural expectations that girls should remain at home. Afghans live in refugee villages but also in hosting communities as well, where they are allowed to enrol in Pakistani public schools. Across the 54 refugee villages, there are about 127 primary schools[438] but with limited funding, they do not retain qualified teachers and the quality of education offered is poor as a consequence.

About 80% of refugees of school-age are out-of-school, while only about 33% of these refugees are able to read and write. The literacy rate amongst female refugees is only 7.6%[439]. 90% of girls drop out of school. Low numbers of girl graduates leads to a lower number of female teachers

[432] https://www.dawn.com/news/1233219
[433] https://www.dawn.com/news/1233219
[434] UNICEF (2013) Annex 3
[435] UNICEF (2013) Annex 3
[436] https://www.dawn.com/news/1264451
[437] http://unhcrpk.org/wp-content/uploads/2013/12/VolRep_Summary_20161101_v1.pdf
[438] UNHCR (2015)
[439] UNHCR (2015)

(and doctors) which further limits the access to education of future generations by exacerbating teacher shortages and health/nutrition challenges that affect school attendance.

Supply-side: Education System Governance

Governance:

Devolution transition. The 2010 devolvement of education planning to the provinces entailed a period of transition to the new system. The bureaucratic systems needed time to adjust to the requirements of the new amendments, leading to procedural delays in financial and technical issues. Devolution has not been homogenous in the different provinces and disparities in implementation reflected the variance in resources generated by different districts, the different institutional capacities[440] and political will. For instance, KP took the lead in developing its first comprehensive Education Sector Plan (ESP), which ran from 2010-2015. Punjab and Sindh followed with their own ESP and Balochistan's ESP covers 2013-2017.

Generally, district and provincial education planners lacked the required skills and needed quality training on how to implement education policies and create education plans/strategies in their districts/regions. While progress has been made, the institutional capacity is still being built.

Accountability. The monitoring and evaluation (M&E) mechanisms in the education sector are also weak. Financial constraints and inadequate recruitment policies lead to a shortage of school supervisory teams and the lack of M&E led to variance in service delivery and low incentives for performance by teachers and support staff across schools. In addition, parental and community participation in school matters is not effective which presents a further challenge to the effective monitoring of the quality of education[441]. A challenge for accountability is the different lengths of school year between provinces and schools hours, due to weather conditions and government deciding to start or end school term early. These external changes impacting time in class make it difficult for schools and teachers to be accountable for the performance of their students.

Parental involvement: As just mentioned, parental/community engagement is low, particularly in government schools[442]. While there are large numbers of Parent-Teacher associations (PTAs) and School Management Committees (SMCs) (see Table 30), they have a limited role. This is particularly true in poor areas where parents (i) are not interested or do not have time to monitor the progress of their children or be involved in school-related matters (ii) exhibit higher levels of illiteracy and as such teachers tends to dismiss their feedback.

[440] UNICEF (2013)
[441] AEPAM (2017)
[442] Alif Ailaan (2014)

Table 30 Existence of SMCs, PTAs, school councils or other bodies (head teachers), percentages

School type	Response	Province				Pakistan
		Balochistan	KP	Punjab	Sindh	
Government	Yes	68%	89%	99%	94%	93%
	No	32%	11%	1%	6%	7%
Private	Yes	50%	48%	18%	59%	39%
	No	50%	52%	82%	41%	61%

Source: Alif Ailaan (2014)

Shortages in supply of schools and bottlenecks at the secondary level: Looking at the supply of Formal Educational Institutions in Pakistan, a school supply bottleneck is noticeable at the secondary level (middle schools and high schools). Nationally, there are approximately 146,185 primary schools, 42,147 middle schools and 29,874 high schools. (see Table 31) The drop in the number of schools at middle and high school level is extremely sharp. Looking at just primary, middle and high school numbers (218,206 schools), primary schools represent 67% of basic education schools, middle schools 18% and high schools only 14%. The low secondary school enrolment and attendance rates seen in section 2 are therefore a combination of both low supply of schools at secondary level and low demand for schooling based on factors such as child labour or early marriage affecting older children.

Table 31 Number of Formal Educational Institutions in Pakistan 2013

	Balochistan	FATA	GB	KC	KP	Punjab	Sindh	AJ&K	Pakistan
Primary schools	11,079	4,836	11,079	364	24,991	52,414	46,759	4,852	146,185
Middle schools	1,406	616	427	170	4,921	26,831	5,928	1,848	42,147
High schools	917	439	268	248	3,774	17,958	5,189	1,081	29,874
Colleges	68	62	35	40	202	1,241	471	199	2,318
Universities	6	-	1	16	29	43	40	6	141

Source: AEPAM (2017)

Language: As seen earlier, public schools usually use Urdu as the language of instruction and introduce English at a later age. This creates difficulties in learning for students' whose mother tongue is different and difficulties for the teachers themselves. Section 2 showed that not speaking Urdu at home constitutes a barrier to access to education.

The Alif Ailaan organisation conducted a teachers' survey in 2014[443]. Many teachers complained about having to teach English as they do not have the skills for it or must translate twice (from English to Urdu then Urdu to the local language) in order to communicate well with students. Given that private schools market themselves as 'English medium', private schools teachers in the survey were less critical of the English language policies by the provinces.

[443] Alif Ailaan (2014)

The language medium is a very prominent debate in Pakistan with provinces abolishing and reinstating language policies thus leading to further confusion. For example, in Punjab, the trend in recent years has been to use English starting from Class 1[444]. In 2014 however, it reviewed the policy and again allowed the use of Urdu in Classes 1-2-3. Sindh is the only province where teaching in the mother tongue is the norm during the early years of schooling. Balochistan decided to introduce instruction in children's mother tongue but implementation was too difficult and the decision was reversed. In Khyber Pakhtunkhwa, only a few schools in some districts teach in children's mother tongue and has introduced English in Class 1 since 2014[445].

Teachers' management[446]: Governance issues relating to teacher recruitment and deployment constitute a barrier to accessing quality education as recruiting quality teachers in large numbers is a very difficult challenge. Quality education cannot be provided unless teachers are motivated, supported and their careers effectively managed[447].

Political recruitment. Firstly, there was a tradition of political appointments of teachers that started in the 1970s when quotas were given to elected members of the national and provincial assemblies[448]. This tradition was not conducive to hiring qualified teachers. While in recent years merit-based recruiting has been on the rise, the practice of political appointment of teachers continues and is deleterious to quality education. Beyond recruitment, as public servants, teachers undergo an annual performance evaluation but promotions are still often based on seniority and political connections rather than performance.

Mismatched skills. Another issue in the teacher recruitment and deployment system is the fact that there is little correlation between the major of the teachers' degrees and the subject they end up teaching in schools[449].

Weak accountability. As seen earlier under the 'governance' section, the weak supervision and accountability mechanisms in the education sector lead to low-performing teachers. There exist two main accountability systems in education, the teacher performance evaluations and the school inspections for head teachers that assign scores to staff and schools. While the systems exist and have potential to improve accountability, they are currently very weak. Weaknesses include promotions not being tied to scores and also the fact that scores are based on information that is not related to learning and finally, everyone tends to get the same score (ratings compression phenomenon). One of the concerning results of these weak systems is the current high rate of teacher absenteeism.

Contracts. Most teachers in public schools are on permanent contracts or get on those contracts after a few years of service. The rules governing the provision of permanent jobs, the career

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[444] Alif Ailaan (2014)
[445] Alif Ailaan (2014)
[446] Alif Ailaan (2014)
[447]UNDP Pakistan "Education Governance Conundrum"
http://www.pk.undp.org/content/pakistan/en/home/library/hiv_aids/development-advocate-pakistan--volume-1-issue-2/analysis--education--governance-conundrum.html
[448] Alif Ailaan (2014)
[449] Alif Ailaan (2014)

performance/track of teachers are not clear. Teachers' career promotions do not necessarily link to performance. It is also unclear who has hiring and firing powers as, during the devolution transition, many staff members of districts are not aware of their own terms of reference, and the other of members of national and provincial assemblies are undefined[450].

Punjab is considered to be the leading province in education related reforms[451] and teacher rationalisation has been a goal of successive provincial governments in Punjab. The results were not positive as the number of filled posts did not match sanctioned posts in any district in 2012. In fact, the difference between filled and sanctioned posts was several thousand in some cases, such as Faisalabad[452]. As a consequence, there are large numbers of single-teacher public schools in Punjab which offer multi-grade teaching. The latter is very challenging and teachers may not receive the necessary training and skills leading the quality of education provided to be seriously affected.

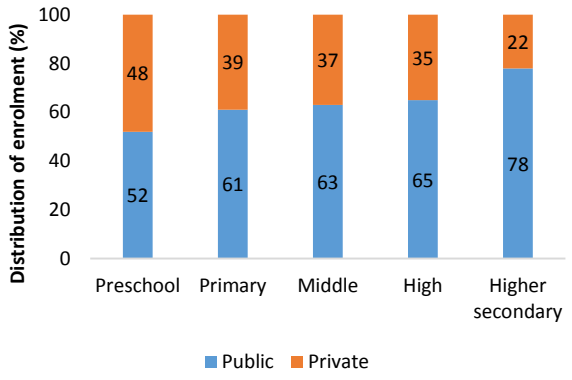
Weak government supervision and coordination over private schools:

An important role and a large supply of private schools. Private sector schools play an important role in education in Pakistan as low-fee private schools have flourished to fill in for shortages in the supply of public schools. Students in private schools tend to perform better than students in public schools (ASER 2015) and as such, private schools are generally considered to offer higher quality education. The "English medium" makes them an attractive educational offer (even though in reality these claims may not be fulfilled) for families who believe that it will open more jobs opportunities upon graduation. One of the reasons of improved performance of students in low-cost private schools over public school students is that teachers in the private sector can be (and are) fired, unlike the public sector teachers. As such, the low-cost private school teachers are incentivised to produce better results and provide higher teaching efforts even though they are generally less educated and paid significantly less than public school teachers.

In Pakistan, for the year 2015-2016, 14% of all primary schools were in the private sector (with 86% of schools in the public sector)[453]. However, the share of enrolment by the private sector is higher and stands at 39% of all enrolment at the primary level.

[450] Alif Ailaan (2014)
[451]UNDP Pakistan "Education Governance Conundrum"
http://www.pk.undp.org/content/pakistan/en/home/library/hiv_aids/development-advocate-pakistan--volume-1-issue-2/analysis--education--governance-conundrum.html
[452]UNDP Pakistan "Education Governance Conundrum"
[453] AEPAM (2017)

Figure 63 Distribution of 'Enrolment' by levels and by public and private schools



Source: AEPAM (2017)

Weak overall monitoring and accountability to the government. Given the large number of students attending private schools in Pakistan and the important role these institutions play in the overall education system in the country, the current monitoring and accountability mechanisms are very weak. Private schools have some reporting duties through the NEMIS system and fall under the responsibility of the Federal Ministry of Education and the Provinces' Education team. However, there is no systematic supervision or monitoring and schools are accountable to parents but not necessarily to public education agencies. These weak mechanisms lead to difficulties in tracking students across the systems. As such, many of the children who leave public schools to join private schools may be classified as drop-outs. Finally, the government can provide standards but it does not have the capacity to enforce quality standards on private low-fee schools. This governance failure is therefore a major barrier to access to education (to correct tracking of out of school children numbers) and a barrier to ensuring quality education.

Supply-side: Quality

The challenges of the education sector include poor quality of education due to lack of physical facilities, shortage or absence of teachers, and non-availability of suitable learning materials.

Curriculum[454]: As part of the devolution, details of the curriculum are set by the provinces but the Federal Ministry retains some overview and provides standards to meet. The National Curriculum was revised in 2006/2007 but has not been widely disseminated[455]. Since it is written in English, its use is very limited. It is also reported to be very difficult and demanding. By 2014, the teacher training on the national curriculum was only conducted in one province and the textbook development was yet to be completed[456]. In 2006, a Textbook and Learning Materials policy was developed but its impact on the quality of textbooks has been limited as the material in textbooks is often not in line with the pedagogical demands of the curriculum leading to confusion in both students and teachers[457].

[454] UNICEF (2013)
[455] UNICEF (2013)
[456] UNICEF (2013)
[457] UNICEF (2013)

Teacher qualifications and training: Policy changes have led to a requirement for higher qualifications prior to recruitment. The Alif Ailaan survey found that 69% of government teachers and 75% of private school teachers report completing either a bachelor's or master's degree[458]. However, as seen earlier, the major of the teachers' degree often fails to match the subject they are assigned to teach in school. These mismatched skills combined with very low quality pre-service training result in teachers lacking the subject knowledge as well as fundamental teaching/pedagogical techniques necessary[459]. In-service training is sporadic and has also been largely of poor quality. Teachers are therefore not well trained nor highly motivated.

Given the *poor pre-service and in-service training*, only 42% of teachers in public schools report having knowledge of the National Curriculum (and as little as 9% in Balochistan)[460]. Teachers simply apply the rote learning approach in the classroom and rely on textbooks and 'teaching to the test'. Teachers do not know how to teach critical thinking and other cognitive skills that are vital to quality education. In a positive development, Punjab has improved the in-service training system and other provinces are adapting this model to their own needs.

Learning environments: The quality of the basic infrastructure of public schools is widely regarded as very poor and unequal across the country. As high as 40% of public sector primary schools were operating without electricity, 28% did not have toilets, 25% were without boundary walls and 29% had no access to drinking water[461]. Some 7% of schools did not even have buildings and 43% had unsatisfactory buildings[462]. The overall dismal school environments are a major barrier to quality education and decrease the parents'/children's incentives to enrol and remain in schools.

Supply-side: Education Financing

Resources invested: room for improvement: Historically, Pakistan's overall national expenditure on education as a percentage of GDP has remained around 2%. Given the country's substantial spending on defence, interest payments and energy needs, expenditure on the remaining sectors, particularly on social services such as health and education, are tightly constrained. Pakistan ranks 177th, globally, in terms of public spending on education. Both the low levels of education spending and the ways in which the funds are spent contribute to explaining poor educational outcomes in terms of access and quality. With federal education spending as a percentage of total government spending standing at 7-10% in the past few years, education spending is higher at the provincial than at the federal level (see Table 32). However, allocations remain inadequate to meet the size of the educational challenges facing the country.

[458] Alif Ailaan (2014)
[459] Alif Ailaan (2014)
[460] Alif Ailaan (2014)
[461] AEPAM (2017)
[462] Pakistan Education Statistics quoted in http://reliefweb.int/report/pakistan/226m-pakistani-children-still-out-school-report

Table 32 Provincial level budget spending on education

Province	Total Budget (Rs. Million)	Education budget (Rs. Million)	% share of education in total budget
Punjab	1,447,242	286,505	20%
Sindh	739,302	147,877	20%
Khyber Pakhtunkhwa	487,880	119,721	25%
Balochistan	243,500	48,345	20%

Source: I-SAPS (2016)

Composition of spending:

The recurrent budget constitutes the major share of total education expenditures.

For 2015-2016, Sindh has allocated 91% of its educational budget to recurrent expenditures, followed by Punjab at 85%, KP at 81% and Balochistan at 79%[463]. That leaves very little spending for capital/development, which ranges from 9% (Sindh) to 21% (Balochistan) of total provincial educational budgets. Within the recurrent budgets, the share of salaries is very high across all provinces ranging from 77% in Sindh to 91% in KP.

Underutilized budgets: Overall, education budgets may be low as seen above, but they are also ineffective, particularly in certain provinces such as Sindh and Punjab that reported 21% and 18% of total education budget as unspent for 2014-2015[464]. Capital/development expenditures are not only very low but they are also under-utilized (see Table 33). Punjab had the highest rate of under-utilization in 2014-2015, spending just 46% of what was allocated for capital education budget[465].

Table 33 Percentage of Expensed Development/Capital Budgets by Provinces

Province	Allocation 2014-15 (Rs. Million)	Expenditure 2014-15 (Rs. Million)	% Expensed Budget
Punjab	38,589.72	17,620.08	46%
Sindh	11,254.01	6,508.40	58%
Khyber Pakhtunkhwa	26,106.58	25,376.16	97%
Balochistan	11,736.44	7,556.07	64%

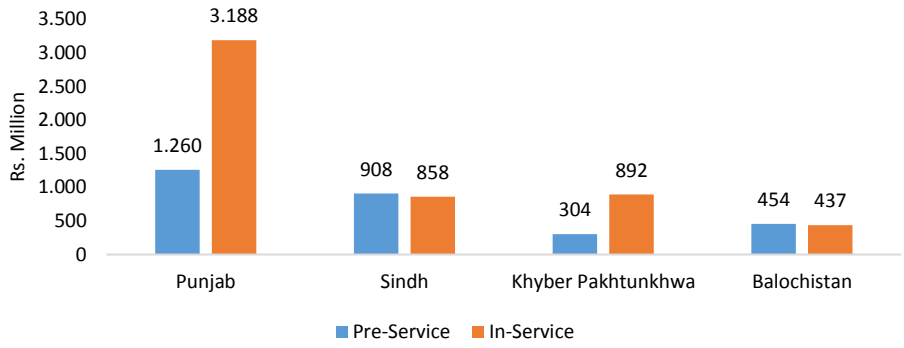
Source: I-SAPS (2016)

Inefficient budgets: Substantial spending on teachers' salaries coupled with the low quality of teachers and low performance of students (see section 2.5) make Pakistan's education budget quite inefficient. Inputs are not transformed into outputs by its education public financial management system. Punjab's lead in teacher reform and training is reflected in its budget allocation to teacher-training (see

[463] I-SAPS (2016)
[464] I-SAPS (2016)
[465] I-SAPS (2016)

Figure 64). This initiative is designed to increase the overall education budget efficiency as increased training should improve the quality of teachers and therefore raise educational outcomes.

Figure 64 Teacher Training Budgets 2015-2016 in Rs. Million



Source: I-SAPS (2016)

Fiscal decentralisation/provincial allocation mechanisms: From a governance perspective, one major challenge for fiscal decentralisation is the limited capacity of district level officials to manage and oversee large educational budgets.

Another challenge arises in designing the best fiscal allocation rules for the provinces. All provinces are given their share of funds according to the National Fiscal Commission and the provinces distribute these funds through Provincial Finance Commissions[466]. The share by province is largely consistent with population size: Punjab, the largest province, is allocated the largest share of the education budget, followed by Sindh, KP and Balochistan. However, another major ongoing debate in the education sector revolves around allocating by population or by support needed. For instance, Balochistan and KP would receive smaller education budgets based on their smaller populations but that would not take into account the additional educational needs and disparities of these poorer provinces[467] as well as their added geography and safety difficulties.

Policies [468]

Long-term strategic plans: Focus on Access, Quality and Governance

While the prioritisation of education has been stated in several development plans, the implementation of often ambitious education strategies has only been partially completed, as attested by the educational indicators presented in Section 2. The national education policy strategies in 1972, 1979 and 1992 all aimed at developing the education sector and to achieve

[466] UNICEF (2013)
[467] UNICEF (2013)
[468] See Annex 3 for further details on policies and program examples

100 percent literacy rate. The National Education Policy of 1998-2010 was only partially implemented due to unforeseen political changes resulting from the military coup[469]. The latest National Education Policy of 2009 placed great emphasis on the twin goals of equitable access to education and improving the quality of education. Key policy goals[470] included the promotion of Early Childhood Education, achieving universal and free primary education by 2015, increasing the education budget up to 7% of GDP by 2015, promoting equity in education to eliminate social exclusion and provide increased opportunities for marginalized groups, in particular girls. It also aimed at setting national standards for educational inputs/processes/outputs as well as introducing a common curriculum framework for the public and private sectors. As mechanisms for its implementation were not established and with the 2010 devolution of educational responsibilities to provinces, the 2009 NEP has become mostly a reference document and is used as a source of guidance by planners and education managers at various levels in the country.

In parallel to these National Education Plans, guided by the incentives of the Millennium Development Goals and the Education For All (EFA) agenda, another important education strategy plan was the National Plan of Action for EFA (2001-2015) which was endorsed by the first Poverty Reduction Strategy Paper (PRSP). Unfortunately this plan was also plagued with difficulties in implementation stemming from a lack of financial support[471].

The 18th Amendment and Article 25A in the Constitution created the impetus to prepare provincial and district level education sector plans whereby provinces/districts set up their own goals.

Khyber Pakhtunkhwa Education Sector Plan (KPESP) 2010-2015[472]: The Khyber Pakhtunkhwa ESP aims to achieve universal primary education, promote gender equality, achieve quality basic education and introduce government-financed private school subsidies for areas with low female enrolments. In terms of governance, the focus is on increased involvement of community and parents with the aim of increasing transparency and accountability. Given security issues, risk management has been incorporated as part of the governance reforms.

Punjab School Education Sector Plan (PSESP) 2013-2017[473]: The Punjab ESP is an educational sector plan prepared according to best practices, which developed strategies focused on improving access, quality and governance while also operationalizing the plan by identifying resources (costing) and capacity requirements for its implementation. It focuses on improved quality education, increased enrolment, the provision of free and compulsory education, meritocratic governance and a performance-based accountability system. It aims to implement the first comprehensive professional development framework for in-service teachers and explore the scaling up of public-private partnerships such as those under the Punjab Education Foundation that have shown better quality results.

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[469] AEPAM (2015)
[470] AEPAM (2015)
[471] AEPAM (2015)
[472] http://www.kpese.gov.pk/Downloads/Education%20Sector%20Plan.pdf
[473] http://aserpakistan.org/document/learning_resources/2014/Sector_Plans/Punjab%20Sector%20Plan%202013-2017.pdf

Sindh Education Sector Plan (SESP) 2014-2018[474]: The Sindh ESP focuses on increasing access to education for the most-marginalized children including girls, and improving learning outcomes, resource allocations as well as governance and accountability in the education sector. In addition it covers areas such as ICT, Education in Emergencies, Social Cohesion and Public-Private Partnership.

Balochistan Education Sector Plan (BESP) 2013-2018[475]: The Balochistan ESP has similar overall goals to the SESP on access, quality and governance/accountability (including improved teachers' management). In addition, given its geography and the dispersion of schools, it focuses on expanding alternate forms of school delivery (private and community schools), on preparing a new school language policy conducive to learning as well as focusing on improved monitoring/supervision through upgraded information collection mechanisms.

The rest of the section will cover a number of policy interventions that have had a wide range of objectives (demand-side, supply-side/governance).

Poverty: Demand side policy examples[476]

A recent update of the poverty line based on 2013-2014 survey data places around 29% of Pakistanis below the poverty, with many others vulnerable to shocks likely to push them below the poverty line[477]. Under the 2001 formula, the percentage of people below the poverty line fell by around 25 percentage points, from a high of 34.6% in 2001-02 to 9.3% in 2013-14. As such, it estimated 20 million poor people whereas the new estimate triples the number to about 60 million.

With cost of schooling and child labour being important demand-side barriers to education and with a third of the population below the poverty line, social protection policies that support poor households are a significant approach to alleviating certain demand-side barriers and improving overall access to schooling. Policies to support the access to education of children from poor households include the provision of cash, with or without conditionalities. For example, district level initiatives include educational stipend disbursements for girls in Sindh, Punjab and KP. (see Annex 5 for details on the provincial stipend programs and innovations).

Beyond these examples of stipends at the provincial or district level, a major national level social protection scheme is the **Benazir Income Support Program (BISP)**, the country's flagship national safety net programme that provides predictable income support through unconditional cash transfers to more than 5.2 million families[478]. It created a National Socio-Economic Registry based on Proxy-Means Test that covers approximately 167 million people and which is used by

[474] http://www.sindheducation.gov.pk/Contents/Menu/Final%20SESP.pdf
[475] http://emis.gob.pk/Uploads/Balochistan%20Education%20Sector%20Plan.pdf
[476] see Annex 3 for further details on the examples mentioned
[477] http://www.worldbank.org/en/results/2016/05/19/cash-transfers-help-pakistans-poorest
[478] http://www.worldbank.org/en/results/2016/05/19/cash-transfers-help-pakistans-poorest

over 30 federal and provincial organizations to improve the pro-poor targeting performance of respective social sector programmes.[479] (see Annex 5 for details on BISP)

Failing systems: Supply-side Policy Examples

Data for monitoring and evaluation: Through successive education plans, the focus on moving to evidence-based education policy and performance-based management has led to a substantial rise in the development and maintenance of educational statistics in Pakistan. These resulted in the publications of National Education Census 2005; National Education Assessment System's (NEAS) results; Provincial assessment results; reports on the achievement of targets of Education for All (EFA) and MDGs (Millennium Development Goals) and annual reports (eg. Pakistan Education Statistics) on the state of basic education indicators by the Education Management Information System (EMIS) at national and provincial levels. Finally, the Annual Status of Education Report[480] was created in 2008 and aims to provide reliable estimates of enrolment and basic learning levels of children aged 3-16. Its household-based survey design enables all children to be included – those who have never been to school or have dropped out, as well as those who are in government schools, private schools, religious schools or anywhere else[481].

Privatisation: As mentioned in earlier sections, in 2015-2016, while only 14% of primary schools were private, their share of enrolment was much larger with 39% of all children enrolled at the primary level in private schools. While more prevalent in urban centres, the trend of privatization is also on the rise in rural areas, where low-cost private schools step in in areas where government schools are not available or their quality is considered very low. The low national expenditure on the education sector (averaging 2% of GDP only) has led an increase in the demand for private education. In addition, a World Bank study[482] showed that the private provision of education even in poor rural communities is a relatively better option. Thus, in terms of policy, there are also several initiatives by the government to encourage private participation to support public education, most prominently through the work of Sindh Education Foundation (SEF) and Punjab Education Foundation (PEF).

Increased supply of alternatives to formal public schools: Other government's educational policies entail the supply of alternative schools or strengthening the quality of non-traditional schools. The various typologies of schools in Pakistan are typically divided along class lines: high quality private schools for elites, low cost private and public schools for poor, and deeni madaris (religious) schools for the poorest. While it may be an oversimplification, it has led to efforts by the government to strengthen the *madrassa* schools and thereby support the education of the poorest. Outside this classification, there is a sizeable sector of non-formal schools, which offer alternatives to formal education or instruction that can allow students to re-join formal education after dropping out.

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[479] http://www.worldbank.org/en/results/2016/05/19/cash-transfers-help-pakistans-poorest
[480] http://aserpakistan.org/index.php
[481] http://aserpakistan.org/index.php
[482] Andrabi et al (2008)

The National Commission for Human Development (NCHD) has also established over 6,000 feeder schools[483] (grade 1-3) that are enrolling about 310,000 students and aim to improve access and support enrolment for primary education.

Deeni Madaris: In 2015-2016, there were over 30,000 Deeni Madaris in Pakistan, with a total enrolment of 2.26 million[484]. These schools are also referred to as Madrassas and offer an Islamic-oriented education, usually free of charge. They also provide food, accommodation and other necessary care for their students. They are therefore particularly attractive to very poor families, especially in areas where government schools are difficult to access. (See Annex 5 for details on the NHCD pilot 'Introducing Primary Education in Madaris in Pakistan')

Non-formal Basic Education. Presently more than 12,000 Basic Education Community Schools (BECS)[485], which are part of the network of Non-Formal Basic Education Schools have been created for out-of-school children. Graduates of non-formal schools take an exam at the end of grade 5 and if they qualify/pass the examination, they are mainstreamed into grade 6 of formal schools.

Conclusion

Both the UNESCO/administrative data and the DHS data showed that Pakistan's enrolment, attendance and completion rates have improved overtime. Access to schooling has therefore generally increased across socio-economic backgrounds (including poor children) and regions. This is particularly true at the primary level both in terms of Gross Enrolment Rates and attendances rates. The increases at secondary level started from very low past baselines and as such current enrolment and attendance rates remain low in spite of the improving trends. *At the secondary level, access to schooling from children from poor backgrounds has not improved over time.*

Given the size of the education challenge in Pakistan, in spite of significant increases in primary GERs, the Out Of School Children (OOSC) rate remains at a high 23% for primary classes[486], corresponding to about 5 million children of primary-school-age that are out of school. At the middle and secondary levels OOSC rates are 51% and 68% respectively[487].

The language, provincial and urban/rural divides in access to schooling have decreased over time as have gender disparities, however being female and/or living in a rural area remain strong disadvantages in access to schooling, as well as belonging to large families with more than 5 children.

Poverty is one, if not the most, significant determinant/barrier to further schooling as seen from the DHS data, HOI and regression analyses in section 2. Regression findings are in line with the

[483] NHCD Annual Report (2015) and https://www.pakistanpoint.com/en/pakistan/news/nchd-running-6581-feeder-schools-with-31014-127630.html
[484] AEPAM (2017)
[485] AEPAM (2017)
[486] AEPAM (2017) based on table 1.4
[487] AEPAM (2017) based on table 1.4

correlations and Shapely Decomposition results i.e. with poverty and education of households as main determinants to access to schooling.

Lower access in Pakistan is linked on the demand side to parental attitude and participation in school, gender expectations (including early marriage and safety), poverty, natural disasters and migration status, refugee status, violence in schools and security concerns outside of schools (including trafficking), health (malnutrition and stunting) and socio-economic reasons such as cost of schooling, transports costs/distance to schools and child labour.

On the supply side, governance challenges include devolution transition, implementation constraints (including education officials' capacity for their new roles post 2010), varying fiscal capacity of the provinces, weak accountability systems and low incentives for performance (including low parental involvement), poor budget efficiencies, deficient teacher management and training processes. Additional supply-side issues include the schools supply bottleneck at the secondary level, difficult curriculum, language/medium of instruction and overall low quality of education and performance of students.

While being female remains a significant challenge, past policy efforts have led to significant increases in female participation in education, as seen from the higher growth rates of in female enrolment compared to male enrolment. This may be due in part to several initiatives to provide incentives for female enrolment through stipends and vouchers. Pakistan has been at the forefront of piloting and scaling several social policies supporting education enrolment of disadvantaged groups such as the poor or female students.

Article 25a and the consequent impetus for getting results in the education sector has encouraged data collection and spurred capacity building of officials at provincial and district levels for design and implementation of education plans and operations. In addition, within the larger context of competing important fiscal priorities, listing access to quality education as a fundamental right in the Constitution should support mobilization of resources towards the education sector in the medium and long-term.

Recommendations

Policies to address Gender

There have been significant improvements in female enrolments as seen in earlier sections, probably due to higher supply of schools but also gender equality measures such as the provincial incentive schemes. Pakistan has been at the forefront of piloting and scaling several social policies supporting education enrolment of disadvantaged groups such as the poor or female students. However there is a long road ahead for gender equality, and as such provincial sector plans need to continue their existing focus on supporting female enrolment. Beyond incentive schemes, campaigns could be devised to address cultural barriers and sensitize the local population to the importance of female education. Within the devolution efforts, current capacity building of provincial, district and school officials should include a strong gender component i.e. how to incorporate the gender dimension in the local planning as well as how to reach out to communities for increased female enrolments. Given the security and trafficking issues, such gender sensitization would include local police forces.

Policies to address Health

With the high incidence of stunting and malnutrition of children in Pakistan, it is imperative from a health point of view to address this great challenge but also from an education perspective as poor health affects significantly access to education and learning of students.

Policies to address Quality: Madaris

Efforts to modernize Madaris in Pakistan should be continued and the NHCD pilots evaluated and scaled. It would improve the quality of education provided to the poorest and most marginalised populations which are the main ones enrolled in Madaris. It would also, in the long run, potentially reduce the radicalisation of those populations. Pakistan could be at the forefront of efforts on prevention of radicalisation of elements in young, poor and marginalised groups.

Policies to address language

With medium of instruction being a hotly debated topic, provincial education sector plans need to make a decision for public schools, based on local and international evidence, and back their final strategic decision with financing and a thought-through implementation strategy. It may help avoid setting a new strategy but then failing to implement it and reverse the decision (as it happened in Sindh).

Policies to address Poverty

With child labour being such a strong barrier to education across Pakistan, especially for poor households, it is imperative to conduct an updated detailed child labour survey (the last one is dated from 1996) in order to design both demand and supply-side policies to address the issue and provide evidence to support implementation and enforcement of policies. A framework for cooperation and coordination between relevant agencies and the education entities should be put in place in order to address the problem holistically. This is a complex and long-term problem that will not be easily fixed but continued efforts and resources must be invested. Strengthening existing non-formal education initiatives and expanding vocational training options would also help further access to schooling by marginalized groups who would otherwise turn to child labour.

Policies to address Failing Systems (Governance, Financing, Quality)

Governance and Devolution

A central supply side challenge highlighted in the report is the devolution transition and the need to strengthen the government officials' capacity to design and implement education reforms at the provincial and district level. Weak governance structures in place need to be strengthened for increased accountability, in terms of school-based management but also for the overall teachers' training and management system as well as the budget process.

Fiscal reform

As seen earlier, the majority of the education budget goes into recurrent expenditures and the already little resources left for capital expenditures are not even fully executed. The latter expenditures are needed if the **severe secondary schools supply challenge** is to be addressed. Current fiscal allocation rules do not necessarily support provinces and districts that require additional support due to more challenging contexts such as difficult geography, being more

prone to natural disasters or experiencing security challenges. A reform of the fiscal allocation rules to provinces, as well as clear financing plans within the provincial education sector plans, are essential to improve access and quality of education.

The overall resources envelope needs to be increased as Pakistan is spending below average on education (in terms of percentage of GDP). With the inclusion of Article 25a in the Constitution, it is imperative to mobilise more resources to the sector in order to deliver on the constitutional rights of children across the country.

PPPs and Private schools. Pakistan's innovations also include setting up several public-private partnerships in the education sector which should be further explored, strengthened and scaled given the fiscal constraints and competing resource priorities. With the mushrooming of low-cost private schools over the past two decades and their important share of total enrolment in the country, it is also imperative to put in place an oversight mechanism to monitor and track private schools, especially as provinces are moving towards more evidence-based policy making and putting stronger data collection systems in place.

Implementation strategies. Over the last decades, past education plans have had difficult implementation issues which may explain the current high out of school children numbers. With the prioritization of education on the country's development agenda through the devolution of the main education responsibilities to the provinces and the far-reaching insertion of Article 25a in the Constitution since 2010, the last few recent years have shown an increased political will to tackle the access to schooling and education challenges, with the provincial level education sector plans leading to incremental changes of the education system that will hopefully reflect in future improved access and quality of education. These provincial educational sector plans have stronger focus on the implementation aspects of reforms than the previous national level education plans and are starting to include risk management/contingency plans to deal with unexpected external challenges such as natural disasters and political unrest. The overall strategies are comprehensive and address many of the key challenges and determinants to access to quality education (see earlier section detailed the provincial Education Sector Plans). However the focus on the implementation aspects needs to be even further strengthened, with clear strategies with cascading logical and incremental phases.

Cross-fertilisation of best practices across provinces and districts. Punjab is leading in terms of best practice education sector plan preparations as well as teacher management and training. Existing cross-fertilization of best practices occurs during province level meetings and district level meetings, however additional efforts to learn from provinces leading in different aspects need to be reinforced. It may lead to inspire increased political commitments and the importance of strong political commitment to education has been illustrated for instance in Khyber Pakhtunkhwa whose prioritization of education in the past years has led to remarkable improvements in education enrolments, including for girls, in spite of its enormous contextual challenges (strong patriarchal/traditional systems, low educational attainment baseline and so forth). Peer-to-peer learning (mentoring schemes, short-term exchanges of district officials etc) should be part of the overall capacity building efforts within the larger education devolution context.

RECOMMENDATIONS

In the first chapter of this report, a framework was presented for thinking about barriers to children's access to quality education. These barriers were identified in the report as poverty, location, gender, disability, language spoken/ethnicity along with system wide problems that include financing and quality issues as presented in Figure 1 in Section 1. The report focused on the ways in which OIC countries are working to address these barriers within their own country contexts. Examples of these interventions from different parts of the world, from the OIC and specifically from the case study countries were the focus of previous chapters. This section aims to distil some of the key messages and recommendations from the implementation of these programmes.

Improving access to quality education is not an easy challenge but, as presented in the previous chapters, there have been successes in removing barriers. This section will identify a number of key interventions that are of particular significance to policymakers in the OIC, paying particular attention to the importance of country context and the fact that the same policies can have substantially different results depending on where they are implemented. The key information on which interventions in the world (Chapter 1), in the OIC (Chapter 2) and more specifically in the case countries (Chapter 3) have been successful in addressing barriers will be summarized here and good approaches will be underlined as recommendations for practitioners and policy makers in member states.

Some of the recommendations that we have compiled after studying the OIC members states and cases are as follows:

1. **Alleviate the impact of <u>poverty</u> as a barrier**: The first step in reaching poor children is to make schools free and so it is vital to begin by abolishing school fees at the primary level. For instance in Uganda – an OIC country - the elimination of school fees led to significant increases in access to schooling for poor children.[488] Abolishing school fees may not be enough on its own to improve poor children's access to education since other costs such as those of textbooks, uniforms or transportation may be significant. Hence targeted transfers – similar to conditional cash transfers (CCTs) - which have been shown to work in increasing access to schools in different country contexts could be adopted as a solution where poverty remains a barrier to access.[489] However, an intervention in Morocco suggests that even unconditional cash transfers may work well in improving educational outcomes with the added benefit that they are less costly to implement since there is no administrative burden for checking who meets the conditions.[490]

   Providing children school meals could improve the demand for schools as well. School meals provide poor children with nutritional support that they may be lacking at home and provide

[488] Bertoncino, Murphy, and Wang (2002)
[489] See the examples in part "Interventions addressing poverty" in Section 1.3.2 for the World and in Section 2.3 for the OIC countries.
[490] Benhassine, Devoto, Duflo, Dupas, and Pouliquen (2015)

families with an additional incentive to send their children to school. The school feeding programme that is being implemented in Senegal emerges as an innovative example.[491] Under this programme, rather than giving ready-made food directly to the schools, the food needs to be bought from local markets using cash or vouchers that are provided to the schools and parents are involved in preparing/cooking the food.

2. **Alleviate the impact of location as a barrier:** Children living in rural areas are generally at a disadvantage in reaching schools. To solve the problem of distance, more schools could be built or set up in existing buildings in hard to reach areas. Afghanistan is one of the member countries that did this through a project applied in one of its provinces by using buildings that already exist in villages and got positive results, especially with respect to girls' enrolment.[492] Turkey used a different approach and offered free transportation to those children who did not have access to a school within the vicinity of their households.[493] From outside the OIC, an innovative approach that brought positive results was distributing bicycles in India.[494] This programme was found to lead to improvements in enrolments.

   Apart from rural areas, living in slums in urban areas can also be a disadvantage. These areas could also be prioritized in setting up schools. For instance, in Bangladesh "learning centres" have been set up in slum areas to make it easier for children living in slums to have access to schools.[495]

3. **Alleviate the impact of gender as a barrier:** Putting gender equality in education as a priority in national strategies and plans works well as a first step according to the past experiences of member countries like Mozambique and Senegal.[496] Targeting girls specifically or having a gender perspective in the programmes applied like prioritizing girls in conditional cash transfers or making the newly built schools "girl-friendly" was shown to have positive impact.[497]

   Public awareness campaigns can change the attitudes of families on girls' education. Turkey employed a public awareness campaign called "Girls Let's go to School!" and this campaign which also included household visits as well as national and local advertisements with public figures helped in improving girls' schooling.[498]

4. **Alleviate the impact of disability as a barrier:** In order to achieve this, it is important to first acknowledge that disabled children are having difficulties in accessing schools. This should be reflected in national planning and in preparing legislation. For instance, Turkey has shown

[491] See Senegal case in Chapter 3.
[492] Burde and Linden (2013)
[493] See Turkey case in Chapter 3.
[494] Muralidharan and Prakash (2013)
[495] Kabir and Parajuli (2016)
[496] UNESCO (2015)
[497] See the examples in part "Interventions addressing gender" in Section 1.3.2 for the World and in Section 2.3 for the OIC countries
[498] See Turkey case in Chapter 3 for more details.

success in preparing an intact legislation for disabled children's access to education.[499] The steps are clear from diagnosing to distributing children to schools.

However, having the legislation is not enough on its own, it should also be implemented well on the ground. In this respect, it is necessary for teachers to receive trainings on inclusive education and that schools have the right infrastructure and are more accessible. In-service training was found to be associated with increases in awareness and positive attitudes among teachers towards disabled children in OIC countries like Turkey, Bangladesh and Iran. [500]

5. **Alleviate the impact of language as a barrier:** When children are not taught in their mother tongue they have difficulties in catching up and achieving similar learning outcomes with children who can already speak the language of instruction. In this respect, over time many Sub Saharan African member countries including Burkina Faso, Cameroon, Mali, Mozambique, Niger and Senegal increased the intensity of local language use in education.[501] Outside of the OIC, Ethiopia provides primary education in seven different languages.[502] In Mali children attending bilingual schools were found to have a lower likelihood of repeating the year or dropping out and in Burkina Faso they had a higher passing rate in primary school examinations.[503] Where it is not possible to provide education these additional languages governments should make it a priority to expand pre-primary education in the formal language of instruction so that children coming from minority backgrounds are better prepared for primary school.

6. **Making the education system work better to deliver higher quality results:** First it is necessary to adequately finance the education system. As a result of their 2007 meeting in Dakar, The High Level Group on Education for All agreed that between 15 and 20 percent of government budgets should be allocated to education.[504] However, this is not the case in many OIC member countries. An increase in per child spending is correlated positively with higher scores in PISA but, after a certain spending level is reached, it is the effectiveness of the education system that matters.[505] Hence, while financing is important, it is not enough on its own to achieve the intended outcomes.

   Making schools more accountable of the results that they achieve could improve quality. Informing parents of the results of their children and of the school overall is one way of achieving this. This was applied in Pakistan where a school report card intervention was found to increase learning outcomes of children while also lowering school fees.[506] Public-private partnerships could also be instrumental in increasing the supply of schools while making them more accountable to the government. Again in Pakistan, a public-private partnership

[499] See Turkey case in Chapter 3 for more details.
[500] See Section 2.3 part "Interventions addressing disability" fır further details.
[501] According to the Intensity of Local Language Use Scoring as calculated in Albaugh (2014)
[502] UNESCO Institute of Statistics (UIS) and UNICEF (2015) and UNESCO (2016)
[503] Bender, Dutcher, Klaus, Shore, and Tesar (2005) and UNESCO (2010)
[504] UNESCO (2007)
[505] OECD (2012)
[506] Andrabi, Das, and Khwaja (2015)

programme implemented by the Sindh Education Foundation in villages of the Sindh province distributed per child subsidies to entrepreneurs and in return offered free education to children in these private schools. This led to increases in the enrolment rates in the villages in which it was implemented.[507]

Quality of education needs to be enhanced in many countries and improving teacher quality seems to be the key to improving the learning outcomes of children. Interventions that are directly targeted at teachers such as pedagogical interventions, repeated teacher training and providing performance incentives for teachers, were shown to improve learning outcomes in the countries that they were applied.[508]

Table 34 Summary of recommendations

Barrier	What works to alleviate the barrier?
Poverty	• Abolishing school fees • Cash transfers • School feeding programmes
Location	• Setting up schools in hard to reach areas • Providing means of transportation to children in hard to reach areas
Gender	• Putting gender equality in education as a priority in national strategies and plans • Targeting girls specifically • Public awareness campaigns
Disability	• Acknowledging that disabled children are having difficulties in accessing schools in national plans and strategies • Having a clear legislation from diagnosing to distributing children to schools • In-service trainings for teachers about inclusive education • Making schools more accessible in terms of infrastructure for disabled children
Language	• Providing children bilingual education opportunities • Non-formal education for the children who dropped out of school for language problems

Failing systems	• Adequately finance the education system (Around 15-20% of the government budget)
	• Making school more accountable of the results
	  ○ Providing information to parents on children's/school's education outcomes (e.g. through report cards)
	  ○ Public-private partnerships
	• Improving quality of education
	  ○ Repeated teacher trainings
	  ○ Providing performance incentives

[507] Barrera-Osorio, Blakeslee, Hoover, Linden, and Raju (2011)
[508] Evans and Popova (2015)

CONCLUSION

This report aimed to present the issue of access to quality education across OIC countries and to provide examples of different policies and programmes applied across the World and the OIC and hence to make it possible to learn from the experiences of different countries.

Education is linked with better life outcomes. Higher levels of education are positively correlated with labour market outcomes and earnings. More educated individuals and their children also have better health status. In addition to education being a basic human right, access to quality education is also an effective policy tool for governments to improve the living conditions of the population in their countries.

However, barriers and bottlenecks around the world prevent children from accessing quality education. These barriers were identified in the report as poverty, location, gender, disability, language spoken/ethnicity along with system wide problems that include financing and quality issues. These barriers present challenges for governments in achieving universal quality education. As these barriers are circumstances that children are born into and over which they do not have any control, failure to address them leads to inequalities of opportunities and can lead children into a vicious cycle of poverty. Addressing them is crucial in levelling the playing field and providing equality of opportunity for all children.

In the last two decades, OIC member countries improved access to education. However, universal primary education has not been achieved in a large number of the member countries. In 24 countries (out of 50 with data available), net enrolment rates at the primary level are lower than 90 percent. While country income is related to enrolment rates, it does not have to be the destiny of the country. Some OIC countries manage to perform better than predicted by their income levels.

Inequalities also remain in many countries in access to education as a result of the identified barriers.[509] Using data obtained from two publicly available databases (UNESCO Institute of Statistics' Database and World Bank's World Development Indicators) and with a desk review when data is not available on an indicator, poor children, children living in rural areas, girls (and sometimes boys), children not speaking the instructional language in the country and disabled children are shown to be left behind in member countries to varying degrees.

- **Poverty is a substantial barrier in many of the OIC countries.** Of the 42 OIC countries with data available, 23 have a gap in the primary net attendance rate of poor and rich children that is more than 10 percentage points and in 17 of them it is more than 20 percentage points. Furthermore, poor children are more disadvantaged in access to lower secondary education compared to primary education. In some countries poor children are almost not attending lower secondary education altogether. Poor children also have

[509] Effect of the barriers are outlined in more detail in Chapter 2 for the OIC countries in Section 2.2 Bottlenecks and Barriers

lower access to quality education as evidenced by their scores on international assessment tests compared to their richer counterparts. On average poor children score less in participating member countries in PIRLS and TIMSS compared to rich children.

- **Living in rural areas also puts children at a disadvantage but the number of countries with wide urban-rural gaps are smaller than the number of countries with wide poor-rich gaps.** In 18 countries (out of 43) the primary net attendance gap between children living in rural and urban areas is larger than 10 percentage points and in 9 of them this gap is greater than 20 percentage points in favor of the children living in urban areas. Children living in rural areas are more disadvantaged in their access to lower secondary education. They are also at a disadvantage in access to quality education as evidenced by their scores in international assessment tests. While on average children living in rural areas score less than children living in urban areas, the gaps are not as wide as the gaps between rich and poor children.

- **Large gaps in access to education between poor and rich children or children living in rural and urban areas do not seem to exist between girls and boys, at least in most of the member countries.** The largest gap between boys and girls is observed in Afghanistan where 43.7 percent of girls of primary school age attend primary school as opposed to 58.7 percent of boys. Rather than gender alone, gender together with poverty is a more important predictor of lack of access to education. In fact gender parity in access to primary education turns out to be a problem mainly for poor children. The gender parity index for the primary net attendance rate for poor children is less than 0.9 for 14 countries (out of 42), while for rich children this is the case only for 3 countries.

- **According to the desk review results disabled children are at a disadvantage in access to education.** In countries like Sudan, Chad and Indonesia, disabled children were found to be more likely to be out of school compared to their counterparts without a disability. Furthermore disability type also affects access.

- **Children not speaking the language of instruction in the country are also found to be disadvantaged in access to education.** An analysis of DHS surveys for 23 countries including a number in the OIC shows that even controlling for socioeconomic background, gender of the child and urban status, language continues to determine children's attendance in school in these countries.[510]

- **Apart from these barriers, low levels of financing and low quality education prevent children from accessing schooling and learning what they are supposed to.** Education is not a priority in most member countries' budgets. Teacher shortages, teachers' levels of education and their absence from the classrooms are problems seen in

[510] Smits, Huisman, & Kruijff (2008)

the OIC. More than half of the OIC countries spend less than 15 percent of their government budget on education.

- **In the OIC there is a widespread problem of quality in education.** Low quality education is observed as indicated by low learning achievements in comparative assessment tests like PIRLS, TIMSS and PASEC. OIC member countries generally perform worse compared to other participating counties in these tests. While in fact, participating member countries should actually be achieving better outcomes given the level of government expenditure on education.

In Chapter III of the report, case studies on countries chosen to reflect the geographic and income level diversity of the OIC. The chapter goes into more detail using microdata analysis and in-depth interviews along with a desk review to report the situation in these countries and the policies employed to remove the barriers preventing children from accessing education. The case countries are Senegal, Jordan, Pakistan and Turkey. The Human Opportunity Index is used for these case countries to provide information about access to education along with how equal access is, using micro level data (Demographic and Health Surveys).[511] Results show that Jordan is and has been very good at providing education for all children while Turkey is close to Jordan but has some way to go, especially in finishing 8 years of education. In contrast, Senegal and Pakistan have more to do compared to Jordan and Turkey. While progress has been observed in these countries both in access and equality in access, there remains significant scope for improvement.

Lastly, in the Recommendations chapter of the report, distilling information from the interventions applied across the world, in the OIC and in case countries, the responses that have been employed and that have worked are outlined.[512]

- **For the alleviation of the poverty barrier**, abolishing school fees coupled with conditional cash transfers and school feeding programmes seem to work well.
- **For the alleviation of the location barrier**, setting up schools in existing buildings in difficult to reach areas or building new schools works well. Another approach is to provide free transportation to children to allow them to reach the schools that are closest.
- **For the alleviation of the gender barrier**, putting gender equality in education as a priority in national strategies and plans works well. Targeting girls specifically or having a gender perspective in the programmes is also important. Lastly, public awareness campaigns can be implemented to change the attitudes of households.

[511] See Annex 1 for methodology and the details on the calculation of the Human Opportunity Index
[512] These interventions are outlined in more detail in Chapter 1 for the world in general, in Chapter 2 for the OIC countries and in Chapter 3 for the case countries. Chapter 4 summarizes recommendations emerging from these interventions as good examples.

- **For the alleviation of the disability barrier**, national planning and having legislation that promotes inclusive education with clear steps to be followed is important. To ensure that these goals work in practice, infrastructure development to accommodate disabled children and teacher training to increase awareness surrounding disabilities are important complementary measures.
- **For the alleviation of the language barrier**, bilingual education programmes or non-formal education programmes supporting children can be adopted.
- **For making the education system work better to deliver higher quality results**, first it is necessary to finance the system adequately (at least 15 percent of the government budget is recommended to be allocated to education). Next it is important to make schools more accountable for the results that they achieve. This could be done by making schools' education outcomes more transparent to parents. Public-private partnerships can also work well. Yet the most effective interventions for improving quality seem to be those that target teachers. In particular, pedagogical interventions, repeated teacher training and providing performance incentives for teachers seem to work well in improving education outcomes.

While country contexts are different and each country should tailor their response to answer their own needs, these interventions are underlined here to help policymakers learn about what is being applied and what works well in different country contexts. Ultimately, government will, planning, budgeting and efficient spending are the most fundamental strategies to follow for all governments. In this respect, knowledge is key for policymakers in identifying the disadvantaged groups and quality problems in their education systems in order to spend well and improve outcomes. Monitoring and evaluation would be a useful tool that should therefore be prioritized by all governments when pursuing these endeavours.

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ANNEXES

ANNEX 1: HUMAN OPPORTUNITY INDEX (HOI) CALCULATIONS

Inequalities prevent children from having the same opportunities in life. Basic services may fail to cover every child and generally the children that are excluded are not random. Personal circumstances that the children have no control over might put children at a disadvantage in life starting from the time that they were born.

HOI was initially constructed by the World Bank in the study by Barros and others (2009) to measure inequality of opportunities for children in Latin America. So far it has been used in other multi-country studies including South Asia (Rama et al, 2015), Africa (Dabalen et al, 2015) and also for single countries including Pakistan (Newman, 2012) and Egypt (Aran and Ersado, 2013).

In this report opportunities related to education are examined. The specific indicators that are used throughout every case study are i) attendance in school of 6-11 year olds, ii) attendance in school of 12-15 year olds, iii) finishing 5 years of education for 12-15 year olds, iv) finishing 8 years of education for 16-18 year olds. And the circumstances that children have no control on are taken as location of the household, region of the household, ethnicity/language (when available)[513], gender of the child, education level of the household head and household wealth.

Human Opportunity Index (HOI) is a synthetic index that measures coverage of a service and penalizes it for systematic inequalities in between predefined groups. Hence HOI shows if the playing field is tilted for the children from the beginning or not.

HOI is measured simply by multiplying the average coverage rate of a service with an index to measure penalty in case there are inequalities in access in between groups.

$$HOI = \bar{C}(1 - D)$$

In the equation above $\bar{C}$ is the average coverage rate of the service and D is the dissimilarity index that measures the inequality of opportunity. D takes a value of 0 if the services are distributed equally in which case HOI will be equal to the average coverage rate $\bar{C}$. Dissimilarity index D is calculated using the equation below:

$$D = \frac{1}{2\bar{C}} \sum_{i=1}^{m} \beta_i |\bar{C} - C_i|$$

Here i is the specific circumstance group and C_i is the coverage of that group. β_i denotes the share of that group in total population of children and m is the total number of circumstance groups.

[513] Ethnicity and/or language is not reported for children but instead reported for women answering the women's questionnaire of DHS. When there are more than 1 woman in a household answering this questionnaire, the mode is taken. Hence this variable proxies the household ethnicity/language.

HOI increases when coverage is increased or inequality is decreased. HOI takes a value of 100 when 100 percent of the children are covered and there is no dissimilarity/inequality and hence D=0. And it takes a value of 0 when there is no coverage or when there is absolute inequality and hence D=1. **Hence taking two countries with same coverage rate, HOI will be lower in the one where there is higher inequality.**

In order to measure how each circumstance contributes to inequality a decomposition method was proposed called Shapley decomposition. This method measures the marginal impact of each component on the D index when it is added as a circumstance. The contributions of each circumstance then add up to 100 percent.

When an additional circumstance is added and D index is calculated, the circumstances that were already included in affects the result, hence when the marginal contribution of each circumstance is being measured this circumstance is added as a new component to all different combinations of circumstances and the contribution to inequality is calculated by taking the average of these values.

ANNEX 2: SENEGAL

Annex Table 1 Senegal DHS 2005 and 2015 Cross-tabulations

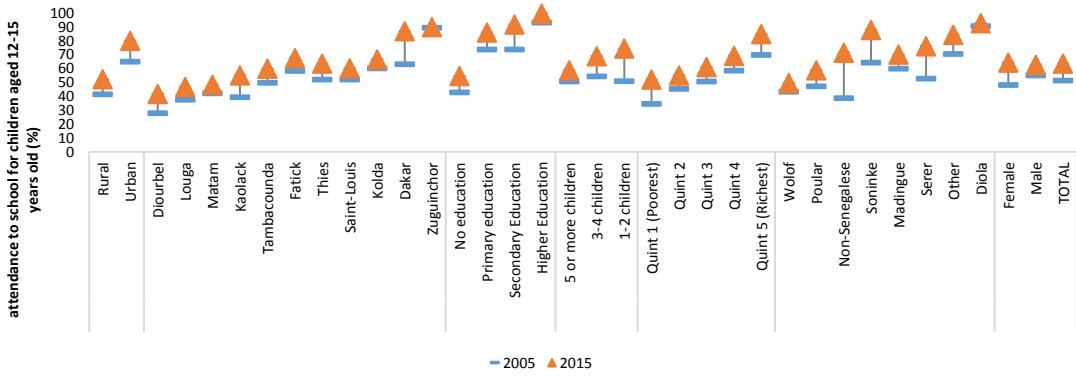
		Attendance in		Attendance in		Finishing 5		Finishing 8	
		2005	2015	2005	2015	2005	2015	2005	2015
Urban/Rural Location	Rural	42.6	43.1	41.4	52.2	16	32.4	4.1	21.9
	Urban	69.4	73.6	64.9	79.9	44.6	60.7	26.6	51.2
Region	Diourbel	25.5	29.3	27.8	41.6	13.2	19.4	7	13.9
	Louga	36.7	33.2	37.5	46.6	15.8	25.4	6.9	26.1
	Matam	43.1	41.2	42	48.4	21.8	32.7	5.1	20.7
	Kaolack	41.4	41.9	39.3	54.9	20.1	37.4	11.2	29.7
	Tambacounda	46.2	51.4	49.7	59.9	24.7	48.8	8.9	22.5
	Fatick	55.6	53.8	58.3	67.4	27.9	41.2	11.9	30.8
	Thies	51.9	60.7	52.1	63.5	27.7	38.4	16.4	34.1
	Saint-Louis	51.5	61.4	51.9	60.1	26.4	49	11.6	42.6
	Kolda	60.6	62	60.1	66.5	20.4	44.4	5.2	27.8
	Dakar	75.3	78.6	63	86.9	48.3	70.2	29.7	55.5
	Zuguinchor	85.1	83.6	89.4	89.9	36.6	64.7	19.3	62
Household head's education	No education	44.9	45.7	42.8	54.6	20.6	35.3	8.8	26.4
	Primary education	70.6	77.4	73.8	85.8	37.9	56.6	22.4	47.4
	Secondary Education	80.5	82.9	73.8	91.6	55.4	79.9	38.3	66.8
	Higher Education	87.8	93.4	93	99.5	77.2	91.2	46.3	73.4
Number of children at home	5 or more children	50.1	50.5	50.7	58.7	25.1	37.8	12.3	29
	3-4 children	54.2	61.6	54.4	68.9	31.8	49.9	16.6	39
	1-2 children	64.6	69.2	50.9	74.3	35.8	59.5	20.2	42.2
Asset quintiles	Quint 1 (Poorest)	38.2	43.8	34.4	52	10.3	32.1	1.2	16.5
	Quint 2	45.4	45.9	45.3	55.1	16.6	33.3	2.8	24.7
	Quint 3	50.9	54.2	50.7	60.9	25.5	40.7	10.7	34.8
	Quint 4	60.6	58	58.5	69.1	36.4	52.2	17.8	38.1
	Quint 5 (Richest)	77	79.4	69.8	84.8	54.6	66.5	35.9	59.8
Ethnicity	Wolof	44	38.3	43.3	49.5	25.4	33.1	12.7	28.4
	Poular	49.7	54.4	47.2	58.6	25.4	42.5	10	29.1
	Non-Senegalese	51.9	56.3	38.6	71.3	26.1	44.8	14	20.9
	Soninke	60.9	61.2	64.3	87.7	31.3	51.4	23.9	47.4
	Madingue	61.4	61.8	59.9	69.9	30.8	51.9	15.4	33.6
	Serer	56.1	70.6	52.8	76.1	26.2	48.8	17.8	38.1
	Other	69.9	82.6	70.4	84.2	39.9	51.8	23.4	57.9
	Diola	83.1	84.4	90.5	92.6	44.1	77.1	23.6	66.1
Gender	Female	53.1	55.7	48	64.3	26.5	45.4	14	35.4
	Male	51.5	54.1	55	62.6	30	42.4	17.1	34.7
TOTAL	**TOTAL**	**52.3**	**54.9**	**51.4**	**63.5**	**28.2**	**43.9**	**15.4**	**35**

Note: Authors' calculations using DHS 2005 and 2015. Ethnicity is not the ethnicity of the child but instead the ethnicity of women responding to the women's questionnaire. If there are more than 1 woman in the household responding to the questionnaire the mode is taken. Hence this variable proxies the ethnicity of household members in the household.

Annex Figure 1 Senegal DHS 2005 and 2015 Correlations

A. Attendance in school (6-11 year olds)

B. Attendance in school (12-15 year olds)



C. Finishing 5 years of education (12-15 year olds)

D. Finishing 8 years of education (16-18 year olds)

Note: Authors' calculations using DHS 2005 and 2015.

Probit regression methodology and results for Senegal

Probit regressions

The second analysis used in the report is the probit regression method. The effect of circumstances on school attendance and finishing school for children is measured using probit regression making use of the most recent DHS dataset and another DHS dataset from 10 years ago or more for each country. These regressions show the degree of the effect of circumstances and which circumstances continue to matter. The probit equation that was used is as follows:

$$P(y) = \varphi(X'\beta)$$

The circumstance variables X that are used in the probit regression is the same as the variables that are used in HOI. These are location of the household, region of the household, ethnicity/language (when available), gender of the child, education level of the household head and household wealth.

Probit Results

Regression results confirm the negative effect of circumstances of children on children's education outcomes pointing to persistent inequality of opportunities in Senegal. All circumstances turn out to have significant negative association with education outcomes in changing degrees. In summary the results are as follows:

- Living in rural areas is negatively associated in increasing degrees with all education indicators except finishing 5 years of education.
- Living in some of the regions decreases the likelihood of attendance or finishing education in 2015 while that was not the case in 2005.
- Negative impact of having a household head with a low level of education is higher in 2015 as opposed to 2005.

- Ethnicity seems to have a negative impact as well on education outcomes and for some groups the negative effect increases from 2005 to 2015.
- Negative effect of living in poorer households is decreasing for school attendance but this improvement is not observed for finishing 5 or 8 years of education.
- When it comes to gender, boys not girls seem to be the disadvantaged group in Senegal.

A detailed analysis of the results for each indicator can be found below:

Attendance in school for 6-11 year olds

Living in rural areas (as opposed to living in urban areas), living in regions Diourbel, and Louga (as opposed to living in Dakar), having a household head that has no education (as opposed to having a household head with a higher education degree), living in a household with 5 children or more (as opposed to with 1 or 2 children), living in a household that is in the 1st, 2nd, 3rd or 4th wealth quintile (as opposed to being in the 5th – the richest- quintile), being Wolof, Poular, Mandingue or non-Senegalese (as opposed to being "other") and lastly being a boy are all significantly and negatively associated with attending school for 6-11 year olds in 2015.

- Compared to 2005, in 2015 the negative marginal effect of living in rural areas have increased. In 2005, children living in rural areas were 5.9 percentage points less likely to attend school which became 14.7 percentage points by 2015.
- The negative impact of living in Louga became significant in 2015. In contrast, negative impact of living in Diourbel decreased, while for Thies it became insignificant.
- Living in a household with a household head that has no education (compared to a household head with higher education degree) decreases the likelihood of school attendance more in 2015 as opposed to 2005. In contrast, living in a household head with some degree of education while lower than higher education does not have a significant impact on attendance in school.
- Living in a household with 3-4 children used to be negatively associated with school attendance in 2005 while the significance of this effect disappeared in 2015. But the negative effect of living in a household with 5 children or more persists.
- Low levels of household wealth are still negatively associated with school attendance but it's the marginal effect decreased over time. For instance children in the poorest quintile were 33.3 percent less likely to attend school as opposed to children in the richest quintile in 2005. This value dropped down to 24.7 percent in 2015.
- Ethnicities Wolof, Poular and being non-Senegalese continue to have a significant negative correlation with school attendance (compared to ethnicity category "other"). Furthermore their marginal effect is higher in 2015. Ethnicity group Mandingue which did not use to have a significant effect in 2005 have a negative effect on attendance in 2015.
- In 2005, being a girl did not have any significant effect on attendance while by 2015 it was significantly and positively associated with attendance. Being a girl increases the likelihood of school attendance for 6-11 year olds by 3.1 percentage points which actually means that being a boy decreases the likelihood of school attendance for children aged 6-11 years old.

Attendance in school for 12-15 year olds

Living in rural areas (as opposed living in urban areas), living in regions Diourbel, Matam and Thies (as opposed to living in Dakar), having a household head that has any degree less than higher education, living in a household with 5 children or more (as opposed to with 1 or 2 children), living in a household that is in the 1st, 2nd, 3rd or 4th wealth quintile (as opposed to being in the 5th – the richest- quintile), being Wolof, Poular, or Mandingue (as opposed to being "other") and lastly being a boy are all significantly and negatively associated with attending school for 12-15 year olds in 2015.

- Compared to 2005, in 2015 the marginal effect of living in rural areas has increased. In 2005, children living in rural areas were 8.5 percentage points less likely to attend school which became 10.1 percentage points by 2015.
- The negative impact of living in Diourbel became significant in 2015 compared to 2005. Living in Matam or Thies used to be significantly and positively associated with school attendance in 2005 while in 2015 this relationship became negative.
- Living in a household with a household head that has no education, primary education or secondary education (compared to a household head with higher education degree) decreases the likelihood of school attendance more in 2015 as opposed to 2005.
- Number of children in the household did not use to affect attendance in school for 12-15 year olds while in 2015 living in a household with 5 children or more was negatively associated with attendance.
- Low levels of household wealth are still negatively associated with school attendance but its impact decreased over time. For instance children in the poorest quintile were 34.1 percent less likely to attend school as opposed to children in the richest quintile in 2005. This value dropped down to 24.6 percent in 2015.
- Ethnicities Wolof, Poular and Mandingue continue to have a significant negative correlation with school attendance (compared to ethnicity category "other"). Furthermore their marginal effect is higher in 2015.
- In 2005, being a girl was negatively and significantly associated with attendance, decreasing its likelihood by 7.5 percentage points. By 2015 it became significantly and positively associated with attendance, increasing it 4.4 percentage points. In other words boys aged 12-15 years old, not girls are at a disadvantage in attending school as well.

Finishing 5 years of education for 12-15 year olds

Living in rural areas (as opposed living in urban areas), living in regions Diourbel, Louga and Thies (as opposed to living in Dakar), having a household head with no education or primary education (As opposed to with higher education), living in a household with 5 children or more (as opposed to with 1 or 2 children), living in a household with 5 or more children (as opposed to 1-2 children), living in a household that is in the 1st, 2nd, 3rd or 4th wealth quintile (as opposed to being in the 5th – the richest- quintile), being Wolof (as opposed to being "other") and lastly

being a boy are all significantly and negatively associated with finishing 5 years of education for 12-15 year olds in 2015.

- The negative correlation of living in rural areas decreased in time for only this indicator. In 2005, children living in rural areas were 7.6 percentage points less likely to attend school which became 5.8 percentage points by 2015.
- In 2005 living in regions Louga and Thies had no significant impact on finishing 5 years of education for 12-15 year olds while in 2015 living in these regions decreased the likelihood of finishing 5 years of education by 12, 8.5 and 15.2 percentage points (compared to living in Dakar). The negative impact of living in Diourbel also increased in the same time period.
- Living in a household with a household head that has no education or primary education (compared to a household head with higher education degree) decreases the likelihood of finishing school more in 2015 as opposed to 2005. But the significant negative effect of having a household head with secondary education disappeared in 2015.
- Both in 2005 and 2015 living in a household with 5 children or more decreased the likelihood of finishing 5 years of education. The impact was 6.3 percentage points in 2005 and 7.3 percentage points in 2015.
- Low levels of household wealth is still negatively associated with finishing 5 years of education and the impact is more or less the same in 2005 and 2015.
- Only the ethnicity Wolof continues to have a significant negative association with finishing 5 years of education (compared to ethnicity category "other"). Furthermore its marginal effect is higher in 2015.
- In 2005, being a girl was negatively and significantly associated with finishing 5 years of education, decreasing its likelihood by 4.7 percentage points. By 2015 it became significantly and positively associated with attendance, increasing it 4.6 percentage points. In other words boys are again at a disadvantage regarding this indicator.

Finishing 8 years of education for 16-18 year olds

Living in rural areas (as opposed living in urban areas), living in region Diourbel (as opposed to living in Dakar), having a household head with no education (as opposed to with higher education), living in a household with 5 children or more (as opposed to with 1 or 2 children), living in a household with 5 or more children (as opposed to 1-2 children), living in a household that is in the 1st, 2nd, 3rd or 4th wealth quintile (as opposed to being in the 5th – the richest-quintile), being Wolof, Poular, Mandingue, Soninke or non-Senegalese (as opposed to being "other") are all significantly and negatively associated with finishing 8 years of education for 16-18 year olds in 2015.

- The negative association with finishing 8 years of education of living in rural areas increased over time. In 2005, children living in rural areas were 6.2 percentage points less likely to attend school which became 8.9 percentage points by 2015.

- The negative impact of living in Diourbel increased once more in the same time period for this indicator as well.
- Living in a household with a household head who has no education (compared to a household head with higher education degree) decreases the likelihood of finishing 8 years of education more in 2015 as opposed to 2005. In 2005, living in a household with household head with no education decreased the likelihood for finishing school for 16-18 year olds by 7.9 percentage points while in 2015 this value became 20.2 percentage points.
- Number of children living in the household did not affect finishing 8 years of education neither in 2015 nor in 2005.
- Low levels of household wealth is still negatively associated with finishing 8 years of education and the negative effect is higher in 2015. In 2005 children in the poorest quintile were 12.5 percent less likely to finish 8 years of education while in 2015 they were 27.6 percentage points less likely.
- Ethnicities Wolof, Poular and non-Senegalese continue to have a significant negative association with finishing 8 years of education (compared to ethnicity category "other"). Furthermore their marginal effect is higher in 2015.
- In 2005, being a girl was negatively and significantly associated with finishing 8 years of education, decreasing its likelihood by 1.9 percentage points. By 2015 this effect became insignificant.

Annex Table 2 Probit regression results (reporting marginal effects)

	Attendance 6-11 year olds		Attendance 12-15 year olds		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	2005	2015	2005	2015	2005	2015	2005	2015
location: Rural	-0.059*	-0.147***	-0.085**	-0.101***	-0.076***	-0.058*	-0.062***	-0.089**
	(0.030)	(0.041)	(0.034)	(0.037)	(0.022)	(0.033)	(0.019)	(0.037)
region: Diourbel	-0.320***	-0.276***	-0.094	-0.261***	-0.107***	-0.247***	-0.028	-0.195***
	(0.050)	(0.065)	(0.064)	(0.079)	(0.037)	(0.049)	(0.021)	(0.038)
region: Fatick	-0.017	-0.083	0.214***	-0.014	0.122**	-0.033	0.063*	-0.018
	(0.062)	(0.072)	(0.052)	(0.107)	(0.047)	(0.074)	(0.035)	(0.078)
region: Kaolack	-0.057	-0.101	0.098*	-0.109	0.019	-0.045	0.033	-0.005
	(0.062)	(0.065)	(0.056)	(0.084)	(0.037)	(0.060)	(0.032)	(0.062)
region: Kolda	0.143**	0.063	0.307***	0.004	0.027	0.015	0.017	-0.031
	(0.057)	(0.098)	(0.050)	(0.092)	(0.039)	(0.069)	(0.033)	(0.064)
region: Louga	-0.076	-0.120*	0.095*	-0.093	-0.035	-0.120*	-0.017	-0.043
	(0.051)	(0.065)	(0.050)	(0.082)	(0.034)	(0.062)	(0.028)	(0.068)
region: Matam	-0.034	-0.109	0.125*	-0.140*	0.023	-0.085	0.005	-0.087
	(0.055)	(0.078)	(0.065)	(0.079)	(0.049)	(0.055)	(0.028)	(0.068)

region: Saint-Louis	0.001	0.034	0.173***	-0.095	0.002	0.034	0.001	0.028
	(0.051)	(0.076)	(0.048)	(0.079)	(0.034)	(0.062)	(0.028)	(0.084)
region: Tambacounda	-0.044	0.022	0.178***	-0.048	0.087*	0.066	-0.003	-0.040
	(0.060)	(0.076)	(0.058)	(0.085)	(0.047)	(0.069)	(0.027)	(0.069)
region: Thies	-0.092*	-0.048	0.110**	-0.155*	-0.005	-0.152***	-0.009	-0.070
	(0.051)	(0.070)	(0.050)	(0.088)	(0.032)	(0.051)	(0.022)	(0.057)
region: Zuguinchor	0.239***	0.148	0.382***	0.096	0.073	0.029	0.013	0.054
	(0.054)	(0.099)	(0.038)	(0.092)	(0.047)	(0.074)	(0.035)	(0.075)
household head's education: No education	-0.208***	-0.307***	-0.468***	-0.789***	-0.314***	-0.353***	-0.079**	-0.202***
	(0.069)	(0.064)	(0.058)	(0.015)	(0.062)	(0.085)	(0.039)	(0.077)
household head's education: Primary education	-0.074	-0.110	-0.291***	-0.863***	-0.174***	-0.233***	-0.031	-0.100
	(0.077)	(0.079)	(0.080)	(0.010)	(0.035)	(0.067)	(0.021)	(0.062)
household head's education: Secondary education	-0.000	-0.126	-0.320***	-0.776***	-0.099**	-0.070	0.001	0.041
	(0.082)	(0.081)	(0.069)	(0.013)	(0.043)	(0.093)	(0.029)	(0.077)
# of children in household: 3-4	-0.075**	-0.005	0.024	-0.004	-0.033	-0.003	-0.011	-0.006
	(0.031)	(0.033)	(0.038)	(0.035)	(0.027)	(0.034)	(0.015)	(0.037)
# of children in household: 5 or more	-0.055**	-0.057*	0.044	-0.049	-0.063***	-0.073**	-0.021	-0.047
	(0.026)	(0.033)	(0.034)	(0.031)	(0.024)	(0.032)	(0.016)	(0.032)
wealth: Poorest	-0.333***	-0.247***	-0.341***	-0.246***	-0.263***	-0.246***	-0.125***	-0.276***
	(0.044)	(0.087)	(0.046)	(0.085)	(0.023)	(0.056)	(0.013)	(0.043)
wealth: Poorer	-0.296***	-0.245***	-0.276***	-0.233***	-0.215***	-0.234***	-0.113***	-0.198***
	(0.039)	(0.072)	(0.042)	(0.072)	(0.023)	(0.050)	(0.012)	(0.043)
wealth: Middle	-0.205***	-0.143***	-0.170***	-0.142**	-0.142***	-0.137***	-0.072***	-0.114***
	(0.038)	(0.055)	(0.038)	(0.061)	(0.023)	(0.044)	(0.013)	(0.041)
wealth: Richer	-0.138***	-0.122**	-0.101***	-0.107*	-0.097***	-0.088**	-0.060***	-0.082**
	(0.035)	(0.053)	(0.034)	(0.061)	(0.023)	(0.040)	(0.014)	(0.039)
ethnicity: Wolof	-0.168***	-0.368***	-0.183***	-0.286***	-0.094***	-0.123**	-0.053**	-0.217***
	(0.051)	(0.055)	(0.065)	(0.073)	(0.036)	(0.049)	(0.023)	(0.048)
ethnicity: Poular	-0.111**	-0.217***	-0.134**	-0.161**	-0.027	-0.013	-0.042**	-0.158***
	(0.046)	(0.063)	(0.054)	(0.069)	(0.039)	(0.047)	(0.021)	(0.048)
ethnicity: Serer	0.078	0.070	0.004	0.082	-0.024	0.116*	0.015	-0.049
	(0.060)	(0.071)	(0.075)	(0.077)	(0.042)	(0.065)	(0.033)	(0.064)
ethnicity: Mandingue	-0.064	-0.181***	-0.124*	-0.150*	-0.037	-0.012	-0.027	-0.135***
	(0.062)	(0.056)	(0.066)	(0.086)	(0.041)	(0.057)	(0.021)	(0.037)

ethnicity: Diola	0.056	-0.199	0.169**	0.108	0.005	0.140*	0.022	-0.023
	(0.061)	(0.131)	(0.071)	(0.103)	(0.047)	(0.072)	(0.040)	(0.063)
ethnicity: Soninke	-0.059	-0.107	-0.052	0.146*	-0.056	0.084	0.003	-0.175***
	(0.072)	(0.099)	(0.101)	(0.081)	(0.045)	(0.096)	(0.026)	(0.060)
ethnicity: non-Senegalese	-0.177***	-0.285***	-0.265***	-0.115	-0.092	-0.122	-0.045*	-0.177**
	(0.061)	(0.068)	(0.077)	(0.103)	(0.063)	(0.080)	(0.024)	(0.079)
gender: Female	0.011	0.031**	-0.075***	0.044**	-0.047***	0.046**	-0.019	-0.027
	(0.014)	(0.015)	(0.017)	(0.018)	(0.014)	(0.019)	(0.012)	(0.025)
Observations	10,487	6,917	6,382	3,492	6,354	3,478	4,080	2,256

*Note: Authors' calculations using DHS 2005 and DHS 2015. Marginal effects are reported, obtained using "dprobit" command in STATA. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Omitted groups are: location: Urban, region: Dakar, household head's education: Higher education, number of children in household: 1-2 children, wealth: Richest, ethnicity: Other, gender: Male.*

Legend

Marginal effect is significant at least at p<0.1 and the effect is negative and larger than or equal to 5.0 percent and smaller than 10.0 percent.

Marginal effect is significant at least at p<0.1 and the effect is negative and larger than or equal to 10.0 percent and smaller than 20.0 percent.

Marginal effect is significant at least at p<0.1 and the effect is negative and larger than or equal to 20.0 percent.

Policies and Programmes

Box 6 School Feeding program in Senegal [514][515]

The World Food Program (WFP) has been supporting the "school feeding program" in Senegal since the 1970s. In its current version, it aims to contribute to the achievement of educational objectives covered by the PAQUET.

Objectives: The goals are to improve the enrolment rate and academic performance of learners, improve their ability to concentrate and learn, contribute to meeting the nutritional needs of schoolchildren, and build the government for the establishment of a national autonomous and sustainable school feeding and nutrition program.

Beneficiaries/Target: The WFP focuses this assistance on areas affected by food insecurity and malnutrition, where school indicators are lowest. This intervention has reached about 500,000 children annually, representing about 55% of the beneficiaries of the country's school feeding programs and covering about 23% of the pupils in public elementary schools. However, due to difficulties in covering planned needs, the WFP was forced, through a concerted approach with the Ministry of National Education, to gradually reduce its

[514] WFP 2014 internal programme document
[515] CRES (2013)

assistance to 300,000 pupils during the school year 2014/2015 and 112,000 pupils (609 schools) for the current school year.

Implementation of the activity: The activity is implemented in partnership with the Ministry of National Education (MEN).

Format: On the basis of its availability, WFP provides assistance in food and/or cash, which allows schoolchildren to benefit from one daily meal at school with 2 lunches (Full days: Tuesday and Thursday) and 3 breakfasts (the other 3 days: Monday, Wednesday and Friday).

Management: At the school level, the school canteen (Procurement, Storage / Food Management, Meal Preparation) is operated by the School Management Committee (CGE), in which parents of pupils are heavily involved. The overall supervision of the program is carried out by the Division of School Canteens (DCaS) of MEN, in conjunction with WFP and other partners.

Monitoring: Regular monitoring of this program is carried out by canteen officers of the Education and Training Inspectorates (IEF) under the supervision of the canteen officers of the Inspection of Academies (IA), in conjunction with the WFP sub-offices at the regional level and at the national level.

Innovation: The innovative approach of the school feeding program centers around (1) the involvement of parents in the canteen which improves general parents' participation in school management (2) create and establish a very local supply chain for the provision of WFP's food support to the local economies (e.g. the 'Purchase from Africans for Africa' project or 'Community fields' both initiatives that help local food production) (3) the introduction of the "cash & voucher" method of supplying school canteens through food vouchers from local retailers.

Evaluation: A randomized trial was used to evaluate the impact of the school feeding programs on the performance of rural primary schools in Senegal. In the four poorest regions of the country, 120 schools that do not have school canteens were selected and were assigned randomly and evenly (60 each) to control and treatment groups. The results showed that the school feeding program has a *positive impact on the overall score of the student*s (5.51 points) with a large impact on younger students' (second grade) scores. The existence of a student-parents association improves the impact of feeding. No impact was found when the class size is higher than 40 students. The *impact on cognitive skills* is greater in younger students (aged between 6 and 7 years). All results are significant at the 5% level. However, school feeding does not significantly improve the internal efficiency of public primary schools: dropout and repetition have certainly reduced, but no results are statistically significant. On the nutritional aspect, canteens have *positive external effects on dietary* intake of children.

Box 7 Impact Evaluation of School Grants and Education Quality in Senegal

Under the Second Quality Education for All (QEFA2) project, the government provided grants directly to schools under a results-based framework. The initiative entailed enhanced focus on learning, use of innovative teaching practices, improved management and closer

supervision of teachers. The impact evaluation[516] showed that the initiative led to improved learning outcomes, especially in math and French in early grades. According to the results Grade 3 students in intervention schools (schools which had improvements and received grants) showed superior performance in these subjects than Grade 3 students in control schools (those schools which did not have the intervention). The program had a large and statistically significant effect especially for areas in the southern part of the country. The report concluded that "a well-targeted program improving resources to schools is likely to have important effects on student performance if it represents a permanent increase in school spending"[517].

Box 8 **Modernization of Daaras**

Since the Daaras Inspectorate was established in 2008, under the supervision of the Ministry of Education, the Senegalese State has set up the concept of "Modernization of Daaras" with the objective of responding to the educational aspirations of parts of their population.

What then does this modernization of the Koranic schools in Senegal mean? According to the Ministry of Education, this modernization has several aspects:

- The establishment of a harmonized curriculum based on a tri-lingual approach: Teaching in the local language (Wolof, Pulaar, Serer, etc.), progressive introduction of French and Arabic *(language)*
- Rehabilitation and equipment of Daaras *(learning environment)*
- The establishment of a regulatory framework *(governance)*

Various relevant policy programs include:

- Project of trilingualism and vocational training between 2002 and 2007, with the Directorate of Literacy and National Languages (DALN), financed by UNICEF in the regions of Dakar, Thiès, Diourbel and Kaolack *(language and curriculum)*
- USAID/EDB project for the introduction of the French language in the regions of Dakar, Louga, Saint Louis and Matam between 2008 and 2013 *(language and curriculum)*
- World Bank project (PAQUEEB) which supports 100 Daaras in Senegal with the introduction of the French language (in progress) *(language, curriculum, teacher training)*
- The Project of Support to the Modernization of the Daaras (PAMOD) financed by the Islamic Bank of Development (ongoing) but implemented by the Ministry of Education. The project will benefit nearly 30,000 learners, who will thus have a better physical,

[516] World Bank (2013)
[517] WB report "School grants and Education Quality in Senegal"

health, nutritional and social environment that should decrease young people's vulnerabilities and incentives/needs for begging. *(learning environment)*

The last three projects are in line with Senegal's development policy aimed at reducing poverty and achieving universal schooling of 10 years through the promotion of **inclusive education responding to the specific needs of the population.**

ANNEX 3: TURKEY

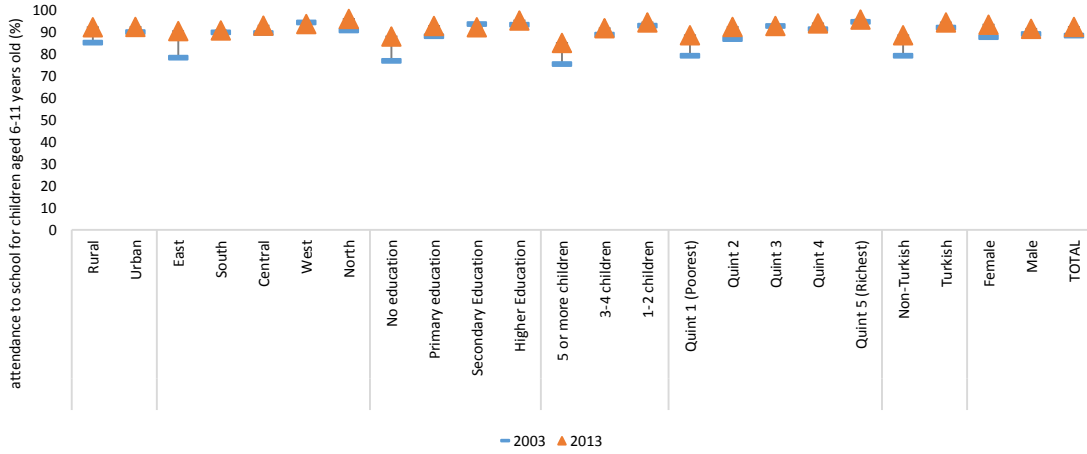
Annex Table 3 Turkey DHS 2003 and 2013 Cross-tabulations

		Attendance in school (6-11 year olds)		Attendance in school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
		2003	2013	2003	2013	2003	2013	2003	2013
Urban/Rural Location	Rural	85.1	92.1	75.8	87.6	83.7	95.4	56.9	89
	Urban	89.9	92.3	86.5	94.2	89.9	98.4	73.4	93.3
Region	East	78.2	90.3	71.6	87.2	70.2	94.8	48.8	84
	South	89.8	90.6	84.6	92.9	89.3	97.4	71.3	94
	Central	89.5	92.8	90	95.7	96.4	99.1	78.3	97.8
	West	94.3	93.5	84.7	93.8	93.6	98.8	71.6	93.4
	North	90.6	95.8	87.4	96.2	94.7	98.4	75.6	97.5
Household head's education	No education	76.8	87.8	67	86.2	67.8	93.1	41.6	77.1
	Primary education	88	92.6	79.6	90.9	87.8	97.8	64	92.2
	Secondary Education	93.6	92.1	94.1	95.5	96.9	98.9	87.2	96.3
	Higher Education	93.2	95.2	99.3	98.7	97.3	98.5	97.2	99.8
Number of children at home	5 or more children	75.3	84.9	64	84.3	62.8	91.7	27.9	75.7
	3-4 children	88.7	91.6	82.1	92.4	85.2	97.5	43	81.5
	1-2 children	92.8	94.2	88.1	94.2	93.9	98.3	71.1	93.2
Asset quintiles	Quint 1 (Poorest)	79.1	88.5	65.4	83.5	68.5	94.5	43.9	80.7
	Quint 2	86.7	92.3	78.5	91.4	86.8	97.6	58.4	91.8
	Quint 3	92.6	92.6	86.4	95.1	93.3	98.7	71.7	94.9
	Quint 4	91.2	93.9	89.8	97	95.5	99.4	75.2	95.5
	Quint 5 (Richest)	94.6	95.6	97.2	99.2	97.4	99	92.8	99.8
Language	Non-Turkish	79.2	88.5	69.6	86.3	70	94.8	41.4	79.4
	Turkish	91.9	94.3	88.3	95.3	94.7	99	77.3	97.1
Gender	Female	87.5	93.3	75.6	90.5	85	97.2	56.5	90.2
	Male	89.1	91.3	89.5	94.6	90.3	98	79.3	94.3
TOTAL	TOTAL	88.3	92.3	82.7	92.5	87.7	97.6	68	92.3

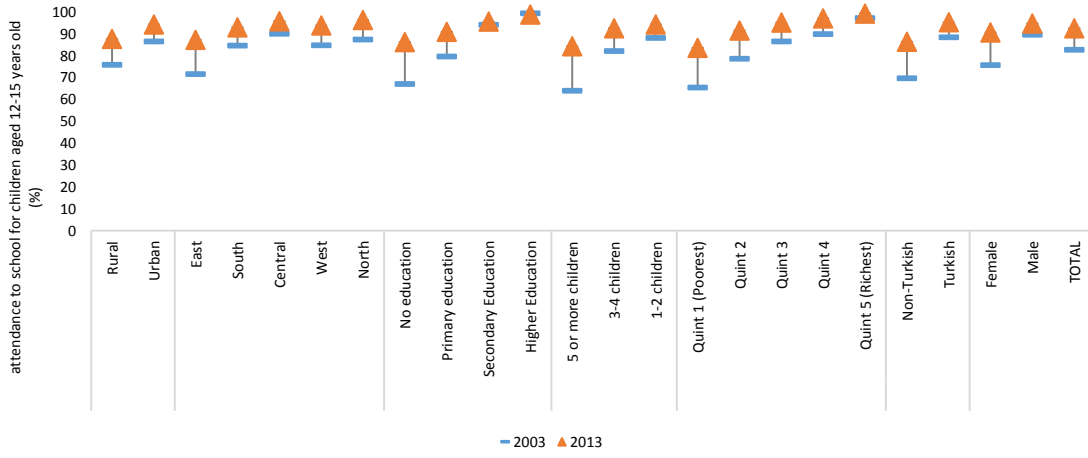
Note: Authors' calculations using DHS 2003 and 2013. Language is not the language of the child but instead the mother tongue of women responding to the women's questionnaire. If there are more than 1 woman in the household responding to the questionnaire the mode is taken. Hence this variable proxies the language spoken in the household.

Annex Figure 2 Turkey DHS 2003 and 2013 Cross-tabulations

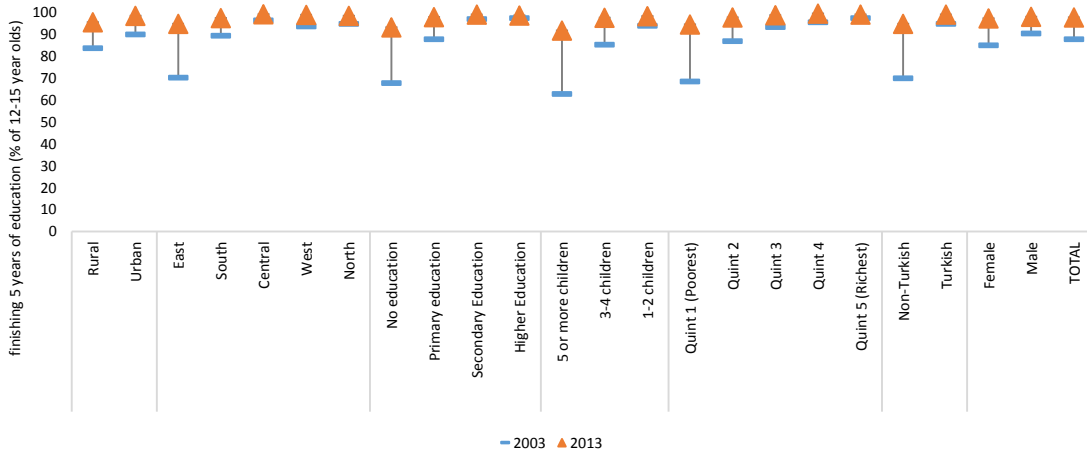
A. Attendance in school (6-11 year olds)



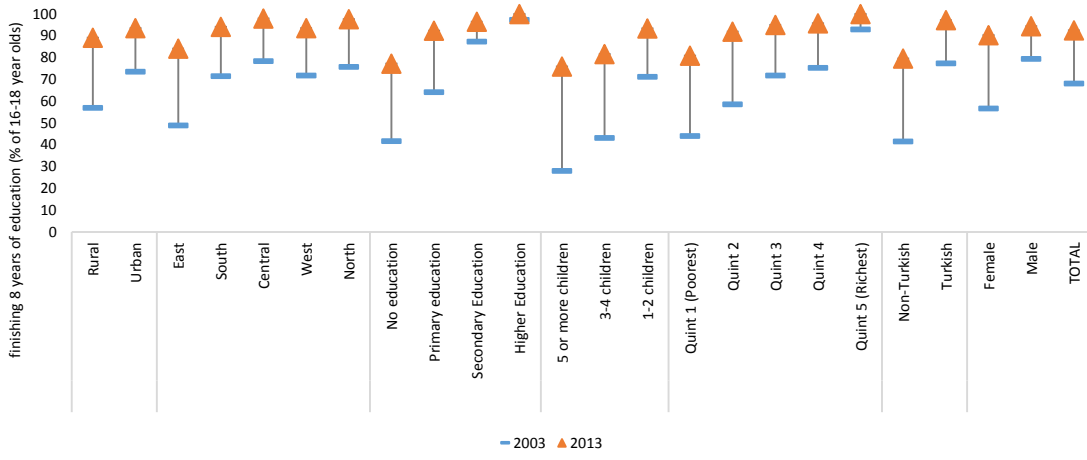
B. Attendance in school (12-15 year olds)



C. Finishing 5 years of education (12-15 year olds)



D. Finishing 8 years of education (16-18 year olds)



Note: Authors' calculations using DHS 2003 and 2013.

Probit regression methodology and results

Probit regressions

The second analysis used in the report is the probit regression method. The effect of circumstances on school attendance and finishing school for children is measured using probit regression making use of the most recent DHS dataset and another DHS dataset from 10 years ago or more for each country. These regressions show the degree of the effect of circumstances and which circumstances continue to matter. The probit equation that was used is as follows:

$$P(y) = \varphi(X'\beta)$$

The circumstance variables X that are used in the probit regression is the same as the variables that are used in HOI. These are location of the household, region of the household,

ethnicity/language (when available), gender of the child, education level of the household head and household wealth.

Probit regression results

Regression results show that circumstances in general do not have a significant impact on education opportunities for children in Turkey. Finishing 5 years of education is distributed equally as it does not seem to be affected by any circumstance (as of 2013). For other education opportunities negative effect of being poor seems to have decreased over time but it has not disappeared all together, especially for finishing 8 years of education living in households in the 1st quintile remain to be a major disadvantage. Inequalities regarding gender and language spoken at home also decreased from 2003 to 2013 and their negative marginal effect is at most 5.9 percent. In summary the results are as follows:

- Living in rural areas does not have any significantly large marginal effect on education indicators in Turkey. This was the case in both 2003 and 2013. Hence location of the household is not a problem for children in Turkey.
- No significant regional disparities could be seen in the regressions. Region does not seem to be a problem for children in Turkey for education opportunities.
- Negative impact of being a girl decreased for attendance in school for older children and finishing 8 years of education. As of 2013 being a girl only has a significantly large negative impact for finishing 8 years of education (5.9 percent).
- Negative impact of being poor and having a household head with no or low education either decreased or disappeared for education indicators. Yet living in the poorest quintile (compared to living in the richest quintile) continues to decrease the likelihood of attendance in school for younger and older children and finishing 8 years of education.
- Living in a household with 5 or more children decreases the likelihood of attending school for 6-11 year olds only.
- Speaking a language different than Turkish in the household has a much smaller impact on education outcomes in 2013. Only for finishing 8 years of education it has a negative marginal effect of greater than 5 percent (5.9 percent).

A detailed analysis of the results for each indicator could be found below:

Attendance in school for 6-11 year olds

As of 2013, living in a household in the poorest quintile and living in a household with or more than 5 children are the only indicators that have a marginal effect greater than 5 percent. Marginal effects of all other circumstances are either insignificant or close to zero.

- Living in rural areas did not have a negative effect in 2003 and it had a minor positive effect in 2013 (2.9 percent).
- Compared to living in the West region living in other regions used to decrease the likelihood of attending school for 6-11 year olds in 2003. These negative marginal

effects disappeared in 2013. And for living in North region (compared to living in the West) there is a small positive effect with 2.7 percent.

- Living in a household with a household head that has education other than higher education did not have any significant marginal effect on school attendance either in 2003 or in 2013.
- 5 or more children in the household (compared to 1-2 children in the household) decreases the likelihood of school attendance in both years.
- Living in a household in the 1st quintile continues to decrease the likelihood of school attendance. The negative marginal effect was 7.5 percent in 2003 and 5.6 percent in 2013.
- Speaking a language different than Turkish in the household did not use to affect attendance in 2003 and there is small negative marginal effect in 2013 with 2 percent.
- Being a girl does not have a significant negative effect on school attendance. Marginal effect is very small and positive in 2013 with 1.5 percent.

Attendance in school for 12-15 year olds

As of 2013, only poverty continues to have a negative marginal effect on attendance for 12-15 year olds that is greater than 5 percent. Marginal effects of all other circumstances are either insignificant or close to zero.

- Living in rural areas used to have a very small negative marginal effect on school attendance of children aged 12-15 years old in 2003 while this effect was not significant in 2013.
- Children aged 12-15 years old living in regions other than the West are not at a disadvantage in attendance in school.
- Significant negative marginal effect of household head's education that is lower than higher education on school attendance in 2003 disappeared in 2013.
- Number of children in the household do not have a significantly large impact on school attendance.
- Living in households in the 1st, 2nd and 3rd quintile continue to have a significant and negative marginal effect on attendance. Bu the negative marginal effects decreased from 2003 to 2013 and the significant negative effect disappeared for the households in the 4th quintile.
- Negative marginal effect of speaking a language different than Turkish in the household decreased from 2003 to 2013 (from 8.2 percent to 4.2 percent).
- Being a girl still has a small but negative and significant marginal effect on school attendance for 12-15 year olds with 3.8 percent. But the marginal effect decreased considerably from 2003 to 2013.

Finishing 5 years of education for 12-15 year olds

In 2013, none of the circumstances have a significantly large effect on finishing 5 years of education.

- Living in rural areas do not have any significant marginal effect on finishing 5 years of education.
- In 2003 only living in the East region (compared to living in the West) used to have a significant negative marginal effect on finishing 5 years of education. By 2013 this effect decreased down to 2 percent and none of the other regions have a significant marginal effect.
- Living in a household with a household head that has no education (compared to a household head with higher education) used to decrease the likelihood of finishing 5 years of education in 2003 but by 2013 this significant effect disappeared.
- Number of children in the household that are more than 2 used to decrease the chances of finishing 5 years of education for children in 2003 but this is not the case anymore in 2013.
- Living in the 1st quintile used to decrease the likelihood of finishing 5 years of education in 2003 by 12.6 percent, this significant negative effect disappeared in 2013. In 2013, living in a household other than the richest households (households in the 5th quintile) does not have any marginal negative effect on finishing 5 years of education.
- Speaking a language different than Turkish in the household decreased the likelihood of finishing 5 years of education by 6.3 percent in 2003 and this rate decreased to 1.7 percent by 2013.
- Being a girl already had a very small negative marginal effect in 2003 with 3.9 percent and in 2013 it is almost zero.

Finishing 8 years of education for 16-18 year olds

Negative marginal effect of circumstances on finishing 8 years of education decreased greatly from 2003 to 2013. However poverty, language, gender and household head's education continues to have an effect.

- Living in rural areas did not have any significant effect on finishing 8 years of education in 2003 and the marginal effect is small but positive in 2013 with 3.1 percent.
- Children living in the West region are not more advantaged compared to children living in other regions with respect to finishing 8 years of education but in fact children living in regions Central and North are slightly more better off.
- Living in a household with a household head who has primary education or secondary education (compared to a household head with higher education degree) used to decrease the likelihood of finishing 8 years of education in 2003, but the significance of these circumstances disappeared in 2013. Yet children living in households with a

household head with no education continue to be disadvantaged in 2013 as well. These children are 20.4 percent less likely to finish 8 years of education.

- Number of children in the household that are more than 2 used to decrease the chances of finishing 8 years of education for children in 2003 but this is not the case anymore and in 2013.
- For the children living in households in the 3rd and 4th quintile the negative marginal effects disappeared from 2003 to 2013 while children living in households in the 1st or 2nd quintile were still less likely to finish 8 years of education in 2013.
- Speaking a language different than Turkish decreased the likelihood of finishing 8 years of education by 19.9 percent in 2003 and this rate decreased down to 5.9 percent in 2013.
- Being a girl used to decrease the likelihood of finishing 8 years of education by 26.2 percent in 2003 but this rate dropped down to 5.9 percent in 2013.

Annex Table 4: Probit regression results (reporting marginal effects)

	Attendance 6-11 year olds		Attendance 12-15 year olds		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	2003	2013	2003	2013	2003	2013	2003	2013
location: Rural	0.013	0.029***	-0.027	0.004	0.019	-0.005	-0.039	0.031*
	(0.011)	(0.009)	(0.018)	(0.011)	(0.013)	(0.007)	(0.037)	(0.016)
region: South	-0.033*	-0.016	0.030	0.007	-0.008	-0.022	0.132***	0.016
	(0.019)	(0.016)	(0.019)	(0.014)	(0.022)	(0.017)	(0.043)	(0.024)
region: Central	-0.066***	-0.007	0.038	0.016	0.017	-0.009	0.151***	0.044***
	(0.020)	(0.015)	(0.025)	(0.014)	(0.021)	(0.015)	(0.045)	(0.016)
region: North	-0.041	0.027**	0.036	0.032***	0.007	-0.006	0.105*	0.042***
	(0.025)	(0.013)	(0.025)	(0.012)	(0.026)	(0.015)	(0.057)	(0.016)
region: East	-0.095***	0.005	0.018	0.003	-0.072***	-0.020*	0.092**	0.012
	(0.018)	(0.015)	(0.020)	(0.014)	(0.024)	(0.012)	(0.046)	(0.025)
household head's education: No education	-0.040	-0.017	-0.372***	-0.005	-0.104*	-0.006	-0.513***	-0.204*
	(0.036)	(0.024)	(0.095)	(0.029)	(0.053)	(0.017)	(0.087)	(0.107)
household head's education: Primary education	-0.001	-0.006	-0.212***	-0.003	-0.035	0.014	-0.353***	-0.076*
	(0.027)	(0.017)	(0.047)	(0.025)	(0.030)	(0.013)	(0.078)	(0.041)
household head's education: Secondary education	0.028	-0.012	-0.177**	0.012	0.017	0.012	-0.201**	-0.074
	(0.025)	(0.017)	(0.071)	(0.023)	(0.029)	(0.010)	(0.100)	(0.064)
# of children in household: 3-4	-0.003	-0.007	0.005	0.019**	-0.034**	0.004	-0.173***	-0.024
	(0.012)	(0.010)	(0.017)	(0.009)	(0.014)	(0.005)	(0.037)	(0.019)
# of children in household: 5 or more	-0.050***	-0.050**	-0.038*	0.013	-0.094***	-0.006	-0.213***	-0.020
	(0.016)	(0.021)	(0.021)	(0.011)	(0.022)	(0.008)	(0.051)	(0.023)
wealth: Poorest	-0.075***	-0.056**	-0.279***	-0.185***	-0.126***	-0.028	-0.399***	-0.260***
	(0.026)	(0.025)	(0.058)	(0.056)	(0.039)	(0.022)	(0.065)	(0.094)
wealth: Poorer	-0.032	-0.013	-0.178***	-0.107**	-0.032	-0.027	-0.323***	-0.152*
	(0.022)	(0.021)	(0.050)	(0.050)	(0.027)	(0.024)	(0.062)	(0.087)
wealth: Middle	0.000	-0.012	-0.119**	-0.083*	-0.003	-0.010	-0.222***	-0.105
	(0.020)	(0.021)	(0.047)	(0.049)	(0.022)	(0.020)	(0.067)	(0.085)
wealth: Richer	-0.024	-0.017	-0.096**	-0.046	0.012	-0.008	-0.219***	-0.165
	(0.021)	(0.020)	(0.046)	(0.042)	(0.022)	(0.018)	(0.068)	(0.101)

language: Non-Turkish	-0.023	-0.020	-0.082***	-0.046***	-0.063***	-0.017**	-0.199***	-0.059***
	(0.014)	(0.015)	(0.021)	(0.015)	(0.017)	(0.007)	(0.049)	(0.020)
gender: Female	-0.014	0.015**	-0.119***	-0.038***	-0.039***	-0.009**	-0.262***	-0.059***
	(0.011)	(0.008)	(0.015)	(0.009)	(0.010)	(0.004)	(0.029)	(0.013)
Observations	5,271	4,292	3,177	2,860	3,179	2,862	1,856	1,457

*Note: Authors' calculations using DHS 2003 and DHS 2013. Marginal effects are reported, obtained using "dprobit" command in STATA. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Omitted groups are: location: Urban, region: West, household head's education: Higher education, number of children in household: 1-2 children, wealth: Richest, language: Turkish, gender: Male.*

Legend

Marginal effect is significant at least at p<0.1 and the effect is larger than or equal to 5.0 percent and smaller than 10.0 percent.

Marginal effect is significant at least at p<0.1 and the effect is larger than or equal to 10.0 percent and smaller than 20.0 percent.

Marginal effect is significant at least at p<0.1 and the effect is larger than or equal to 20.0 percent.

ANNEX 5: JORDAN

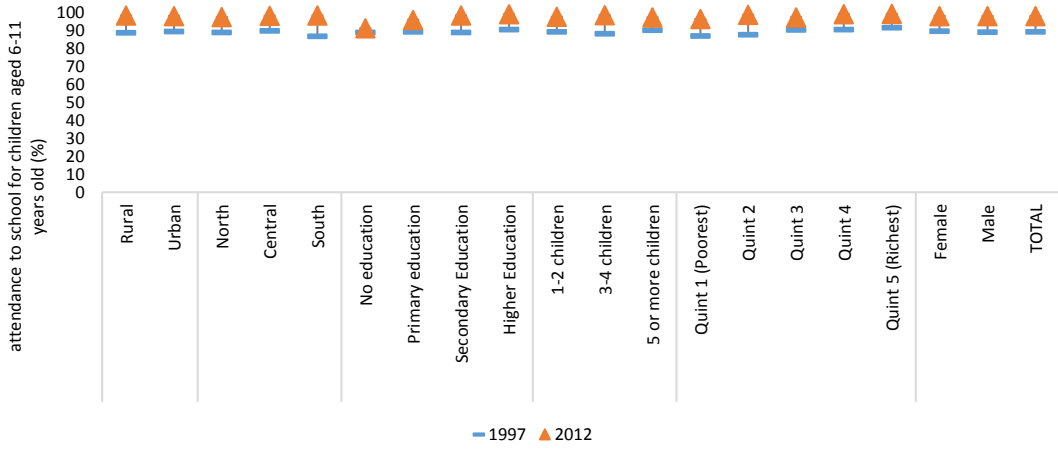
Annex Table 5 DHS 1997-2012 School Attendance and Completion Rates by Circumstances

		Attendance to school (6-11 year olds)		Attendance to school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
		1997	2012	1997	2012	1997	2012	1997	2012
Urban/Rural Location	Rural	88.8	98.3	92.7	96.9	96.8	98.2	84.5	96.5
	Urban	89.5	98	93.7	93.7	97.8	97.8	89.9	93.4
Region	North	88.9	97.5	94.5	94	97.9	98.1	87.9	95.2
	Central	89.8	98.2	93	94.1	97.8	98	89.7	93.4
	South	86.8	98.3	93.6	96	95.2	96.9	84.4	93.8
Household head's education	No education	88.9	91.2	86.2	81.6	93.5	87	79.2	80.9
	Primary education	89.2	95.9	90.9	88.2	97.6	96.7	88.1	87.1
	Secondary Education	88.9	98.4	95	95.3	98.3	98.7	89.9	94.9
	Higher Education	90.5	99	98.7	97.2	98.9	98.5	97.5	98.4
Number of children at home	1-2 children	89.3	97.6	93.7	95.1	98.2	97.6	89.4	93.6
	3-4 children	88.3	98.5	94.6	94.9	97.7	98	90.5	93.5
	5 or more children	90.1	97.3	93	93.1	97.4	97.9	86.6	93.4
Asset quintiles	Quint 1 (Poorest)	86.9	96.4	87.7	89.1	93.9	95.8	77.7	87.4
	Quint 2	87.6	98.7	92.6	92.3	97.1	97.5	86.6	91
	Quint 3	90.3	97.3	92.7	95.8	98.9	98.5	88.4	95.1
	Quint 4	90.6	99	96.2	97.4	99	99.6	94.8	98.7
	Quint 5 (Richest)	91.6	99.2	98	98	99.1	98.5	95.5	99.1
Gender of Child	Female	89.6	98.1	93.5	95.2	97.2	98.1	90.2	96.3
	Male	89.1	98	93.6	93.4	98	97.7	87.6	91.7
TOTAL	TOTAL	89.3	98	93.5	94.3	97.6	97.9	88.9	93.9

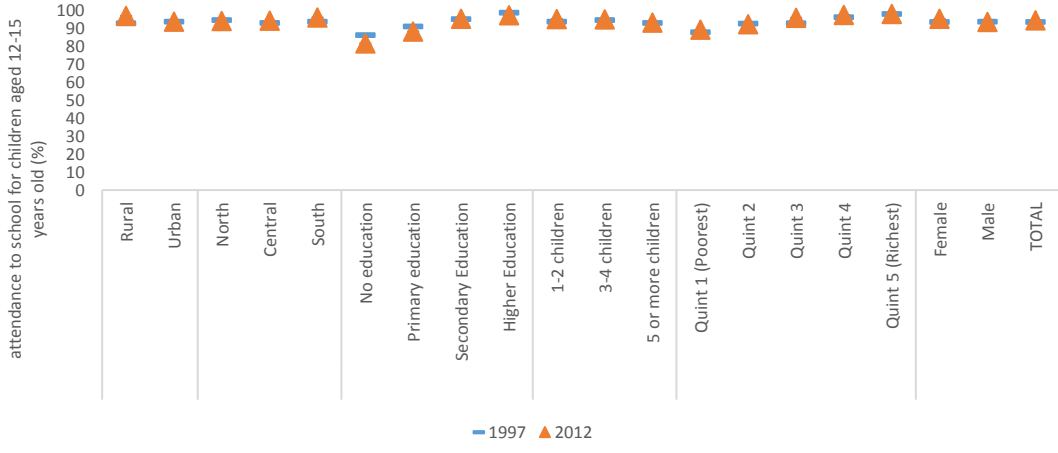
Note: Authors' calculations using DHS 1997 and 2012 for Jordan

Annex Figure 3 DHS 1997 and 2012 Correlations

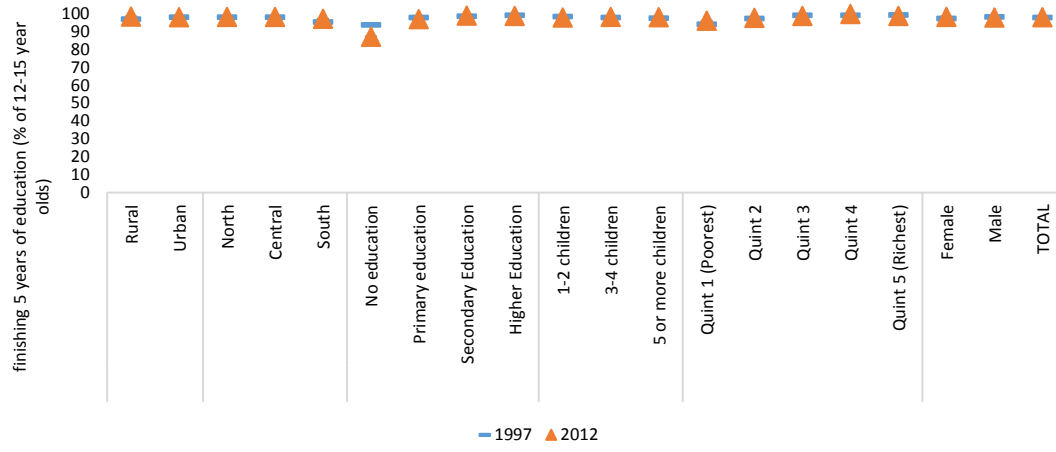
A. Attendance to school (6-11 year olds)



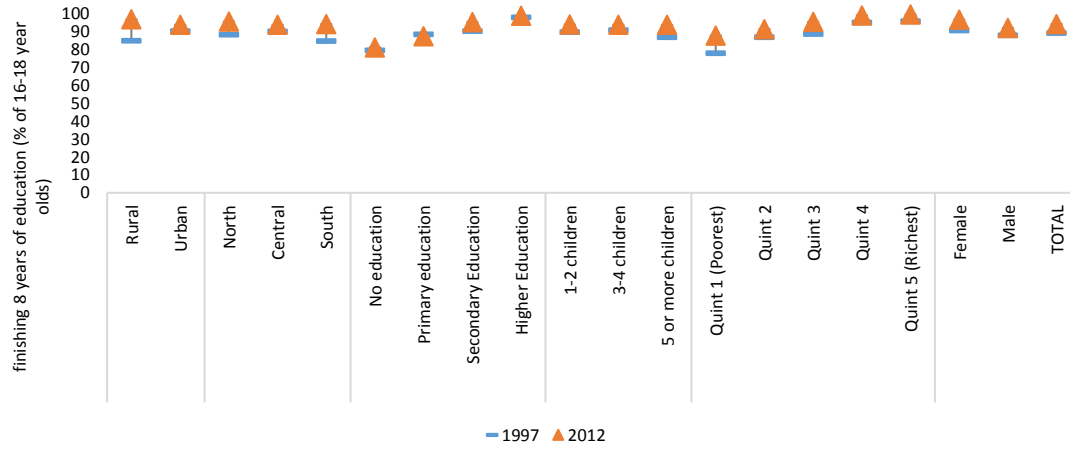
B. Attendance to school (12-15 year olds)



C. Finishing 5 years of education (12-15 year olds)



D. Finishing 8 years of education (16-18 year olds)



Note: Authors' calculations using DHS 1997 and 2012

Probit regressions

The second analysis used in the report is the probit regression method. The effect of circumstances on school attendance and finishing school for children is measured using probit regression making use of the most recent DHS dataset and another DHS dataset from 10 years ago or more for each country. These regressions show the degree of the effect of circumstances and which circumstances continue to matter. The probit equation that was used is as follows:

$$P(y) = \varphi(X'\beta)$$

The circumstance variables X that are used in the probit regression is the same as the variables that are used in HOI. These are location of the household, region of the household,

ethnicity/language (when available), gender of the child, education level of the household head and household wealth.

Probit Results

Regression results show that while circumstances generally have insignificant or significant but very small impact on attendance to school for younger children and finishing 5 years of education, attendance to school of older children and finishing 8 years of education are still affected by some of the circumstances of children. In summary the results are as follows:

- Living in rural areas is not negatively associated with education indicators for Jordan.
- The regional disparities are also very small and negligible.
- Gender does not create inequality of opportunities in Jordan (except for finishing 8 years of education for which boys are 2 percent less likely to compared to girls).
- Poor children and children whose household head has no education are still less likely to attend school or finish school but the impact is smaller for attendance to school for 6-11 year olds and finishing 5 years of education compared to attendance to school for older children and finishing 8 years of education.
- Number of children in the household does not affect education outcomes of the children.

A detailed analysis of the results for each indicator could be found below:

Attendance to school for 6-11 year olds

In 2012, only living in a household with a household head with no education or primary education (compared to a household head with higher education) and living in a household in the 1st or 3rd quintile (compared to living in a household in the 5th quintile) are significantly and negatively associated with attendance to school for 6-11 year olds but the marginal effects of these circumstances are generally small and they are at most 6.6 percent which is the marginal effect of living in a household with a household head with no education (e.g. living in a household with a household head with no education decreases the likelihood to attend school by 6.6 percent).

- Living in rural areas has a negative effect on attendance neither in 1997 nor in 2012.
- Compared to living in the Centre living in the North region does not have any significant effect on attendance. Marginal effect of living in the South was small but negative with 2.7 percent in 1997 and became even smaller (0.8 percent) but positive in 2012.
- Living in a household with a household head that has no education or with primary education (compared to a household head with higher education degree) did not use to have any significant impact on attendance in 1997 but in 2012 they had small but significant negative marginal effects by decreasing the likelihood of attendance by 6.6 percent and 2.3 percent respectively.
- Number of children in the household has a negative effect on attendance neither in 1997 nor in 2012.
- In 1997 children living in households in the poorest quintile were 6.1 percent less likely to attend school while this rate dropped to 2.9 percent in 2012. Negative significant

marginal effect of living in a household in the 2nd quintile disappeared in 2012 while a small negative effect (2.4 percent) occurred for children living in households in the 3rd quintile (compared to children living in households in the 5th quintile).

- Gender has a negative effect on attendance neither in 1997 nor in 2012 for children aged 6-11 years old.

Attendance to school for 12-15 year olds

As of 2012, living in a household with a household head with no education, primary education or secondary education (compared to a household head with higher education) and living in a household in the 1st, 2nd or 3rd quintile (compared to living in a household in the 5th quintile) are significantly and negatively associated with attendance to school for 12-15 year olds and the marginal effects of these circumstances are generally larger than the marginal effects for younger children. There are very small regional and locational inequalities. But gender and number of children in the household do not have any significant effect on attendance.

- Compared to living in urban areas living in rural areas increases the chances of attending school for 12-15 year olds only slightly in both 1997 (1.5 percent) and 2012 (2.5 percent).
- Compared to living in the Centre, living in the North or the South regions have very small marginal effects. Living in the North increased the chances of attending school in 1997 by 2.4 percentage points while the significance of this effect disappeared in 2012. Living in the South also increases slightly the chances of attending school both in 1997 (1.8 percent) and 2012 (2 percent).
- Living in a household with a household head that has no education, primary education or secondary education (compared to a household head with higher education degree) decreases the likelihood of school attendance in both 1997 and 2012 and their negative marginal effect increased for household heads with no education. In 1997 living in a household with a household head with no education decreased the likelihood of attending school by 15.6 percentage points while this rate is 16.8 percentage points in 2012.
- Number of children in the household has an effect close to zero on attendance.
- Low levels of household wealth is still negatively associated with school attendance but its impact decreased over time. For instance children in the poorest quintile were 10.1 percent less likely to attend school as opposed to children in the richest quintile in 1997. This value dropped down to 8.4 percent in 2012.
- Gender does not have any significant effect on attendance to school for children aged 12-15 years old.

Finishing 5 years of education for 12-15 year olds

In 2012, among the circumstances of children only household head's education have a significant and large enough marginal effect on finishing 5 years of education. None of the other circumstances have a significantly large effect which points to a high level of success in terms of equality of opportunities.

- There is no significant marginal effect of living in rural areas neither in 1997 nor in 2012.
- Living in the South region had a very small significant marginal effect in 1997 (1.1 percent) which disappeared in 2012.
- Living in a household with a household head that has no education or primary education (compared to a household head with higher education degree) decreases the likelihood of finishing 5 years of education and more so in 2012 as opposed to 1997 (the negative marginal effect increased from 2.2 percent to 10.1 percent).
- Number of children in the household does not have any significant effect.
- Household wealth used to have a small impact in 1997 which disappeared by 2012.
- Gender of the child did not have any impact on finishing 5 years of education either in 1997 or in 2012.

Finishing 8 years of education for 16-18 year olds

In 2012, living in a household with a household head with no education, primary education or secondary education (compared to a household head with higher education) and living in a household in the 1st, 2nd or 3rd quintile (compared to living in a household in the 5th quintile) are significantly and negatively associated with finishing 8 years of education. Effect of region, location, gender and number of children in the household is either insignificant or significant but very small (smaller than 2.5 percent).

- While in 1997 living in rural areas did not have any significant effect on finishing 8 years of education in 2012, it slightly increased the chances of finishing school (by 1.8 percent).
- There were no regional differences in 1997 while in 2012 living in North or the South regions increases the likelihood of finishing 8 years of education only very slightly (by 2 and 2.2 percent respectively).
- Living in a household with a household head who has no education, primary education or secondary education (compared to a household head with higher education degree) decreases the likelihood of finishing 8 years of education in 2012 but the marginal effects are smaller compared to 1997.
- Number of children has no effect on finishing 8 years of education.
- Low levels of household wealth is still negatively associated with finishing 8 years of education. The marginal effect is smaller in 2012 for children living in households in the poorest quintile compared to 1997 but it is slightly higher for 2nd and 3rd quintiles in 2012 compared to 1997.
- In 1997, being a girl had no significant effect on finishing 8 years of education while in 2012 it increases the chances of finishing school by only 2.2 percent. In other words boys are at a slight disadvantage compared to girls with regards to finishing 8 years of education.

Annex Table 6 Probit regression results (reporting marginal effects)

	Attendance 6-11 year olds		Attendance 12-15 year olds		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	1997	2012	1997	2012	1997	2012	1997	2012
location: Rural	0.007	0.003	0.015*	0.025***	0.008*	0.007**	0.018	0.018***
	(0.011)	(0.003)	(0.008)	(0.005)	(0.005)	(0.003)	(0.015)	(0.006)
region: North	-0.005	0.003	0.024***	0.006	0.005	0.002	0.006	0.020***
	(0.010)	(0.004)	(0.008)	(0.006)	(0.005)	(0.003)	(0.015)	(0.006)
region: South	-0.027**	0.008***	0.018*	0.020***	-0.011	-0.000	-0.015	0.022***
	(0.013)	(0.003)	(0.010)	(0.005)	(0.013)	(0.004)	(0.027)	(0.006)
household head's education: No education	0.007	-0.066***	-0.156***	-0.168***	-0.022*	-0.101***	-0.220***	-0.188***
	(0.015)	(0.023)	(0.037)	(0.041)	(0.013)	(0.031)	(0.045)	(0.049)
household head's education: Primary education	0.003	-0.023**	-0.092***	-0.064***	0.001	-0.026***	-0.118***	-0.111***
	(0.010)	(0.010)	(0.023)	(0.017)	(0.007)	(0.010)	(0.029)	(0.025)
household head's education: Secondary education	-0.005	-0.005	-0.052***	-0.014*	0.001	-0.003	-0.095***	-0.026***
	(0.010)	(0.004)	(0.018)	(0.007)	(0.006)	(0.004)	(0.026)	(0.009)
# of children in household: 3-4	-0.003	0.005	0.010	0.004	-0.004	0.002	0.018	0.003
	(0.013)	(0.004)	(0.008)	(0.005)	(0.005)	(0.003)	(0.013)	(0.006)
# of children in household: 5 or more	0.022	-0.002	-0.001	-0.010	-0.002	-0.003	-0.005	-0.002
	(0.014)	(0.004)	(0.009)	(0.007)	(0.005)	(0.004)	(0.013)	(0.008)
wealth: Poorest	-0.061***	-0.029**	-0.101***	-0.084***	-0.062***	-0.008	-0.115***	-0.111***
	(0.017)	(0.012)	(0.028)	(0.021)	(0.019)	(0.007)	(0.034)	(0.035)
wealth: Poorer	-0.051***	-0.013	-0.054**	-0.064***	-0.030**	-0.010	-0.058**	-0.081**
	(0.015)	(0.009)	(0.022)	(0.020)	(0.014)	(0.008)	(0.028)	(0.033)
wealth: Middle	-0.019	-0.024**	-0.052**	-0.042**	-0.004	-0.002	-0.048*	-0.054*
	(0.014)	(0.012)	(0.023)	(0.018)	(0.009)	(0.007)	(0.028)	(0.031)
wealth: Richer	-0.015	-0.004	-0.018	-0.009	-0.001	0.009*	0.025	-0.014
	(0.012)	(0.008)	(0.017)	(0.014)	(0.009)	(0.005)	(0.022)	(0.023)
gender: Female	0.005	0.002	0.001	0.003	-0.006	0.004	0.016	0.022***
	(0.007)	(0.002)	(0.006)	(0.004)	(0.004)	(0.003)	(0.012)	(0.005)
Observations	7,251	11,501	4,470	6,966	4,470	6,966	2,849	4,748

*Note: Authors' calculations using DHS 1997 and DHS 2012. Marginal effects are reported, obtained using "dprobit" command in STATA. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Omitted groups are:*

location: Urban, region: Centre, household head's education: Higher education, number of children in household: 1-2 children, wealth: Richest, gender: Male.

Legend

Marginal effect is significant at least at p<0.1 and the effect is larger than or equal to 5.0 percent and smaller than 10.0 percent.

Marginal effect is significant at least at p<0.1 and the effect is larger than or equal to 10.0 percent and smaller than 20.0 percent.

Marginal effect is significant at least at p<0.1 and the effect is larger than or equal to 20.0 percent.

Policies and Programmes

Long-term strategic plans and Governance

As a resource scarce country, Jordan has prioritized education based on the belief that developing its human capital will assist achieving its economic and social development goals. The country began a comprehensive review of its education system in the late 1980s[518]. Its Educational Development Plan phase 1 ran from 1989-95 and was followed by phase 2 from 1996-2000. The Vision Forum for the Future of Education held in September 2002 formed the basis for a new wave of reforms implemented through the Education Reform for the Knowledge Economy (ERfKE) framework with phase 1 running from 2003-2008 and phase 2 from 2009-2016[519]. The ERfKE set up an extensive and inclusive framework based on several interrelated components and the evaluation of the ERfKE I set the basis for ERfKE II. The ERfKE components [520]aimed at:

1. Creating a National School-based Development System with enhanced roles for directorates and schools in terms of planning, performance management and development with participation of the local community. (Governance)
2. Reforming Monitoring and Evaluation and Organizational Development to increase quality education outcomes at the school level by moving towards performance-based management of financial and human resources. (Governance)
3. Strengthening Teaching and Learning by reforming teacher policies/professional development as well as updating the curriculum, assessment and learning resources (Quality)
4. Developing Special Focus Programs on Early Childhood Development, Vocation Education and Special Education (Governance and Quality)
5. Improving the Physical Learning Environments (Quality)

The focus on these components would be addressing many of the governance and quality barriers/challenges listed in section 3. However, while progress in each of these areas has occurred, the implementation was far from complete and was hindered, amongst other reasons,

[518] International Bureau of UNESCO (2006) http://www.ibe.unesco.org/Countries/WDE/2006/ARAB_STATES/Jordan/Jordan.pdf
[519] International Bureau of UNESCO (2006)
[520] International Bureau of UNESCO (2006)

by the Syrian crisis. Therefore many of those challenges remain and these components were brought forward through the next educational strategy document for 2016-2025, the National Strategy for Human Resource Development plan (NSHRD or simply HRD)[521]. Aligned with the Jordan 2025 Vision, the HRD inputted the evaluation of the ERfKE and *the implementation has been taken into account from the start* by defining who will have ownership of the various sets of projects, the sequencing and the practical activities and the resources required.

Program Governance. General overview will be carried out with an HRD Reform Board and an independent HRD Results and Effectiveness Unit will act as watch-dog of the entire reform. An Executive HRD Working Group Committee, comprising ministers and heads of implementing agencies, will coordinate the delivery of the HRD strategy. Phase 1 will work on short-term changes i.e. pending and agreed projects and establishing the pre-requisites for further changes. Phase 2 will implement new initiatives and Phase 3 will roll-out system-wide reforms. Although this is a 10-year strategy, most of the major elements of the HRD will be implemented within the first 6 years, with the last 4 mostly concerned with benefits realisation.

The next sections will cover selected education policies and programs aimed at dealing with the refugee crisis, supporting the demand for education as well as improving the supply and quality of education in Jordan.

Response to the Syria Crisis

As a response to the Syria crisis, Jordan prepared a National Resilience Plan (NRP) in 2014 focusing mainly on the hosting communities. At the end of 2014, the Jordan Response Platform for the Syria Crisis (JRPSC) was created to oversee the JRP 2015 and JRP 2016 which bridged the short-term refugee response with the longer-term developmental response to the crisis[522]. The JRP 2017–19[523] seeks to address the needs and vulnerabilities of Syrian refugees and Jordanian people, communities and institutions affected by the crisis. The JRP is also involved in planning and coordination tools for the international organizations' and NGOs response to the crisis on Jordanian land. Any new project needs to be submitted for approval to the government which will gauge it against the JRP framework and components, thus limiting the duplication of efforts, amplifying synergies and aligning the international organizations and NGOs objectives with the long term strategic plans of the government. In order to ensure that vulnerable Jordanians are not left out, the government instituted a rule whereby unless they are inside a refugee camp, all projects aimed at providing assistance to refugees should also benefit the hosting community and *at least 30% of beneficiaries should be Jordanians*.

The education component of the JRP focuses on access, quality of school and increasing the government's capacity to plan and deliver education for all given the extra pressures brought on

[521] CHRD (2016)
[522] MPIC (2016)
[523] MPIC (2017)

the system. Examples of access to school projects include two nation-wide "Learning-for-All" campaigns which were conducted to encourage enrolment, identify out-of-school children and provide referral and registration support.

The JRP's education plan also includes remedial/catch-up classes for children who have missed out on weeks or months of schooling as well as access to improved and diversified certified alternative learning opportunities for both children and youth[524]. Examples include the joint MoE-UNICEF "Catch up" program, a non-formal education program for children who have missed 3 or more years of education and so cannot enrol in formal schools. With its specially designed curriculum, one year of 'catch up' schooling corresponds to two years of formal schooling, with three grades covering 6 years of schooling. Depending on how many years of schooling the child has missed, he/she enrols through one or more of those catch up grades. The catch up classes are accredited. It is even possible for a child to enrol in a public school upon completion and passing a placement test. These courses are complementary to the existing non-formal education programs that are run by the MoE through Questscope.

One of the largest informal education program in Jordan is the UNICEF supported Makani "My Space"[525]. With an estimated 50,000 school-aged Syrian children not eligible to join the formal school system, the Makanis constitute an alternative, innovative approach to expanding learning opportunities for out-of-school children. Launched in 2015, Makani centres offer psychosocial support services, learning support services, life skills and innovation labs for adolescents and young people, as well as integrated WASH services. They include a community outreach component and referral systems[526].

Makanis are operated by NGOs and community-based organisations with specially trained staff, both in camps and across hosting communities. A Bayanati monitoring system, developed in 2016, is operationalized in over 130 Makani centres. It captures information on children's profiles and their attendance to services. This multi-sectoral approach to support children and young people is innovative, has been evaluated and proven effective and as such is being scaled up across the country.

Quality

Teacher training. A large focus of the policies under ERfKE, continued under the HRD strategy, is on improving quality by reforming teacher policies/professional development as well as updating the curriculum, assessment and learning resources. In 2002, the MoE developed a grading and career progression scheme for teachers called 'Instructions on Teachers' Ranks' and in 2010, both the Teachers Policy Framework and the Framework of Leadership standards were created[527]. These frameworks focus on teacher development and on linking career progressions

[524] MPIC (2017)
[525] UNICEF 2016 TOR for Makani Assessment Review
[526] https://www.unicef.org/jordan/overview_10143.html
[527] NCHRD (2016)

with indicators like performance, training and results. However, it is just nominally done – the implementation of all frameworks has only been partial.

Some of the current teacher training initiatives are being led by the MoE in conjunction with non-governmental initiatives such as the Queen Rania Teacher Academy (QRTA), the Jordan Education Initiative (JEI) and the Early Grade Reading and Math Project (RAMP).

The Early Grade Reading and Mathematics Project (RAMP)[528] is a $48 million dollar project funded by the US and UK that intends to train 14,000 teachers in 2,500 government-run schools. The goal is to increase the percentage of Grade 2 and 3 students who read with comprehension and do mathematics with understanding from 12% in 2012 to 55% by 2019. RAMP intends to reach its goal not only through teacher training but also by improving learning materials and engaging communities to participate in education.

Box 9 Queen Rania Teacher Academy supporting MoE's teachers' training

Queen Rania Teacher Academy (QRTA) was launched in 2009 in partnership with the Ministry of Education, Columbia University's Teachers College (TC), Columbia University Middle East Research Centre (CUMERC).

Goal. To improve the quality of teaching and promote excellence in education in Jordan by mobilizing QRTA's intellectual resources to maintain high standards in developing training programs and reforming teacher policies.

What. QRTA has worked on several national and regional programs since its inception. Of particular relevance in this section and in line with ERfKE goals, QRTA designed for the MoE a 6-month Teacher Pre-Service Training Program and Certificate (TPSTPC) for teachers in Basic and Secondary Education. QRTA also prepared "Guidelines for Training Providers" and "Guidelines for the Program Accreditation Committee."

Approach. QRTA utilizes methodical, evidence-based techniques to research approaches of program delivery, collection of baseline information, result documentation, and comprehensive assessment transference. Through TC and CUMERC, it has access to international best practices and a large network of experts to contextualize them to Jordan. QRTA's evidence-based approach supports the Ministry of Education in reviewing and developing educational policies, and enhancing the quality of pre-service and in-service training for teachers.

Follow up. Once teachers graduate from the pre-service training program, the QRTA teams perform follow ups all over the country to gauge the relevance of the training and the practical implementation.

[528] NCHRD (2016)

Results. The evaluation of teachers' pedagogical knowledge pre and post training has been very positive. The longer-term results are currently under study.

Source: QRTA website and interviews.

Upgrading the physical learning environment. Improving the state of the schools in order to improve quality of education was an element of the ERfKE but as seen in section 3.3, there is little budget available for capital expenditures and as such, it has been very difficult to meet this goal. An interesting initiative to get around this budget shortage is the Madrasati initiative. Madrasati has mobilized the resources of individuals and over 140 partners from the private sector and civil society to upgrade the physical and educational learning environments of Jordan's most neglected public schools[529].

Box 10 Madrasati

Madrasati means 'my school' in Arabic and the initiative was launched in 2008 as an affiliate organization of the Queen Rania Foundation.

Goal. To restore physical spaces and provide supplementary resources most needed at individual schools such as sanitation products, classroom supplies, technological equipment etc.

Funding. Funding strategy is based on a combination of individual fund-raising, private sector fundraising and other civil society organizations' support (whether financial or in expertise).

Approach. The Ministry of Education identifies which schools are the most underperforming and resource-poor schools and the Madrasati teams visit the schools to assess which ones need the most physical renovation. Madrasati, however, go beyond just physical renovation and combine it with capacity building services.

By partnering with over 45 NGOs (including Queen Rania Teacher Academy, Jordan Education Initiative, Royal Health Awareness Society etc), Madrasati provide needs-driven programs such as:

- Personal and professional development opportunities, eg. "*Proud to be a Teacher*" program to help motivate teachers
- Technology in education programs
- Child safety and healthy school initiatives
- Sports for life skills initiatives

[529] http://www.qrf.org/initiative/madrasati

- Remedial Centres aimed at improving learning and integration of Syrian refugee children within the school system

Results. Madrasati works in 500 schools in Jordan. By combining infrastructure and capacity building, student academic performance has improved by 5-8% in 130 Madrasati schools surveyed. The MoE reported a 10% decrease in truancy at the schools.[530]

Source: Queen Rania Foundation website and in-depth interviews with Foundation Staff.

Technology. There have been several initiatives in the past to introduce technology in teaching methods (e.g. the Jordan Education Initiative since 2003[531]) and several current ones (e.g. MoE and UNICEF partnering with Orange to bring digital learning to public schools[532], Edraak – Jordan's Massive Open Online Course (MOOC)[533]). Several conferences in the last year have brought together companies and initiatives pertaining to technology and education, including the No Lost Generation EdTech Summit in March 2017.

Demand-side

Poverty/Social Protection. Around 90% of Syrian refugees in Jordan live below the poverty line, compared to 14.5% of the national population[534]. As seen in earlier sections, the cost of schooling and child labour are an important demand-side barriers and are challenges to access to schooling, especially in poor households. As such, social protection policies that support poor households may address certain demand-side barriers and improve overall access to schooling.

Government/Local. Government social security mechanisms in Jordan include the Military Pension System, the Civil Servant Pension System and the Social Security System (SSS). The SSS covers around 72% of workers in the Kingdom[535].

Through the National Aid Fund, the Jordanian government offers cash assistance targeted to households below the poverty line and in vulnerable categories such as widows, orphans, families with disabled members etc. Depending on the program, the targeting is through semi-verified means testing in combination with categorical targeting with conditionalities such as immunization, school attendance, avoid begging and avoid violence.[536]

Another important social protection program is run by the Zakat Fund which delivers cash and in-kind assistance and is funded by donations. It is organized through 210 regional committees and only households who do not receive any other benefits are eligible for the Zakat Fund. The

[530] http://www.qrf.org/initiative/madrasati
[531] UNESCO (2006) http://www.ibe.unesco.org/Countries/WDE/2006/ARAB_STATES/Jordan/Jordan.pdf
[532] https://www.unicef.org/jordan/media_11694.html
[533] http://www.qrf.org/initiative/edraak
[534] ODI (2017)
[535] ODI (2017)
[536] ODI (2017)

Zakat Fund is considered an Islamic obligation, every Muslim is required to donate 2.5 % of his assets per year and it does not exclude non-Jordanians as potential beneficiaries.

The Jordan Hashemite Fund for Human Development, through the Jordan Food Bank, offers in kind assistance for people below the poverty line.

International organizations and NGOs. As a response to the Syria crisis, international organizations and NGOs have established social protection programs geared towards refugees. They also benefit Jordanians since the Jordanian Government stipulated that either 30% or 50% of beneficiaries should be vulnerable Jordanians, depending on the type of support[537]. Under the social protection umbrella, there are a few cash and in-kind transfer programs to support the livelihoods of refugees: UNHCR (cash, in kind), UNICEF (cash), Norwegian Refugee Council (emergency, cash for work), Danish Refugee Council (emergency, livelihoods, special needs), Oxfam (up to three months), UNRWA (cash and in-kind). An example of cash transfer that benefited access to schools is the UNICEF Jordan Child Cash Grant (CCG).

Box 11 UNICEF Child Support Grant

Goal. The Child Support Grant was initiated in February 2015 to assist the most vulnerable Syrian refugee families with children living in host communities.

Process. Using the registration process of UNHCR, UNICEF provided JD20 per child per month (capped at JD75 per family) unconditionally and reached out to families via SMS in order to inform caregivers that assistance is meant to be used to meet children's needs. SMS that the assistance is intended to cover the basic needs of their children.

Results. The monitoring and evaluation of the project has shown that the families are committed to education, with enrolment rates increasing 4 percentage points over the 3 waves of data collection, ending at 83% of school-aged children enrolled in education of some form. The CCG enabled families to increase expenditures on child-specific needs. However, some negative coping strategies remained and even deteriorated, likely a result of reasons external to the program.

Source: UNICEF (2015) A Window of Hope

Violence in schools. As seen earlier, violence in schools was an often cited reason to drop out, especially in boys schools. It was recently evaluated and the campaign was shown to have had significant effects on curbing violence in schools[538]. See **Box 12**.

[537] ODI (2017)
[538] Evaluation report should be officially available in July 2017.

Box 12 Ma'an Campaign to reduce violence in schools (2009-2012)

Goal. The Ma'An campaign is a national campaign to reduce violence by teachers against children. The core of the campaign is based on establishing a group of advocates at the school-level (principal, counsellor, teacher, student representative, parent) who will be promoting the 'New Way of Discipline' with all teachers and principals.

New Way of Discipline (NWD). The NWD asks teachers to take four steps when a problem occurs in the classroom as follows: Pause, Enquire about the problem from the student, Engage the class in discussion around these issues and finally, Take action suitable to the mistake that happened (PEET).

Overall Strategy. The campaign is anchored on a three track strategy to promote the 'New Way of Discipline':

School-based activities to promote a new way of discipline among teachers;
Community-based meetings to encourage zero-tolerance of violence in schools;
) Robust media-based coverage to make the campaign known. Including decision-makers and opinion-leaders to help increase coverage and spread the message. The launch of the campaign was done under the auspices of Queen Rania and in the presence of over 4,500 educators.

Details of Communication strategy. Four integrated communications actions are:

(i) Administrative mobilization, public relations and advocacy: The goals and actions of the campaign are disseminated to all MoE school principals, teachers and administrative staff together with high-ranking administrative staff at municipalities in support of the Plan.
(ii) Interpersonal Communication: Establishment of an advocate group at the school level, reinforced by monthly discussion sessions and incorporating the results of the monthly random survey on violence.
(iii) Advertising: an intensive advertising and media campaign, three times a year, each for three weeks; Massive, repetitive, intense and persistent messages via radio, television, newspapers and other channels.
(iv) Community mobilization: National Commitment Day; group meetings, partnership building with the community, use of participatory research; traditional communication channels such as mosques and religious leaders and community drama to influence families and communities.

Success. Ma'An was designed with the objective of 40% reduction in the incidence of violence by the teachers in all public and UNRWA schools for the first year and up to 90% by the third year. A recent rigorous evaluation of the program (to be published) deemed the Ma'an program very successful.
Source: UNICEF (2015) A Window of Hope

Supply-side

Access and schools supply. *Refugees and vulnerable Jordanians.* In order to cope with the increased educational demands stemming from the refugee influx, the response to the Syrian crisis included[539]:

- Formal education: 44 schools were set up in refugee camps, 198 double-shift schools established by the MoE.
- Non-formal education: 47 catch-up centres served 1,000 children with another 1,620 children enrolling in the MOE-certified NFE program.
- Informal education: Over 150 in Makani centres were established and the program is still being scaled up.

Early Childhood Education. As seen mentioned earlier, there is a significant under-supply of government provided KG1 and KG2 infrastructure, with the majority of physical infrastructure for ECE offered by the private sector. ERfKE II included plans to create kindergarten sections in existing primary and secondary schools, using space available at many underutilized schools and piloting double-shift schools in schools that are not already double-shift[540]. As shortages persist at the end of ERfKE II, the HRD strategy plan included a major sub-component of the ECE program focusing on the upgrade of existing pre-primary school facilities as well as the expansion of such facilities across the country.

Non-Formal Education. Under ERfKE I and in partnership with Questscope, the MoE established a Non-Formal Education in 2003 in order to offer an accredited alternative pathway to children who have been out of school for too long and thus are not eligible to return to formal education according to MoE regulations. "From 2003 to 2016, more than 13,000 young people have enrolled in NFE, and more than 500 MoE teachers received training as NFE facilitators to build the human resource capacity of MoE for the program"[541].

Box 13 MoE Non-Formal Education in partnership with Questscope
Goal. To reintegrate socially and economically marginalised young people that are not attending formal schools and offer alternative pathways of development. **Programme.** QS NFE serves out-of-school youth typically from low-income communities, ages 13-18 for males and 13-21 for females[542]. The 2-year program consists of three 8-month education cycles based on participatory learning methodology. Educationally, the 1st cycle corresponds with academic content in grades 1-4[543], the 2nd cycle with grades 5-7, and the 3rd

[539] Brussels (2017) and UNICEF TOR
[540] UNICEF(2014)
[541] NCHRD (2016)
[542] QuestScope (2011)
[543] The first cycle (IFE) is particularly important for building youths' trust, confidence and enthusiasm for learning

cycle with grades 8-10. Graduates receive a 10th-grade alternative certificate that enables them to participate in vocational training and receive government business loans.

Innovation. NFE is based on a participatory education model and it is considered first a 'social' activity. Adult facilitators and youth are both considered co-learners and co-teachers. Adult 'facilitators' are select MOE teachers that go through 85 hours of special youth development and educational training to integrate the participatory methodology. The youth are to determine the learning topics and activities while the adults help build their confidence and skills to contribute.

Results. The rigorous evaluation of the program by an Oxford University team[544] found that after 4 months of participation in the NFE program, there are statistically significant positive results on the measured outcome: conduct problem. While not statistically significant, improved outcomes were observed in terms of social skills, emotional symptoms and behavioral difficulties. The program was more effective in changing observed outcomes for younger youths (13-15) than older youths (16- 21) who tended to have with higher social and emotional scores to begin with. Centres with higher empowerment ratings by youth had more positive impact on youth outcomes, suggesting an important role of the empowerment process in shaping youth outcomes.

Source: QuestScope and Oxford University (2011)

[544] QuestScope (2011)

ANNEX 6: PAKISTAN

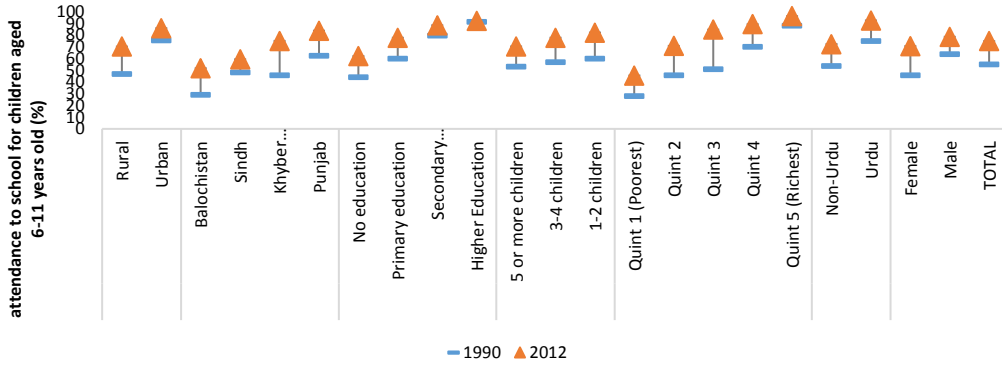
Annex Table 7 DHS 1990 and 2012 Correlations

		Attendance in school (6-11 year olds)		Attendance in school (12-15 year olds)		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
		1990	2012	1990	2012	1990	2012	1990	2012
Urban/Rural Location	Rural	46.5	69.9	45.8	57.5	30.3	46.8	19.6	37.6
	Urban	75.2	85.5	68.3	77.6	61.4	67.9	51.3	61.1
Region	Balochistan	29	51.5	32.7	49	22.6	34.2	10.8	30.8
	Sindh	48.1	59.1	48.7	54.5	33.9	44.3	33.2	41.4
	Khyber Pakhtunkhwa	45.6	74.7	46.1	67	26.5	53.9	20.5	46.2
	Punjab	62.2	83.4	57.8	68.2	47.4	59	33.6	48.2
Household head's education	No education	44	61.8	42	48.7	29	38.5	20.2	29.6
	Primary education	59.7	77.4	56.7	64.4	42.7	52.3	25.9	40.7
	Secondary Education	79.2	88	78.7	79.6	66.1	69.6	56.4	62.6
	Higher Education	90.8	91.8	89.9	89.2	88.3	80.4	86.9	80
Number of children at home	5 or more children	52.8	70	51.9	56.6	37.3	44	28.7	31.9
	3-4 children	56.6	77.4	54.3	66.4	40.3	53.1	30.4	42.2
	1-2 children	59.6	81.8	54	70.5	46.9	64.1	33.7	50.6
Asset quintiles	Quint 1 (Poorest)	27.9	45.3	31.5	30.8	18.2	19.4	8.5	10.9
	Quint 2	45.5	70.5	42	54.6	26.4	42.3	15.7	30.2
	Quint 3	50.6	84.3	47	68.8	32.1	57.1	17.7	46.8
	Quint 4	69.8	88.9	62.6	79.1	50	70.8	33.7	58.7
	Quint 5 (Richest)	87.6	95.7	82.1	89.5	75	82	67.5	78.3
Language	Non-Urdu	53.5	72	52	61.5	37.5	50.4	27.7	41.1
	Urdu	74.5	92.1	72.7	82.8	63.5	73.5	57	67.2
Gender	Female	45.6	70.3	39.8	57	31.9	51.8	22.7	41.2
	Male	63.5	78.2	65.4	70	48.2	55.1	39	50.1
TOTAL	TOTAL	54.9	74.5	53.2	63.8	40.5	53.5	30.9	45.5

Note: Authors' calculations using DHS 1990 and 2012. Language is not the language of the child but instead native language (or the language women speaks at home) of women responding to the women's questionnaire. If there are more than 1 woman in the household responding to the questionnaire the mode is taken. Hence this variable proxies the language spoken in the household. In order to be consistent with DHS 1990, Gilgit-Baltistan region is dropped from DHS 2012 and Islamabad in DHS 2012 is assumed as part of Punjab region.

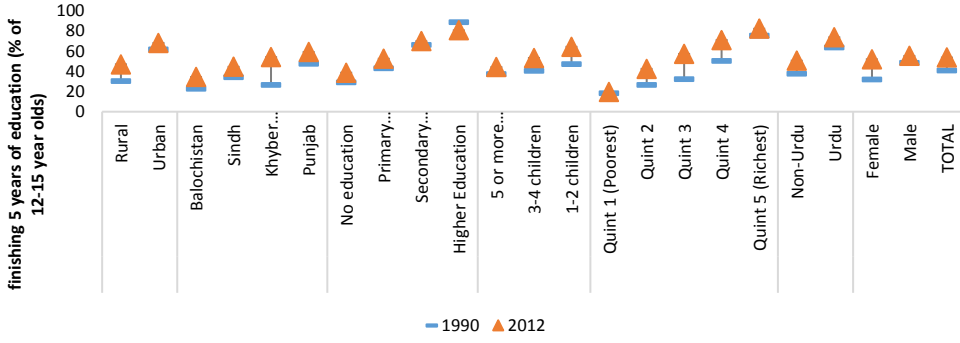
Annex Figure 4 DHS 1990 and 2012 Correlations

A. Attendance in school (6-11 year olds)

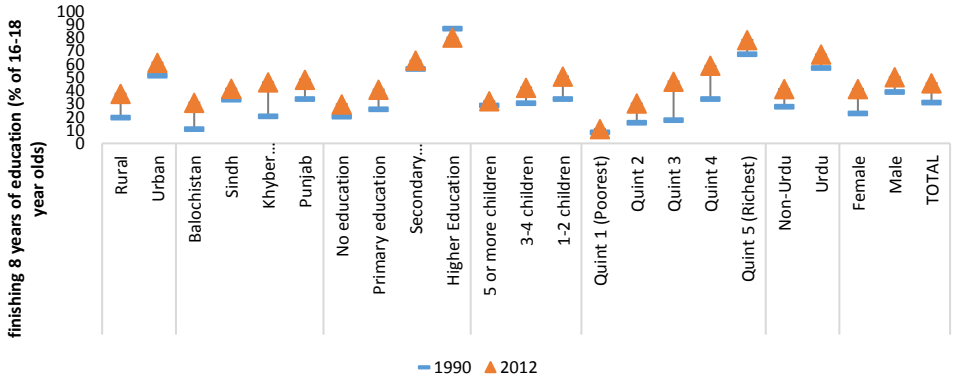


B. Attendance in school (12-15 year olds)

C. Finishing 5 years of education (12-15 year olds)



D. Finishing 8 years of education (16-18 year olds)



Note: Authors' calculations using DHS 1990 and 2012

Probit regressions

The second analysis used in the report is the probit regression method. The effect of circumstances on school attendance and finishing school for children is measured using probit regression making use of the most recent DHS dataset and another DHS dataset from 10 years ago or more for each country. These regressions show the degree of the effect of circumstances and which circumstances continue to matter. The probit equation that was used is as follows:

$$P(y) = \varphi(X'\beta)$$

The circumstance variables X that are used in the probit regression is the same as the variables that are used in HOI. These are location of the household, region of the household, ethnicity/language (when available), gender of the child, education level of the household head and household wealth.

Probit Results

Regression results show that circumstances continue to have a large impact on education indicators of children. Especially wealth has the largest impact and there has been almost no progress and in some cases even deterioration for the poorest. In contrast, Pakistan seems to be successful in tackling the disadvantaged situation of girls in access to education while there is still a long way to go to make gender a circumstance that has no impact on education opportunities. In summary the results are as follows:

- Living in rural areas does not have any significantly large marginal effect on education indicators in Pakistan.
- There are regional disparities and Sindh and Balochistan are the regions that affect the education opportunities the most negatively.
- Being a girl still decreases the chances of going to school and finishing school but its negative impact decreased throughout the years.
- Poor children and children whose household head has no education continues to decrease the likelihood of attending school or finishing school in very large degrees. The

improvements throughout the years was mostly for the children living in households in the 3rd and 4th wealth quintiles and mostly for attending school and not for finishing it.

- 5 or more children in the household also has a negative effect on education outcomes.
- Speaking a language different than Urdu in the household did not use to affect education outcomes in 1990 while this circumstance has a negative and significant marginal effect on education indicators in 2012.

A detailed analysis of the results for each indicator could be found below:

Attendance to school for 6-11 year olds

In 2012, all circumstances except the location of the household affect children's school attendance.

- Living in rural areas did not have a negative effect in 1990 and it had a minor positive effect in 2012 (2.5 percent).
- Compared to living in Punjab living in other regions (Khyber Pakhtunkhwa, Sindh and Balochistan) decreases the likelihood of attending school for 6-11 year olds. But the negative marginal effects in 2012 are smaller compared to the marginal effects in 1990.
- Living in a household with a household head that has no education, primary education or secondary education (compared to a household head with higher education degree) decrease the likelihood of school attendance both in 1990 and 2012 but in 2012 marginal effects are smaller.
- 5 or more children in the household (compared to 1-2 children in the household) decreases the likelihood of school attendance in both years.
- Living in a household in the 1st, 2nd, 3rd or 4th quintile all decrease the likelihood of attending school but the marginal effects decreased more for the 2nd, 3rd and 4th quintile while for the 1st quintile (the poorest) it remained more or less the same form 1990 to 2012. In 1990 a child living in one of the poorest households is 57.2 percent less likely to attend school while this rate is still high with 50.4 percent in 2012.
- Speaking a language different than Urdu in the household did not use to affect attendance in 1990 but in 2012 it decreased the chances of attending school by 7.2 percent.
- Negative marginal effect of being a girl decreased considerably from 1990 to 2012 from 22.8 percent to 9.7 percent. Hence being a girl still decreases the chances of children for attending school but its impact decreased over time.

Attendance to school for 12-15 year olds

As of 2012, similar with attendance to school of the younger children, attendance to school of children aged 12-15 years old is also affected from all circumstances except location of the household. In addition, among the regions large and negative marginal effect of Balochistan on school attendance of younger children cannot be seen for school attendance of older children (compared to living in Punjab).

- Living in rural areas used to have a positive impact on school attendance of children aged 12-15 years old in 1990 while this effect was not significant in 2012.

- Living in regions other than Punjab still decrease the chances of attending school for older children but the negative marginal effect of living in Khyber Pakhtunkhwa and Balochistan decreased from 1990 to 2012 while negative effect of living in Sindh remained more or less the same (15.5 percent in 1990 and 12 percent in 2012).
- Living in a household with a household head that has no education, primary education or secondary education (compared to a household head with higher education degree) continue to decrease the likelihood of school attendance in both 1990 and 2012 but their negative marginal effect decreased in 2012.
- Number of children in the household did not use to have any effect on attendance in 1990 while in 2012 living in a household with 5 children or more decreased the likelihood of school attendance of 12-15 year olds by 7.4 percent (compared to living in a household with 1-2 children).
- Children living in the poorest households are still significantly disadvantaged compared to children living in the richest households. While negative marginal effect of living in households in 2nd, 3rd or 4th quintile decreased over time, negative marginal effect of living in a household in the 1st quintile (poorest) remained mostly the same (45.9 percent in 1990 and 47.7 percent in 2012).
- Speaking a language different than Urdu in the household did not use to affect attendance in 1990 but in 2012 it decreased the chances of attending school by 7.5 percent.
- While being a girl still decreases the likelihood of attending school for 12-15 year olds by a large percent (18.2 percent), the negative marginal effect decreased considerably from 1990 to 2012 (down from 32.8 percent in 1990).

Finishing 5 years of education for 12-15 year olds

In 2012, all circumstances had an impact on finishing 5 years of education in changing degrees. Only living in the region Khyber Pakhtunkhwa did not seem to have a negative effect on finishing 5 years of education.

- Living in rural areas increase the chances of finishing school slightly (by 4.5 percent) compared to living in urban areas in 2012 while this significant positive relationship did not exist in 1990.
- Negative marginal effect of living in regions other than Punjab decreased over time for all other regions and turned even slightly positive for Khyber Pakhtunkhwa.
- Living in a household with a household head that has no education, primary education or secondary education (compared to a household head with higher education degree) continue to decrease the likelihood of finishing 5 years of education in both 1990 and 2012 but their negative marginal effect decreased in 2012.
- Number of children in the household that are more than 2 decrease the chances of finishing 5 years of education for children in 1990 and in 2012.
- Negative effect of a low level of household wealth persists and only small improvements could be seen for children living in households in the 3rd or 4th quintile (compared to living in households in the 5th quintile).

- Speaking a language different than Urdu in the household did not use to affect finishing 5 years of education in 1990 but in 2012 it decreased the chances of finishing school by 7.2 percent.
- Being a girl still decreases the chances of finishing 5 years of education in 2012 but the marginal effect decreased to 6.5 percent in 2012 from 24.9 percent in 1990.

Finishing 8 years of education for 16-18 year olds

Finishing 8 years of education seem to be affected by all circumstances of children as of 2012 except location and also regions (except Sindh).

- Living in rural areas does not have any negative effect on finishing 8 years of education either in 1990 or 2012.
- Compared to other education indicators, regional inequalities are less pronounced for finishing 8 years of education. The negative effect of living in Balochistan disappeared throughout the years while the negative effect of living in Khyber Pakhtunkhwa became positive while the negative effect of living in Sindh persists.
- Living in a household with a household head who has no education, primary education or secondary education (compared to a household head with higher education degree) decreases the likelihood of finishing 8 years of education in 2012 and the marginal effects are more or less the same compared to 1990.
- 5 or more children in the household decreases the likelihood of finishing 8 years of education in 1990 and 2012 at about the same rate. 3-4 children in the household also has a negative but smaller marginal effect.
- For the children living in households in the 1st and 2nd quintile the negative marginal effects increased from 1990 to 2012 while they decreased for children living in richer households (3rd and 4th quintile).
- Speaking a language different than Urdu in the household did not use to affect finishing 8 years of education in 1990 but in 2012 it decreased the chances of finishing school by 10.2 percent.
- Being a girl decreases the likelihood of finishing 8 years of education by 14.2 percent in 2012 but this rate used to be higher in 1990 with 23.3 percent.

Annex Table 8 Probit regression results (reporting marginal effects)

	Attendance 6-11 year olds		Attendance 12-15 year olds		Finishing 5 years of education (12-15 year olds)		Finishing 8 years of education (16-18 year olds)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	1990	2012	1990	2012	1990	2012	1990	2012
location: Rural	0.006	0.025	0.072**	0.010	-0.040	0.045*	-0.002	0.018
	(0.034)	(0.025)	(0.035)	(0.023)	(0.037)	(0.025)	(0.042)	(0.027)
region: Sindh	-0.214***	-0.197***	-0.155***	-0.120***	-0.212***	-0.103***	-0.065**	-0.080**
	(0.028)	(0.026)	(0.037)	(0.024)	(0.027)	(0.024)	(0.032)	(0.032)

region: Khyber Pakhtunkhwa	-0.186***	-0.055**	-0.124***	0.051**	-0.200***	0.034	-0.092***	0.080**
	(0.035)	(0.025)	(0.036)	(0.026)	(0.030)	(0.026)	(0.035)	(0.032)
region: Balochistan	-0.295***	-0.217***	-0.209***	-0.030	-0.173***	-0.078**	-0.166***	-0.004
	(0.043)	(0.036)	(0.060)	(0.032)	(0.041)	(0.032)	(0.033)	(0.039)
household head's education: No education	-0.319***	-0.209***	-0.429***	-0.295***	-0.472***	-0.247***	-0.318***	-0.322***
	(0.056)	(0.022)	(0.056)	(0.026)	(0.069)	(0.025)	(0.065)	(0.028)
household head's education: Primary education	-0.192***	-0.147***	-0.292***	-0.230***	-0.312***	-0.184***	-0.242***	-0.260***
	(0.067)	(0.030)	(0.064)	(0.029)	(0.054)	(0.027)	(0.040)	(0.028)
household head's education: Secondary education	-0.115*	-0.068***	-0.154**	-0.089***	-0.235***	-0.063**	-0.153***	-0.146***
	(0.070)	(0.024)	(0.070)	(0.028)	(0.065)	(0.026)	(0.053)	(0.030)
# of children in household: 3-4	-0.050*	-0.023	-0.015	-0.027	-0.061*	-0.086***	-0.046	-0.047**
	(0.030)	(0.017)	(0.037)	(0.019)	(0.034)	(0.018)	(0.036)	(0.021)
# of children in household: 5 or more	-0.092***	-0.057***	-0.054	-0.074***	-0.099***	-0.147***	-0.082***	-0.081***
	(0.029)	(0.017)	(0.037)	(0.019)	(0.033)	(0.020)	(0.031)	(0.023)
wealth: Poorest	-0.572***	-0.504***	-0.459***	-0.477***	-0.389***	-0.474***	-0.340***	-0.494***
	(0.030)	(0.041)	(0.040)	(0.033)	(0.030)	(0.026)	(0.024)	(0.022)
wealth: Poorer	-0.464***	-0.281***	-0.359***	-0.249***	-0.330***	-0.323***	-0.307***	-0.352***
	(0.034)	(0.039)	(0.045)	(0.033)	(0.033)	(0.029)	(0.026)	(0.029)
wealth: Middle	-0.401***	-0.176***	-0.310***	-0.161***	-0.274***	-0.215***	-0.284***	-0.234***
	(0.033)	(0.035)	(0.043)	(0.031)	(0.035)	(0.029)	(0.026)	(0.030)
wealth: Richer	-0.231***	-0.085***	-0.181***	-0.075***	-0.190***	-0.106***	-0.210***	-0.185***
	(0.033)	(0.028)	(0.040)	(0.027)	(0.029)	(0.026)	(0.029)	(0.028)
language: non-Urdu	0.010	-0.072***	-0.056	-0.075***	-0.056	-0.072***	-0.025	-0.102***
	(0.035)	(0.021)	(0.047)	(0.024)	(0.042)	(0.027)	(0.041)	(0.034)
gender: Female	-0.228***	-0.097***	-0.328***	-0.182***	-0.249***	-0.065***	-0.233***	-0.142***
	(0.019)	(0.011)	(0.025)	(0.016)	(0.023)	(0.016)	(0.028)	(0.019)
Observations	8,703	11,972	4,397	7,273	4,424	7,279	2,591	4,686

*Note: Authors' calculations using DHS 1990 and DHS 2012. Marginal effects are reported, obtained using "dprobit" command in STATA. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Omitted groups are: location: Urban, region: Punjab, household head's education: Higher education, number of children in household: 1-2 children, wealth: Richest, language: Urdu, gender: Male.*

Legend

Marginal effect is significant at least at p<0.1 and the effect is larger than or equal to 5.0 percent and smaller than 10.0 percent.

Marginal effect is significant at least at p<0.1 and the effect is larger than or equal to 10.0 percent and smaller than 20.0 percent.

Marginal effect is significant at least at p<0.1 and the effect is larger than or equal to 20.0 percent.

Policies and Select Examples of Programmes

Poverty: Demand-side Policy Examples

Province and district level initiatives

The Sindh Education Reform Programme (SERP) has set up such a stipend. With an average family size of up to 7 or 8 and a third of the population living on less than $1 a day, these small stipends and free textbooks can make the difference between daughters being sent to school or having to drop out. In Sindh, the stipend is offered to more than 400,000 girls studying in classes 6 through 10, and is designed to address gender disparity in educational attainment in Sindh. With timeliness being critical to the girls' stipend disbursement, the Government of Sindh explored several methods of disbursements, through ATM cards, pin mailers, SMS and other types of mobile payments. As such, it awarded contracts to Easypaisa[545] (2014) for mobile payments of the stipends, with Easypaisa providing a comprehensive daily report on the status of their disbursements, thus making it easier for the Government to manage their records. The Government also partnered with Jazz mobile network.[546] In particular they used the JazzCash biometric verified money transfer, which ensures the stipend reaches the right family. Under this method of disbursement, a Jazz number or mobile is not even required. Customers give their fingerprints, linked to their Computerised National Identity Cards (CNIC), and can send or receive money from any JazzCash Agent across Pakistan instantaneously[547].

A similar project is being run under Punjab Education Sector Reform Programme (PESRP). The Government of Punjab offers cash stipends to girls of grades (6-10)[548] who attend government schools in the selected districts with the objective of improving enrolment, increasing retention, and reducing gender disparities. Annually, the programme is distributing stipends to over 400,000 girls enrolled in grades 6-10 in government schools in Punjab. The beneficiary girls are given a small stipend per year, in four equal quarterly payments subject to the condition of 80% attendance rate during the period. The stipend programme is being administered through district education administrations. Various pilots in terms of additional stipends and disbursement methods are ongoing, including the branchless banking pilot project which aims to switch the delivery mechanism away from post offices to branchless banking.

The elementary and secondary education department of Khyber Pakhtunkhwa (KP) has been running the stipend programme since 2006. In KP, more than 1 million children have had their education interrupted[549], either due to forced displacements or schools being used as shelters. Despite these circumstances, the enrolment of girls in primary schools has increased in recent

[545] https://www.oecd.org/aidfortrade/casestories/casestories-2017/CS-33-Telenor-Group-Disbursing-girl-stipends-via-Mobile-Money-in-Pakistan.pdf

[546] Jazz was formerly known as MobiLink, however in November 2015, it announced a merger with WaridTel Pakistan, both companies re-launched under the 'Jazz' brand name. Both merged companies now collectively server 50 million subscribers in Pakistan.

[547] http://www.jazzcash.com.pk/shop/money-transfer-shop/send-money-to-cnic/

[548] http://www.pesrp.edu.pk/pages/Stipend-to-Girl

[549] https://www.gov.uk/government/case-studies/helping-girls-get-an-education

years and this trend can be attributed, in part, to the stipends[550] provided to girls to attend school. The Girls Stipend Programme has three different streams[551] (i) the provision of a monthly stipend to girls enrolled in grades 6 to 10, in two instalments, reaching over 400,000 girls in 2013-2014. (ii) the provision of significantly higher levels of stipends (1,500-2,000 rupees versus 200 rupees of the regular scheme) in two districts for girls enrolled in grades 1 to 10, and 6 to 10 in the second district. Those districts are at a particular geographical disadvantage with a lack of proper education facilities. (iii) in 2013-2014 a special stipend was provided as incentive for girls in primary schools in seven districts with a particularly low net enrolment rate.

National level initiative

Beyond these examples of stipends at the provincial or district level, a major national level social protection scheme is the **Benazir Income Support Program**.

Box 1 Benazir Income Support Programme (BISP)

Goal. In the short-term, provide a cushion to adverse impacts of food, fuel and the financial crisis on the poor. In the long term, the programme aims at providing a minimum income support package to the poorest and to those most vulnerable to future shocks.

Why. Launched in 2008, it is the country's flagship national safety net programme. Recognizing that the existing instruments (Pakistan Bait-ul-Mal and Zakat) had limited coverage and were poorly targeted, BISP provides predictable income support through unconditional cash transfers to more than 5.2 million families[552].

How. The transfer is delivered quarterly, with the vast majority of beneficiaries receiving cash through a BISP Debit Card. By providing access to Computerised National Identity Cards (CNIC) and making BISP payments to the female head of beneficiary households, the BISP made explicit the goal of empowering women, which is complemented by the creation of BISP Beneficiary Committees (BBC) that provide a forum for beneficiaries.

Direct link to education. Unconditional income support is likely to support access to school by children in the beneficiary households by alleviating the financial constraints and decreasing incentives for child labour or other negative coping mechanisms. However, with a variety of building blocks of safety nets, BISP has evolved into a national platform for the provisions of a series of targeted services to the poor. One example of an additional 'top up' programme is the "Co-responsibility Cash Transfer" CCT programme which started in 2012 and *linked transfers to primary school education* of the beneficiaries' children[553]. More than 1.3 million children have been enrolled in the programme and nearly 50% are girls.

[550] https://www.gov.uk/government/case-studies/helping-girls-get-an-education
[551] https://www.dawn.com/news/1161230
[552] http://www.worldbank.org/en/results/2016/05/19/cash-transfers-help-pakistans-poorest
[553] http://www.worldbank.org/en/results/2016/05/19/cash-transfers-help-pakistans-poorest

Innovations. Transfers to female members of the families (leading to the empowerment of women) and moving to an electronic payment system (leading to increased transparency and accountability, with efficiency improving by 93%[554]) have been two notable innovations of the programme. In addition, BISP established a well-regarded National Socio-Economic Registry through the use of an objective targeting system (based a Proxy Means Test (PMT). The database covers more than 27 million households (approximately 167 million people) and was the first in Asia. Over 30 federal and provincial organizations use the registry to improve the pro-poor targeting performance of respective social sector programmes.[555] Finally, BISP is engaging in several partnerships with provinces that raise awareness of the programme and supported the design and delivery of complementary services.

Embedded evaluation. The BISP has an embedded evaluation component. Several rounds of rigorous evaluation were conducted by the Oxford Policy Management (OPM) [556], adopting a mixed method approach based on large scale household surveys across the four main provinces. The successive evaluations pointed to both benefits (increased food consumption for example) as well as feedback on design or implementation issues, which were then incorporated as updates to BISP. One finding was that the Unconditional Cash Transfer was not necessarily leading to increased school attendance and this led to the adoption of the top-up stipend "Co-responsibility Cash Transfer" presented earlier. Overall BISP is considered to have become a global example of best practice as a social safety net program.

Religious education reform – a demand and supply side policy

Similar to Senegal, there is a demand for religious schools based on cultural preference and local customs. While the share of madrassas schools is not very large compared to the other formal education offerings by private and public schools, their instructional quality is so low that the government has initiated pilots to test how to improve the quality of instructions and include subjects other than just memorising the Koran. A formal evaluation of the pilot will undoubtedly provide precious information on how to modernize Madaris and hopefully how to scale the reform.

Box 2 NHCD pilot "Introducing Primary Education in Madaris in Pakistan"[557]

Background. The Federal Government started an initiative aimed at "Mainstreaming of Madaris" by introducing Primary Education alongside the curricula of Madrassas to enhance prospects of students of Madrassas to pursue further studies. The project initiated was in 2014 for 3 years with possibility of extension for another 2 years.

[554] http://www.worldbank.org/en/results/2016/05/19/cash-transfers-help-pakistans-poorest
[555] http://www.worldbank.org/en/results/2016/05/19/cash-transfers-help-pakistans-poorest
[556] Cheema et al (2016)
[557] NHCD Annual Report 2014 and Annual Report 2015

Madaris School Project. The NCHD established 100 Feeder Schools in Madaris as a pilot project with allocation of madrassas schools in the Federal Areas of Pakistan (FATA) (25%), Gilgit Baltistant(15%), AJ&K (20%), Islamabad Capital Territory (40%).

Goals. (1) To bring about quantitative/qualitative improvement in students in Deeni Madrassas to enable them to attain standards of National Education System, (2) To encourage Madrassas to introduce science, maths, social studies and English in their curriculum

School selection. Madaris Feeder schools are established at locations where at least 20-30 children are available and do not have access to primary education. The management and community of the Madrasa agree to provide the services of a teacher within Madrasa or from the nearby community. The management and community agree to allocate the appropriate time for primary education for the children.

Implementation strategy: (1) meeting with all stakeholders (2) formation of steering committees (3) identification and enrolment of the students (4) teachers' interview and appointment (5) induction training of teachers for 5 days and refresher course every year (6) school supplies/material distribution (7) inspection/monitoring of schools (8) periodic assessment of students (9) linking Madaris Feeder Schools with Formal Government Schools (10) recording and reporting.

Objectives included (but not limited to): capacity building of 100 volunteer Madaris Teachers on pedagogical techniques; capacity building of 100 Muhtamim/Nazim/presidents of Madaris on the mainstreaming of this form of education with the prevailing District Education Department; capacity building of 100 Muhtamim/presidents of Madaris on the sustainability of the programme in Madrassas through the resources and philanthropy of the local community; developing an effective education management system for maintaining the records of students and to help in calculations of annual GER and NER permitting informed decision making; enhance the learning outcomes of students to ensure quality education in the 100 Madaris. reduce drop-out of students.