



The International Role in Mitigating the Syria Crisis Impact on Education Quality in Jordan

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Abstract:

This study aims to find out if the international intervention helped to mitigate the Syrian crisis impact on the quality of education in Jordan. We collected and analyzed primary quantitative and qualitative data for a sample of (30 double-shift) public schools in Qasabet-Irbid district (Northern Jordan), close to the Syrian border. Our empirical analysis assesses an overall positive impact of the international intervention on students' outcomes in the affected public schools that received international assistance relative to the counterfactual sample. Students' scores in these treated schools in the four subjects (Math, Science, Arabic, and English) declined less than in the affected public schools that did not receive international assistance (untreated). This positive impact is confirmed by the qualitative analysis as well. However the international intervention was effective in many schools, but it did not cover all the affected public schools in Jordan. On the other hand, many schools that benefited from the intervention lately would have better educational results in the short run. Also, in the near future, there would be a significant enhancement in the whole sector due to the ongoing programs and projects that are funded by the International donors and aim to reduce the crisis impact on quality and enhance the sector's resilient. Finally, GOJ and donors should work together to schooling all refugee children, but without affecting the quality in public schools. Moreover, they should remedy the damage in quality at the affected schools (due to schooling the refugees), as well as launch more programs and initiatives to have a more inclusive intervention.

Keywords: Syria Crisis, Education Quality, International Intervention, International Organizations, Donors, Refugee Education, Jordan

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1. Introduction

Jordan is hosting more than 1.4 million Syrian refugees, nearly 20 percent of the country's total population (Dupire, 2018). Meanwhile, in the same year, the UNHCR reported that only 661,859 of them are registered as refugees (UNHCR, 2018a)¹. The majority of those refugees moved to Jordan between the years 2012-2014. They have put huge pressure on the Jordanian education sector, particularly in public schools. The international donors represented by the international organizations (IOs) have played a key role in schooling those refugees, as well as in reducing their impact on education quality in public schools. The government of Jordan (GOJ) would not have been able to enroll more than 15 percent of the refugee children without the help of the international donors; hence, their enrollment in formal education in Jordan has increased to 75 percent by the end of 2018 (MOE, 2018)². However, enrolling the majority of the refugee children in public schools has extremely increased overcrowding and forced 200 public schools to run on double-shift³. This has impacted the education quality in the affected public schools (quantitatively and qualitatively), particularly in the double-shift schools (Bataineh and Montalbano, 2018).

This study aims to assess empirically the impact of the international intervention in reducing the Syria crisis impact on education quality in Jordan's public schools. We collected and analyzed primary quantitative and qualitative data from the Ministry of Education (MOE) institutions and stakeholders⁴ of education in 30 double-shift public schools in Qasabet-Irbid district (Northern Jordan), close to the Syrian border. Specifically, we carried out a set of double differences (pre-and-post crisis comparisons) for students' scores in a group of affected schools that received international assistance (treated) with respect to a control group of

¹ Many of Syrians did not register as refugees in Jordan for the following reasons: many Syrians came to Jordan to use it as a transit-base (to move abroad, particularly to Europe or Canada), but a lot of them got stuck in the country. Many others have believed in an imminent return to Syria. Also, there were many Syrians who were working in Jordan prior to the crisis, so they could not go back to their country after the war. Some of them did not register as refugees, because they might have political problems back in Syria or criminal records. The numbers estimated from the government of Jordan are based on the national census that was accomplished by the end of 2016. Actually, having a huge number of refugee children who are not able to enroll in the formal education due to lack of documents might confirm these estimates.

² Data from MOE (planning department, 2018).

³ These schools started to have two shifts (a morning shift for Jordanian students, and an afternoon shift for the Syrians). This has reduced the learning time in both shifts, in which it has affected the education quality in these schools, particularly in the afternoon shifts.

⁴ Schools' principals, teachers, experts and employees at MOE, education experts from the international organizations and other educational institutions.

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affected schools that did not receive international assistance (untreated). Questionnaires and interviews with some of the stakeholders in the affected schools and some educational experts from the IOs were carried out to complete the quantitative results.

After applying both quantitative and qualitative methodologies, there is a quantitative positive impact of the international intervention in reducing the crisis impact on students' scores in the affected schools that received international assistance. But the intervention was not comprehensive (it did not cover all the affected schools). This positive impact is higher in the case of Math and Science than in English and Arabic; as well as it is confirmed by the qualitative analysis. Hence, this study provides empirical evidence on the positive impact of the international intervention in reducing the crisis impact on education quality in the treated schools. Also, many schools that benefited from the intervention lately would have better educational results in the short run. Nevertheless, GOJ and donors should work together to schooling all refugee children, but without affecting the quality in public schools. Furthermore, they should remedy the damage in quality at the affected schools due to the crisis, as well as to launch more programs and initiatives to have an inclusive intervention that cover all the affected public schools.

This paper is structured as follows: Section 2 presents the literature review. Section 3 overviews the status of Syrian refugee education in Jordan. Section 4 talks about the international response to Syrian refugee education in Jordan, and the areas of intervention that have been covered. Section 5 presents the data and methodologies. Section 6 shows the empirical analysis of the impact of the international intervention in reducing the crisis impact on education quality; and finally, section 7 has the conclusion followed by the recommendations.

2. Literature Review

The Syria crisis has impacted the education quality (quantitatively and qualitatively) in the Jordanian public schools (Bataineh and Montalbano, 2018). The international intervention has been essential to schooling the refugee children and to reduce their impact on education quality in the public schools. This intervention has covered many areas such as teachers' training, building new schools, renovating or expansion schools' infrastructure, providing schools resources and tools, and improving WASH conditions; livelihood programs, remedy education, improving the access to the non-formal and vocational education; providing students with training and new learning tools and methods, entertainment activities and free meals; as well as improving public schools accessibility to children with disabilities. Hence, this has addressed the following education quality determinants that got affected by the crisis in different ways.

Overcrowding in public schools in Jordan increased to 47 percent in 2014, due to the enrollment of Syrian refugee children (UNICEF, 2015). According to Bray (2002), reducing class size can increase teacher-students engagement. Also, overcrowding reduction can alleviate pressure on schools resources and facilities. On average, larger classes reduce students' academic achievement as measured by test scores (Bandiera, Larcinese and Rasul, 2010). On the contrary, small classes do not necessarily translate into improvement in quality as there are other quality determinants (Maligalig, Rodriguez, and Martinez, 2010). More importantly, teachers matter more than any other factor in determining the quality of learning (Hanushek, Kain and Rivkin, 2004). Human Rights Watch reported that they have interviewed some Jordanian teachers who had no training and faced overcrowded classrooms (Van Esveld, 2015). Thus, any training that is provided to teachers and MOE staff will enhance their teaching, evaluation and mentoring skills. School resources are key determinants of individual educational outcomes as well; enhancement of these resources will definitely lead to better educational outcomes (Hanushek, 1996). Although there is no pure evidence that only

spending on education will decisively enhance education quality. But, according to Bray (2008), spending on education and educational improvement are proportional (Bray, 2008). Improving WASH in schools is also a key pathway to healthier schools, thus healthier children are better-performing (UNICEF, 2011).

Increasing the teaching time for students is an added value to their educational outcomes (Hanushek and Wößmann, 2007; Aldmour et al., 2017). Therefore, providing (remedy education) to students who experienced time-reduction in the double-shift schools after the school day can help them to make up the lost time and achieve better educational results. Also, providing students with new meaningful and interactive ways of learning can promote education quality by increasing their motivation for learning (Yew, Chung, and Schmidt, 2010). Studies also revealed that quality pre-primary education is really cost-effective to invest in with respect to cognitive and non-cognitive benefits, and future economic returns (UNICEF, 2014). Creating more jobs and livelihoods support to refugee and Jordanian households can help to reduce poverty, which in turn can reflect on their children educational attainments. There is a strong relationship between children educational attainments and their family income (Sikhan, 2013). The good technical and vocational education and training (TVET) programmes are an essential part of the educational provision as well. High-Quality vocational education can guarantee access to higher education and awarding employment (Wolf, 2011). Many public schools in Jordan lacks the required facilities for children with disabilities (Handicap International & Help-Age, 2014); and many Jordanian teachers lack the right training to deal with them (UNICEF, 2015). Providing intervention to address these issues can ease the access of children with disabilities into public schools.

According to an external quality-assessment project that carried out by a foreign donor agency at Jordanian schools in 2016, there was a measurable improvement in education quality in the country compared with the previous year (Van Esveld, 2016). Maintaining the education quality in public schools after the Syria crisis is crucial to achieving better economic growth results. The value of human capital accumulation varies with the level of education provided for them. A worker with little human capital gets a lower wage than a worker with much human capital (Mankiw, Romer and Weil, 1992). Therefore, better-educated workers earn more and have better economic opportunities (Angrist and Pischke, 2008). In Jordan, many studies have confirmed that there is a positive relationship between education and economic growth such as (Kreishan and Al Hawarin, 2011), (Bader, 2012), and (Abdul-Khaliq, Soufan and Abu Shihab, 2013). Accordingly, the intervention to safeguard the education quality has been urgent, and the investment becomes less cost-effective with increasing age (Heckman, 2006).

3. Status of Syrian Refugee Education in Jordan

Since the outset of the Syria crisis (March 2011), a huge influx of refugees fled to Jordan. More than 80 percent of them live below the poverty line, and around 51 percent of them are children under 18 (UNHCR, 2018b). Moreover, approximately 84 percent of them live in crowded host communities outside the camps (NRC, 2014). The refugee children have imposed an extreme pressure on Jordan's public schools that were already overcrowded⁵. However, education is a human right, and it has to be available in any situation, including crises. Refugee access to education is decisive not only for them but also for the stability of the country that hosts them. Therefore, the international community represented by the IOs has provided immense efforts to GOJ to schooling the refugee children. In the first two years (2011 & 2012), access of education for Syrians was easier; their numbers were low and MOE enrolled them

⁵The refugees moved to reside in the three main Jordanian cities (Amman, Irbid, Zarqa), and in Mafraq. These 3 cities hosted the majority of Palestinian refugees, while Amman the capital of Jordan also hosted the majority of Iraqi refugees. Therefore, the educational infrastructure in these cities is overburdened.

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without having the required documents or being registered as refugees at UNHCR. Afterward, MOE started to enroll only those who are registered with UNHCR or Ministry of Interior, due to the increasing number of refugee school-age children. By the end of 2018, up to 210,600 Syrian children (around 75% of refugee children) were enrolled in formal education (MOPIC, 2017). See Table 1 in the appendix for more details about Syrian children enrollment in Jordan. MOE has defined three main categories of education for the refugee children: formal (in public schools), non-formal (it is either at home or in centers for students who have been out of school for three or more years), and informal (it is provided during formal education to help students re-enroll in schools after a prolonged absence), (ESWG, 2014). The formal education for refugees is divided into three main categories as well. For example, in the school year 2013/2014, around 54 percent of Syrian children were integrated with citizens in classrooms in regular or double-shift schools, 29 percent were in second shifts, and the rest were in schools in their camps (Culbertson, Olikier, Baruch, 2016). Nevertheless, their enrollment rate in Jordan is higher in host communities than in camps (52% in al-Zaatari Camp and 62 % in host communities in 2014), (REACH, 2014-2015). Meanwhile, the enrollment rate of Syrian children in Turkey was 80 % in camps and 27 percent in host communities in the same year (Dorman, 2014).

Actually, Syrian children are facing many challenges in accessing the formal education in Jordan due to the lack of required documents to enroll in public schools, as well as the limited education system capacity (Christophersen, 2015). Also, MOE regulations prohibit school enrollment to all children who left school for three or more years (three years rule)⁶. The majorities of Syrian refugees in Jordan are very poor and live below the poverty line (European Parliament, 2017). Although GOJ has provided them free education at the public schools, UNICEF reported that around 15,400 Syrian children could not attend school in February 2016, due to financial hardships. Furthermore, due to diminishing assistance to refugees, dropout, child labor, and early marriage have been rising potentially (WFP– CFMSE, 2015). Overcrowded classrooms is another problem, the teacher-student ratio counted up to 1:85 in some schools in the camps (Whitman, 2015). In addition, the low quality of education provided in the second shifts has driven many refugees to drop out (Van Esveld, 2016). Also, around 1,600 Syrian children dropped out of school in 2016 due to bullying⁷ (Valenza and Al-Fayez, 2016). As per to a UNHCR report, one of the key reasons why Syrian refugees want to flee to Europe is the lack of educational opportunities (Fleming, 2015). Add to the aforementioned that many refugee students have experienced trauma, which has a direct result on learning (Teaching Refugees, 2005).

In spite of all these challenges, but the situation of Syrian children education in Jordan is the best among the 3 top-refugee hosting countries (UNHCR–3RP, 2015). It is also better than the global average for refugees in both stages of primary and secondary education (UNHCR, 2018). Moreover, their educational outcomes in Jordan are as equal as or slightly better than the average in their own country before the crisis (Christophersen, 2015). An intensive-planning exercise was conducted in 2015 to improve the quality of education in refugee camps, and the result was a 50 percent decrease in the teacher-student ratio (MOPIC, 2017). However, many international agencies have been working hard with GOJ to address these challenges by a comprehensive intervention as discussed in the following section.

4. The International Response to the Syrian Refugee Education in Jordan

⁶ This rule bars enrollment in formal education for children (Jordanians or Syrians) who are three years older than their age cohort.

⁷ Syrian children reported that they face severe harassment by Jordanian children in school or while walking to and from school.

Education is a lifesaving intervention that can enhance refugee resilient in exile, upon repatriation, upon resettlement, and in intervening times (Nicolai and Triplehorn, 2003). Education can protect the refugee children and youth from being victims of recruitment into armed groups, extremism, child labor, sexual exploitation, and early marriage. It can also help the refugees to participate in the social and economic development of their societies (UNESCO-WDE, 2011). Eventually, refugee education should be prioritized over many other forms of humanitarian assistance, as it only gets less than 2 percent of humanitarian aids (Thomas, 2016). The refugees are a global responsibility, not only a responsibility of their host countries. Therefore, the international donors led by EU and US play a key role in funding a lot of IOs that support the Syrian refugee education in Jordan.

At the beginning of the crisis, the IOs and GOJ planned quick solutions to schooling the refugee children, based on the assumption that they will not stay for long. But, as the average duration of refugee status currently lasts more than ten years, this is definitely an unsustainable solution (Center for Global Development, 2017). However, after receiving huge numbers of refugees, the costs⁸ of schooling them have been doubled or tripled. By the end of 2012, it has been clear enough that the crisis will not end soon. Thus, the international funding has been reduced at all levels. For example, Jordan took a \$150 million World Bank loan in 2013 to cover deficits in education and health (Yukhananov, 2013).

Prior to the crisis, there was an educational gap between the Syrian and Jordanian students in terms of quality (Bataineh and Montalbano, 2018). Moreover, many of the Syrian children in Jordan have lost significant periods out of school or received an interrupted education with poor quality. The IOs should have taken into account this quality variation between the National and Syrian students before planning their response approaches. Prioritizing refugee enrollment over maintaining the education quality for Nationals as well as the sector's resilient has jeopardized the quality of education in public schools. This caused a policy conflict between GOV (MOE) and donors (IOs).

The crisis has incrementally burdened Jordan budget and infrastructure, and the funding from donors does not cover the refugee costs (Harvard Field Study Group, 2014). By comparing between the two periods: before the crisis (2006-2010) & after the crisis (2011-2015); the growth rate of grants to Jordan has declined by 185 percent (MOPIC, 2017). This has forced GOJ to bear the additional cost of hosting the refugees (25%) from its own budget and to reduce its education budget as well (MOPIC, 2017). This has mostly affected the education reform plans and quality improvements, as the main priority in the sector has been to enroll more Syrians without affecting the education quality, instead of pursuing quality improvements. This situation has continued until the Mid of 2015 (response approach only without resilient). Hence, this kind of intervention approach will create a multi-tier education system in Jordan again (like in the case of UNRWA schools)⁹. It also has festered the miss-of-trust¹⁰ situation between GOJ and donors. Eventually, this has delayed the right intervention to be in place for both refugee and National students in the affected schools.

⁸The average cost of enrolling each Syrian refugee child is \$1,544, due to the need for new infrastructure, schools, teachers, and resilience programs; data from MOE – Finance Department, 2017.

⁹ Overall, UNRWA schools have outperformed the public schools in Jordan in all PISA & TIMSS sessions (Tweissi and Abulibdeh, 2016). This is because the International organizations led by UNRWA have provided them with better facilities and financial and management support (e.g., training and better teachers' payments), compared with teachers at the public schools (The World Bank, 2014).

¹⁰GOJ is accusing the International community by not providing enough support to help the country to cope with the crisis, as well as prioritizing refugee needs over its Nationals interests. Moreover, not even providing enough support to respond to the needs of the refugees themselves. While donors and the international organizations are complaining that GOJ is using the crisis as a vehicle to boost or back up its

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By the start of 2016, GOJ and the international donors have agreed on a paradigm shift in their response approach to the crisis by promoting economic development and opportunities for Syrian refugees, Nationals and Jordanian institutions in the affected host communities. In February 2016, Syria London conference was a policy change point. It was agreed that \$1 billion is needed to support the education sector in Jordan over the next three years. There was a need to merge the livelihoods programs within the intervention framework of education. Sustainability of refugee education is very important, and the management of education can transition away from the International community to GOJ, avoiding another UNRWA-like situation¹¹. Unfortunately, the International donors did not meet their promises that of London conference, nor GOJ met its commitments towards refugee education and their employment in the country. Moreover, most of the requested education budget was allocated for UN agencies and INGOs for the urgent short-term humanitarian education response, and not for direct budget support to the GOJ (Lattimer, Sparks, and Tuchel, 2016). In addition, their world (a nongovernmental organization focused on education) revealed that until August 2016, “most donors have failed to meet even the most basic criteria for transparency” (Watkins, 2016).

On the other hand, the UN agencies and the IOs funded by donors have responded to the Syrian refugee education in Jordan by covering many areas of intervention as follows. They have carried out many programs, projects, and initiatives to enrolling the refugees, reduce their impact on education quality, and somehow promote the sectors’ resilience. They have built new schools and rehabilitated, renovated and expanded the existed ones to enroll more Syrians and reduce overcrowding and number of double-shift schools. They also provided many schools with new resources and tools such as computer and science labs, white and chalkboards, desks and tables, as well as they constructed many libraries and sports facilities in schools and in host communities. Jordan is the World second water scarce country, and due to hosting the Syrian refugees, water demand has increased sharply by 21 percent across Jordan and 40 percent in the northern governorates(MOPIC, 2017).Increasing overcrowding and the double use of schools (double-shift schools) have put huge pressure on WASH conditions in the affected schools and created cleaning problems. The international intervention helped out to improve WASH conditions and constructed new bathrooms and sanitation facilities in many of these schools, as well as renewable energy systems.

A lot of teachers and MOE staff benefited from the training and capacity building programs that were funded or provided by the IOs, in which it would have a positive impact on students' educational outcomes. Moreover, MOE in collaboration with UNESCO has launched the new online platform (Open EMIS) that's funded by the European Union. This platform aims to achieve better evaluation and mentoring system inside MOE, as well as helps to gain quick feedback to establish new reform plans and policies. In addition, it has more information about students, teachers and administrative staff to better managing and directing MOE resources, also it will help to computerize many processes inside MOE.

The intervention also covered livelihoods support to Syrian refugee and some National households to reduce poverty by providing cash assistance and creating new jobs. They also provided schools supplies such as stationary, back bags, notebooks and water bottles, as well

economy. They also want to make sure that their funds and programs are directed to the most in need. But, GOJ wants to maintain the education quality for its Nationals and to oversee any International intervention in this vital sector.

¹¹After Trump's aid cut policies, the UNRWA is facing the most severe crisis ever. This might affect the education and other services that are provided to Palestinian refugees everywhere. There is a serious risk that GOJ will take over the onus of schooling more than 118,546 Palestinian refugees instead of UNRWA schools; which will overburden the already loaded education system.

as free healthy meals and transportation to many students¹² in public schools and camps. These kinds of intervention have direct and indirect positive impacts on learning. Generally, children in schools are often displeased or bored of the classical way of learning. Thus, the intervention initiatives included applying new learning methods and involving sports, arts and problem-solving activities in the education process to increase students' motivation to learning. This can promote education quality for both National and refugee students, and develop their mental, life, and interpersonal skills. Some campaigns and initiatives were launched too in order to reduce bullying¹³ and foster social cohesion¹⁴ between the refugee and National students. Moreover, more focus on children with disabilities was provided through mitigating a lot of architectural and infrastructural barriers that prevent or limit their accessibility of public schools. Also, the right training was provided for many teachers those teach students' with disabilities or have special needs.

Some remedy education projects were carried out after the school day to support students those are too affected by the crisis to help them to catch up with their peers at the less affected or not affected schools. Some programs to provide free¹⁵ early childhood education were launched because it is important for fostering kids intellectual, social and emotional development. More attention was given to improve access to informal, non-formal and vocational education, and increase their formality and accreditation. Anyway, Table 2 shows more details about the projects that have been carried out in the education sector since the outset of the crisis and the areas they have addressed. Nevertheless, the Syria crisis is donor fatigue. As per to the Jordanian Response Plan (JRP "2017-2019"), the budget needed for the resilient of the education system to recover from the crisis is more than the one needed to respond to the crisis itself (MOPIC, 2017). Moreover, according to Jordan Economic Growth Plan (2018-2022), the grand total budget required for education equals 2.8 billion in order to recapture the growth momentum and retain its human capital competitive edge.

5. Data and Methodologies

Investigating the impact of the international intervention in reducing the Syria crisis impact on education quality in Jordan is not an easy task¹⁶. Collecting all the required primary data to

¹²However, this kind of intervention was mostly focused on refugee children. But it has benefited many National students at the affected host communities as well.

¹³Bullying is one of the formidable challenges that exists in the majority of public schools in Jordan between the National students themselves. But, it has increased by enrolling the Syrians with them in the same schools.

¹⁴Many Jordanians lost their jobs to Syrian workers, particularly in the low skilled labor market, in which it has created a sense of rage and resentment toward the refugees. Also, many Nationals feel that the refugees are crowding them out. Those feelings have transferred to schools that have both National and refugee children. Accordingly, there is a serious problem of social cohesion between National and refugee students that should be addressed.

¹⁵The enrollment in early childhood education in Jordan is less than 40 %, because it is not free, like in the case of primary and secondary education.

¹⁶The education quality has many determinants, and most of the schools have different school resources and heterogeneous students' socioeconomic characteristics that might react to the interventions in different ways. Also, not all the schools are impacted by the crisis to the same extent, as well as, not all of them received international assistance; if so, not to the same extent. The schools also did not receive the intervention at the same time. Also, as the educational reforms take time to see their full results (on average 5 years), then the impact of the International intervention to safeguard or promote the education quality in Jordan will take some time to be completely measured. Moreover, the International intervention to safeguard the education quality (or promote it) for nationals came at a later stage. In addition, GOJ has been carrying out many educational reforms before and after the Syria crisis. On the other hand, the International intervention provided a lot of livelihood projects and created many jobs opportunities to

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perform the empirical analysis is difficult due to bureaucracy and data sensitivity¹⁷, as well as the lack of transparency of many international agencies. Moreover, the required amount of data is huge and spread over many different institutions and departments inside and outside MOE and many INGOs. Thereby, we encountered a lot of bureaucratic procedures and delays to get all of the required data. Indeed, we succeeded in collecting a good share of the required data that was collected in different ways such as surveys, interviews and elaborated using computational techniques.

Our sample includes 30¹⁸ public schools that are running on double-shift due to the increasing influx of Syrian refugees into their area that also has received a significant intervention from the IOs (Bataineh and Momani, 2017). These schools are located in Irbid (Northern Jordan, close to the Syrian borders¹⁹), specifically in the Qasabet Irbid district. Table 3 in the appendix provides additional information about our sample of schools, while Figure 1 shows a map of Qasabet Irbid district. This district has the highest number of public schools in Jordan that are running on double-shift to cope with the Syria crisis (30 double-shift schools). In addition, approximately one-third of the registered Syrian refugees in Irbid live in this district (NRC, 2014). Irbid also has the highest enrollment ratio for Syrian children in the country, and it has the highest rates of crowded and overcrowded public schools (MOPIC, 2013)²⁰. Furthermore, the city has the second highest unemployment ratio (21%) in Jordan for young people (NRC, 2014).

First of all, we carried out a qualitative analysis to determine whether each school in the sample has received enough international assistance or not, as well as to increase the robustness of the quantitative analysis. We carried out interviews with the entire sample schools principals (19-F and 11-M) and many teachers (44-F and 51-M) who teach Math, Science, Arabic, and English in these schools. The interviews were based on questionnaires (included open and closed questions) to discuss the role of the IOs in safeguarding the quality of education after the crisis, and whether each school received enough assistance or not (see Table 4 in Appendix). The majority of principals were interviewed in person, 5 by phone, and 2 preferred to fill the questionnaire by themselves. In some cases, vice principals or administrators were involved in the conversation too. While more than half of the teachers were interviewed in person, 14 by phone and 23 filled the questionnaire by themselves.

A final set of interviews were carried out with some people from MOE, MOPIC, QRCETI, NCHRD, RDFSC, and the IOs that care of education in Jordan (more than 34 interviewees). These interviews did not have a standard form of questions as they were mostly depending on open discussions about the kinds of intervention that have been provided and its impact on the education quality in the affected schools. Several of these interviews were formal and planned, while some others were carried out informally or without planning; i.e., they have happened during the processes of data collecting. Also, some of these interviews have been carried out by phone or over Skype, particularly with the staff of the IOs. Moreover, we also

reduce poverty and unemployment for refugees and Nationals. Hence, these economic benefits have a direct and indirect impact on education quality (spillover effects). Also, teachers and MOE staff training will benefit all the sector, not only the affected schools.

¹⁷Information in the educational records can have political, social, demographic, and security implications.

¹⁸Although the sample includes 30 schools, only 26 are included in the quantitative analysis due to the data unavailability of the rest (1-M & 3-F schools). While all the 30 schools are included in the qualitative analysis.

¹⁹Irbid is very close to Dara'a governorate where the Syrian revolution has started. It is one of the most affected areas in Syria by the civil war, and the majority of its population has been displaced either internally or externally.

²⁰Source: MOE EMIS data provided to UNICEF, September 2013.

benefited from some field visits that allowed us to give a closer view on some on-going projects and interventions in the education sector, which particularly focus on maintaining and promoting education quality and reduce the impact of schooling the Syrian refugees on the affected schools.

On the other hand, we divided the sample's schools into 4 different groups based on the school gender and whether the school received enough²¹ intervention, or not. So, totally we have 4 different groups²². We computed the averages of scores in (Mathematics, Science, Arabic, and English) for students at grade 6 inside each group of schools for the two periods²³ (2008-2011 & 2012-2015). Secondly, we computed the simple difference inside each group between the two different periods [Avg. in 2012-2015 – Avg. in 2008-2011]. Then we computed the double-difference between the different groups to see if the declining in students' scores is less in the schools that received international assistance (treated). Hence, we would measure the impact of the international role in reducing the Syrian crisis impact on the quality of education in these treated schools.

6. The Causal Impact of the Crisis on Education Quality

This study aims to evaluate the impact of the international intervention in reducing the Syria crisis impact on education quality in the Jordanian public schools. We divided the sample's schools (16-F & 10-M) into 4 different groups based on gender and whether each school received enough intervention, or not. So, we have 2 groups of male and female schools that received enough intervention (treated), and two groups of male and female schools that did not receive enough intervention (untreated). We computed the averages of students' scores at grade 6 inside each group of schools for the two periods (2008-2011 & 2012-2015) in (Mathematics, Science, Arabic, and English). Then, we computed the simple difference (Dif) inside each group between the two different periods [Dif = Avg. in 2012-2015 – Avg. in 2008-2011]. After that, we computed the double-difference (DID) between the different groups [DID = Dif in treated – Dif in untreated] to see if the declining in students' scores is higher in the schools that did not receive enough intervention (untreated). Hence, we would measure the impact of the international role in reducing the Syrian crisis impact on the quality of education in the treated schools.

We detected that over all, students' scores declined more in the untreated schools than treated ones. This shows quantitative evidence on the positive impact of the international intervention in reducing the crisis impact on students' scores in the affected schools that received enough intervention from the IOs. See Table 5, and Figures 2 and 3 for more details. This positive quantitative impact of the intervention is higher in the case of Math and Science, then in English, and finally in Arabic. However, the international intervention was effective in reducing the crisis impact on education quality in the treated schools, but it did not cover all the affected schools (i.e., untreated schools).

²¹This task was very difficult but the sample's schools were divided into two groups based on the received intervention. The first group that received infrastructural assistance, valuable schools resources and a lot of training for their teachers, staff, and students. While the second group only received very few resources and not much training for their staff, teachers, and students. Also, many of the schools in this group did not receive any intervention from the IOs before the year 2016 at all. See Table 2 in the appendix for more details about the covered areas of intervention.

²²**G1** has 7 female schools that received enough intervention; **G2** has 9 female schools that did not receive enough intervention; **G3** has 6 male schools that received enough intervention; **G4** has 4 male schools that did not receive enough intervention.

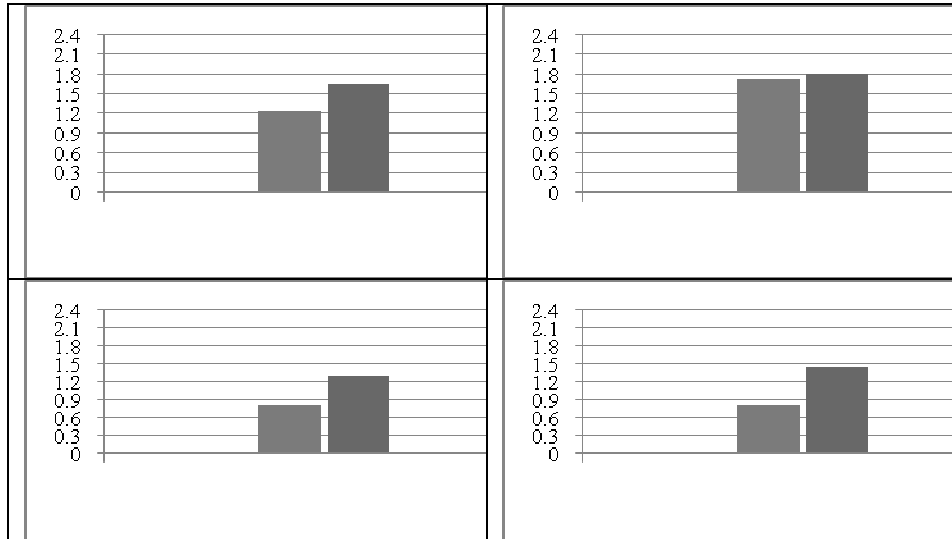
²³The period (2008-2011) is before the crisis and starting the double-shift and getting overcrowded; while the period (2012-2015) is after the crisis in which they got overcrowded and started the double-shift (the period of receiving the international intervention as well).

Table 5. The simple and double differences (Dif& DID) of averages in and between treated and untreated schools

(Male Schools)					(Female Schools)				
Value for	Math	Science	Arabic	English	Value for	Math	Science	Arabic	English
Avg. in treated schools in 2008-2011	71.255	73.166	76.207	71.952	Avg. in treated schools in 2008-2011	75.384	77.182	81.922	75.963
Avg. in treated schools in 2012-2015	70.019	71.431	75.390	71.134	Avg. in treated schools in 2012-2015	74.74	75.870	81.757	73.966
The simple-difference(Dif) in the treated schools = [Avg. in (2012-2015) – Avg. in (2008-2011)]	-1.236	-1.735	-0.817	-0.818	The simple-difference(Dif) in the treated schools = [Avg. in (2012-2015) – Avg. in (2008-2011)]	-0.644	-1.312	-0.165	-1.997
Avg. in the untreated schools in 2008-2011	71.122	72.654	76.226	71.818	Avg. in the untreated schools in 2008-2011	73.885	75.771	80.614	73.777
Avg. in the untreated schools in 2012-2015	69.460	70.841	74.912	70.363	Avg. in the untreated schools in 2012-2015	72.740	74.079	80.253	72.366
The simple-difference(Dif) in the untreated schools = [Avg. in (2012-2015) – Avg. in (2008-2011)]	-1.662	-1.813	-1.314	-1.455	The simple-difference(Dif) in the untreated schools = [Avg. in (2012-2015) – Avg. in (2008-2011)]	-1.145	-1.692	-0.361	-1.411
The difference-in-difference (DID) between the treated & untreated schools = [Dif. in treated – Dif. in untreated]	0.426	0.078	0.497	0.637	The difference-in-difference (DID) between the treated & untreated schools = [Dif. in treated – Dif. in untreated]	0.501	0.38	0.196	-0.586

To better understand the outcome of Table 5, see the following example. Let us calculate the double-difference (DID) in the averages of math scores between (6 male treated schools) and (4 male untreated schools). The DID. of [treated & untreated] = Dif. in treated [Avg. in (2008-2011) – Avg. in (2012-2015)] – Dif. In untreated [Avg. in (2008-2011) – Avg. in (2012-2015)] = – 1.236 – (–1.662) = 0.426. This means that overall and after the crisis (2012-2015); male students' scores in math decreased in the untreated schools by 0.426 more than in case of the treated schools. This again confirms that there is a positive quantitative impact of the international intervention in mitigating the crisis impact on students' scores in the affected schools that received enough international intervention.

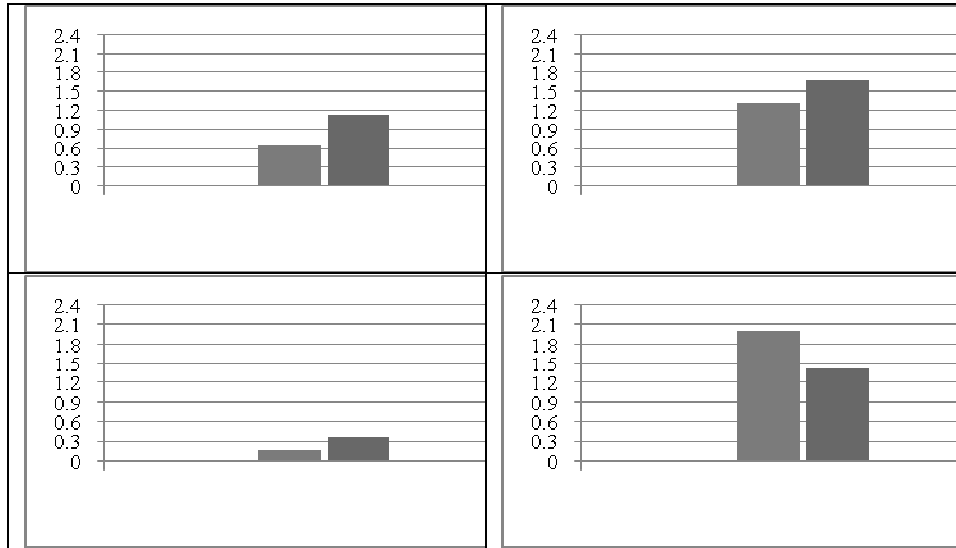
Figure 2. The simple difference (Dif) in male scores in the treated and untreated groups of schools



Treated: stands for the 6 male affected schools that received enough intervention from IOs.

Untreated: stands for the 4 male affected schools that did not receive enough intervention from the IOs.

Figure 3. The simple difference (Dif) in female scores in the treated and untreated groups of schools



Treated: stands for the 7 female affected schools that received enough intervention from the IOs.

Untreated: stands for the 9 female affected schools that did not receive enough intervention from the IOs.

It is important to understand the extent of the impact of the international intervention in safeguarding the education quality in the affected schools, in turn, on the impact on economic growth. In fact, there is no study discussed how matter is students' scores at this grade (G-6) on economic growth or per capita income. But, each 0.1 percent of the GPA is very significant in the case of students at the High School (Tawjihi) in Jordan, particularly for high performing students. In Jordan, each single 0.1 percent in the GPA of the high school matters, because it is so competitive to study medicine, dentistry, pharmacy or engineering. According to the Mena Development Report, higher numbers of degree holders in these majors are related to higher economic growth and annual earnings (The World Bank, 2008). In a U.S. recent study, it is estimated that a one standard deviation²⁴ increase in math performance at the end of High School translates into around 15 percent higher annual earnings (Murnane, Willett and Duhaldeborde, 2000). In addition, Hanushek and Kimko (2000) used data from the international student achievement tests to build a measure of education quality. Their estimates suggest that a higher standard deviation²⁵ in test performance on a country-level

²⁴ In this study, the standard deviation in case of all students is 7.33 and the mean is 14.11. They suggest that each standard deviation in the quality (7.33) is associated with a growth rate by 14.66 percent higher annual earnings.

²⁵ In this study, the standard deviation in case of students' performance in the international assessment programs is 10.86 and the mean is 46.61 for 39 different participating countries or more at some tests.

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would yield about one percentage point higher annual growth. Moreover, one standard deviation in mathematics and science skills translates into more than one percent in the average of annual real growth.

In the present study, there is a positive quantitative impact of the international intervention in safeguarding students' scores in the treated schools in comparison with the untreated schools. This positive impact is quite significant in math in the case of males, and in math and science in the case of females. These two subjects matter more for economic growth. It is also significant in the case of males performance in English and Arabic, and a bit significant in the case of females performance in Arabic. See Table 5 for more details about the values of DID between the treated and untreated schools in the different subjects.

Nevertheless, it was important for this study to carry out qualitative methodologies to design and complete the quantitative ones. It is worth to mention again that the data was collected from (11-M & 19-F) schools' principals, (51-M & 44-F) teachers, and more than 34 education experts from MOE institutions and IOs. Anyway, the results of analyzing the qualitative data were as follows. The Syria crisis has been affecting the education quality and delaying the implementation of national education reform plans, as well as it has slowed down the typical classroom learning and reduced education progression in public schools. The international donors represented by the IOs have responded to the crisis and tried to reduce its impact on education quality in many affected schools. Also, the majority of refugees are more likely to stay in Jordan for so long. Therefore, schooling them can reduce their negative impacts on economic growth and social development in Jordan in the future. In fact, the Syrian crisis is donor fatigue and it has required a lot of financial and humanitarian support to deal with. A huge influx of refugees has come to Jordan at short notice, and the education system in the country is already strained and loaded. Before the year 2014, the first and only priority for the international organizations was providing education for the Syrian children by a way or another. Furthermore, not all of the required or pledged money from donors have been received. In which it forced the IOs to focus their help and programs on refugees and prioritize them in their interventions, as they are the most in need.

Almost half of the schools in the sample of (30 schools) have received intervention from IOs (6-M & 9-F). The majority of these schools have received a good intervention, and some of them received an excellent intervention up to appoint that their principals said that the situation in their schools is better than before²⁶ in terms of resources, infrastructure, and facilities. While the other half of the schools (5-M & 10-F) only received very little intervention²⁷ or did not receive any assistance from the IOs at all, particularly before the year 2016. The majority of schools that did not receive any help from the IOs are located in rural areas or areas a bit far away from the city center. Their principals said that they feel really marginalized from the international intervention or only received little support to cope with the crisis.

The international intervention helped out to reduce the impact of the crisis on education quality to very low extent in the treated schools. However, the international community has prioritized refuge access to education over the quality for both Nationals and refugees in their interventions, particularly in the first three years of the crisis. But, these interventions have benefited the National students at the public schools directly and indirectly. Also, many

They suggest that each standard deviation in the quality (10.86) is associated with a higher annual growth rate by 1.4 percentages.

²⁶It refers to the period before the crisis and getting overcrowded and starting the double-shift.

²⁷Some of the schools have received some stationary, water bottles, back bags, and desks; but only to very few students (in many cases less than 10 percent of the students in the school). Also, around 45% of their teachers have received training from IOs in comparison of (75%) in case of the treated schools.

schools in the country at other affected host communities have benefited from the international intervention, while they are less affected by the crisis than the sample's schools. Many interventions were provided such as schools construction, rehabilitation, expansion, hiring new teachers, new playgrounds, science and computer labs ...etc. They have benefited the students, as well as provided direct and indirect social and economic benefits²⁸ to the people of the affected host communities. In turn, this will have a positive impact on the education quality in the long-run, as well as on economic growth. In addition, many teachers, principals, and employees at MOE have received capacity building and other forms of training, in which it will enhance their performance to benefit many schools in the country, not only the affected ones (spill-over effect). For example, among the sample's schools, more than 60 percent of the teachers (58 out of 95) have participated in at least one training course or workshop that was organized or funded by the IOs after the crisis.

Anyway, by the beginning of the academic year 2013/2014, the impact of schooling the refugees on the quality of education at the public schools was getting very significant. Accordingly, most of the interventions that have been designed to safeguard the education quality or enhance the sector's resilience have started in the year 2014. That is why the international intervention impact on education quality in the affected schools need more time to be fully observed. Many educational experts at IOs that care of the education in Jordan said that maybe the resilient approach was not really shaped before 2014. But, what has been provided later on in the last years, as well as the ongoing programs and projects might get the education quality in the treated schools to an equilibrium level (like in case of no crisis). However, new evaluation or assessment in the future for the international intervention should be carried out after 2020.

As mentioned before, the miss-of-trust problem between GOJ and the international donors (IOs) has affected the policies and outcomes of the international intervention. GOJ is complaining that the international policies of intervention are prioritizing refugees' needs over its Nationals' ones, particularly in the education and health sectors. Moreover, MOE staff said that schooling the refugees with this kind of intervention will create new quality gaps and expand the existed ones among the country's students. Also, it is a non-sustainable solution like in the case of UNRWA. That is why GOJ wants MOE to oversee any international intervention provided in the education sector. So, donors and IOs were a bit late in their intervention and not pleased with this policy, particularly that GOJ has put some bureaucratic procedures in the way of their interventions. Many of the interviewed people from IOs have complained that in many cases they do not decide where and how their intervention should be provided. In other words, many of them said that they should receive a list from MOE about the places and schools where they should provide their intervention, without being able to do their own evaluation or assessment. Some of them said that they have provided help and support to schools, where they really see that other schools and areas are more in need to receive this intervention.

7. Conclusion and Recommendations

Since the outset of the Syria crisis, Jordan has received more than 1.4 million Syrian refugees. The crisis and schooling the refugees have been imposing heavy direct and indirect impacts on the education sector in Jordan, particularly on public schools. Education is the foremost pillar

²⁸All the livelihood and other economic and social intervention forms that addressed increasing employment, poverty reduction, and women empowerment will impose direct and indirect impacts on learning in general, and on the educational outcomes in the affected host communities in particular. In addition to the increasing enrollment of Syrian refugee children, this will positively enhance the political stability and reduce social tension in the affected host communities.

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of sustainable development and the main source of generating income in the country. However, the international intervention has been essential to schooling the refugee children. But it has been key to reduce their negative impact on education quality in the affected public schools, in turn, reduce the negative impact on economic growth in the long-run.

This study aims to assess empirically the international intervention role in mitigating the impact of Syria crisis on the quality of education in Jordan. To this end, we collected and analyzed primary quantitative and qualitative data for a sample of (30 double-shift schools) located in Qasabet-Irbid, close to the Syrian borders (one of the top affected areas by the crisis). We carried out a set of pre-and-post crisis comparisons for students' scores in the (treated schools) that are affected by the crisis and received assistance from IOs and a control group of affected schools that did not receive international assistance (untreated). More specifically, we computed the double-difference (DID) between the two groups of schools (treated & untreated) to determine the impact of the international intervention in mitigating the crisis impact on education quality in the treated schools. Surveys and talks with the principals and teachers in the affected schools, as well as educational experts from MOE institutions and IOs were also carried out to reinforce and complete the picture of the quantitative results.

However, students' scores in the treated schools have declined in (Math, Science, Arabic, and English) in the years after the crisis (2012-2015). But, they have declined less than in the case of the untreated schools. Accordingly, the study shows an overall positive impact of the international intervention in mitigating the crisis impact on Jordanian students' performance in the treated schools. This positive impact is also confirmed and - possibly - reinforced by the qualitative analysis. The reduction of the extent of the crisis impact on education quality is essential to reduce the negative impact on economic growth in the long run. On the other hand, the following recommendations are not only useful to mitigate the crisis impact on education quality but also to promote it and fix the damage in quality that happened due to the crisis and schooling the refugees.

There should be a long-term plan that is focused on education and ensures that adequate funding is disbursed in a timely fashion to fulfill the needs of both refugee and National students. Providing adequate funding to public education makes it competes favorably with the private education, in which it helps to reduce the quality gap between them. Increasing spending to improve the education quality determinants, particularly teachers' quality, schools resources, and infrastructure, will eventually enhance students' performance and skills. Pre-primary education is not free in Jordan, increasing enrollment in this stage for both refugee and National kids is crucial to enhance the educational quality at an early age (3-5), since more than 95 percent of the brain skills formulate during this age. Launching more livelihoods programs in the affected areas is essential to impose positive direct and indirect impacts on education, also to reduce reliance on child labor and early marriage.

Launching new remedial education programs and expanding the existing ones to cover all the affected areas by the crisis. They can help vulnerable and poor students (Nationals and refugees) to catch up with their studies, particularly those who attend the overcrowded and double-shift schools. Also, they can provide recreation, life skills, and problem-solving activities to make up the difference that they have had in their schools due to the crisis. In addition, if possible to engage students' households in some training and workshops to help them to be more efficient in following up with their children studies at home. Carrying out these programs should be as soon as possible because both the cost and duration of fixing any deterioration in education quality will increase over time.

Providing the right training for teachers is not enough, there should be a way to make sure that they apply this training in their classrooms. Also, without certifications and compensations, any

structured training is useless or ineffective. Teachers should apply diagnostic evaluation methods by preparing the required educational activities to better control students' learning outcomes. In which they can offer remedial activities to students with learning difficulties or provide higher cognitive activities to those showing higher learning skills. In addition, teachers should be supported with curriculum resources and tools to achieve the effective-learning goals by engaging students in useful and meaningful activities that develop their problem solving and cognitive skills. Also providing the right training to MOE staff that is responsible for education planning, resourcing, evaluation, and monitoring, particularly at the overcrowded and double-shift schools. Better management can effectively mitigate the crisis impact on quality, so, making a periodical evaluation to redirect the best principals and administrative staff to the most affected schools could be efficient too. Furthermore, more leadership training should be provided to principals and their assistants in the most affected schools, and in the double-shift schools in particular.

It is also suggested to have single-shift schools only for both Syrian and National students. This can reduce bullying and social tension in schools and the affected host communities (in the short-run), and promote better quality for both of them. However, there was a talk about a plan proposed by MOE and funded by donors to move from double-shift to integrated schools by 2019. But, for the moment, there are no clues on any progress in this matter with the current practices. Hence, GOJ with the help of the international donors can rent or use buildings on a temporary basis to accommodate the Syrian students. Jordan has a high stock of teachers that can cover in this case, in which it will impose positive impacts on education quality and economic growth too. This solution can be cost-effective for the international agencies, particularly if the Syrians go home in the following five years. Also, it is suggested to carry out social, academic and sport friendly competitions and initiatives to enhance the social integration between the students (Syrians and Nationals). Also, it is possible to move the Syrian students who have a good performance to study in the same classrooms with their Jordanian counterparts.

The real use of information about students' achievements and socioeconomic characteristics is important to improve the whole education process. Real-time information about schools' staff and resources are necessary to provide better planning and reforming inside MOE. Using this information effectively is urgent to improve the evaluating and monitoring tasks, in turn, having quick feedback to reconstruct new reforms and strategic plans in this vital sector. Moreover, the new online platform (Open EMIS) should allow students' households to have a transparent picture about their children academic performance, life skills, and behavior, not only their grades. This can help them to follow up efficiently with them at home, and address the matters or behaviors that might affect their learning in schools.

Increasing monitoring in the overcrowded and double shifts schools, particularly in the second shift is urgent. Also, contracting out cleaning services in the double-shift schools to a third-party might reduce cleaning problems and enhance WASH conditions in these schools. Removing all the barriers that are facing the refugee formal education, and dealing with education as an exception such as health-care. In addition, continuing the development of quality frameworks for the alternative vocational, non-formal and informal education programs and make them more accredited. Last but not least, the international intervention should have been provided at three-main different levels from the beginning: schooling the refugees, maintaining the education quality for Nationals and promoting the sector's resilience. Finally, there should be a long-run plan to improve the education quality for the refugees that do not interfere with the Nationals educational priorities. Furthermore, MOE should be proactive and seek more quality improvements in the education system instead of maintaining its current or past level.

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Appendix (Online)

Table 1A. Syrian children enrollment rates in Jordan since the school year 2011/2012 until 2019.

Year	Number of Syrian Children Enrolled in Formal Education	Facts About the Enrollment of Syrian Refugee Children
2011/2012	16,713 in public schools in host communities only.	Only 12% of school-aged refugee children were enrolled in formal education.
2012/2013	84,831 in host communities and camps.	By Nov 2013, 34% were out of school.
2013/2014	120,000 in host communities and camps.	65,000 mixed into Jordanian schools, 35,000 in Syrian-only second shifts, and 20,000 in the camps.
2014/2015	129,354 in host communities and camps.	60,066 mixed into Jordanian schools, 46,049 in Syrian-only second shifts, and 23,227 in the camps; By the end of 2014, there were 35,000 students enrolled in non-formal and informal education.
2015/2016	145,458 in host communities and camps.	35% of Syrian children were out of formal education.
2016/2017	170,000 in host communities and camps.	Around 90,846 Syrian children registered with UNHCR remain out of formal education; a figure that substantially increases to 118,840 children when calculations are based on the 2015 Census data.
End of 2017	Estimated: 195,000 students enrolled in formal education.	By the end of 2017, 25,000 children will be enrolled in a “catch-up” program, which will teach two grades of material in a single year, after which they will be eligible to re-enroll in formal education.

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End of 2018	Estimated: 210,600 students enrolled in formal education.	
End of 2019	Estimated: 227,448 students enrolled in formal education.	

Sources: MOE September 2016, DOS 2015 census – MOPIC, THE JORDAN RESPONSE PLAN FOR THE SYRIA CRISIS 2017-2019, UPDATED FEBRUARY 23, 2017; MOE and UNESCO (2012) – The Fiscal Impact Of The Syrian Refugee Crisis on Jordan (USAID); MOE 2014 – Education of Syrian Refugee Children –Managing the Crisis in Turkey, Lebanon, and Jordan – Shelly Culbertson, Louay Constant – Rand Corporation; UNICEF – Evaluation for Emergency Education Response for Syrian Refugee Children and Host Communities in Jordan, in Early 2015.

Table 3A. The 30 public schools that located in Qasabet Irbid area and running on double-shift

School ID	School Name	School Code	Year	Gender
113944	Al Qadisyah Secondary School for Girls	FS1	2011/2012	Female
113128	Khadja umm Al Moumineen Basic School for Girls	FS2	2011/2012	Female
111145	Hikmah Basic School for Girls	FS3	2012/2013	Female
113943	Rafiqah Al Aalamia School for Girls	FS4	2011/2012	Female
113971	Al Qatila Secondary-mixed School for Girls	FS5	2011/2012	Female
114037	Husaina Basic-mixed School	FS6	2012/2013	Female
113967	Nusaba Al Mazina Basic School for Girls	FS7	2012/2013	Female
114195	Dahyat Al Husein Secondary-mixed School	FS8	2016/2017	Female
114199	Bushra Secondary-mixed School for Girls	FS9	2016/2017	Female
114196	Umm Salama Basic-mixed School	FS10	2016/2017	Female
114097	Hawana Secondary-mixed School	FS11	2016/2017	Female
111058	Bayt Ras Secondary School for Girls	FS12	2016/2017	Female
114233	Al Marhair Secondary-mixed School	FS13	2016/2017	Female
114236	Duoqana Secondary-mixed School	FS14	2016/2017	Female
111150	That Al Nitagin Basic School for Girls	FS15	2016/2017	Female
114035	Ajadin Secondary for Girls	FS16	2013/2014	Female
114164	Al Bahrainia Basic School for Girls	N/A	2016/2017	Female
113948	Jumana Basic-mixed School	N/A	2011/2012	Female
114034	Fatma Bint Al Yaman Basic-mixed School	N/A	2012/2013	Female
113947	Al Mathan al Haritha Secondary School for Boys	MS1	2011/2012	Male
114034	Abdulhassan Al Halhouli Secondary School for Boys	MS2	2011/2012	Male
111025	Omar Bin Abdulaziz Secondary School for Boys	MS3	2012/2013	Male
113968	Abu Bakr Al Siddiq Secondary School for Boys	MS4	2012/2013	Male
114200	Dahyat Al Husein Secondary School for Boys	MS5	2016/2017	Male
114201	Bushra Secondary School for Boys	MS6	2016/2017	Male
114202	Bayt Ras Secondary School for Boys	MS7	2016/2017	Male
114038	Al Hassan Bin Al Haytham Secondary School for Boys	MS8	2012/2013	Male
114040	Muth Bin Jabal Secondary School for Boys	MS9	2013/2014	Male
114036	Kafri-Yaba Basic School for Boys	MS10	2012/2013	Male
113970	Ben Zaidoon Secondary School for Boys	N/A	2012/2013	Male

Source: MOE (2017) available in Arabic on the link: <http://www.moe.gov.jo/schools.aspx>

Source: (MOE, 2017); available in Arabic on this link: <http://www.moe.gov.jo/schools.aspx>

NB: Some of the schools for females have mixed students (girls and boys), but only for the first three grades (G1-G3, in some cases students are mixed until G4). That's why the schools that assigned to girls are more than those for boys because some of them have also boys for the earliest grades. Also, the Syrian girls' enrolment in the country's schools is higher than that for boys, due to the increase ratio of child labor. However, this study will focus on grades six and eight; and all of them have only either girls or boys in the same classroom. Thus, from now on, it will be considered that there are 19 schools for girls and 11 schools for boys in this sample. Four schools (3F, 1M) are not included in the quantitative analysis due to the unavailability of their students' scores (N/A).

Table 4A. List of questionnaires and surveys

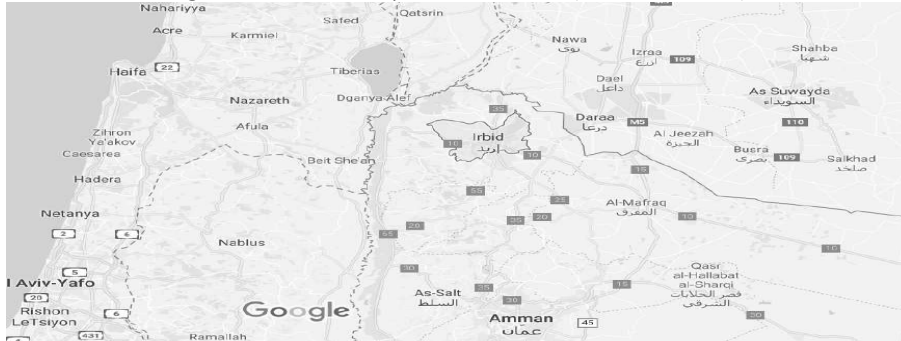
<p>The questionnaire with the managers of the 30 double-shift schools in Qasabat Irbid</p> <p>1) Did the International Organizations help you to reduce the impact of the refugee crisis in your school? Not at all, a little bit, fair enough, very good or excellent!</p> <p>2) Areas that were covered?</p> <p>3) Is it possible to have the same education quality like in the case before (single-shift)? Explain your answer, please.</p> <p>Notes & Comments</p> <p>The questionnaire with the teachers who teach Math, Science, Arabic</p>
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& English in the sample's schools

- 1) Did you participate in any training provided or funded by the INGOs?
- 2) Do you think this training was useful for you to improve your quality of teaching in the classroom?
- 3) Do you think that your school got enough help from the INGOs to cope with the crisis and enrolling the refugees?

Notes & Comments

Figure 1A. Shows a map of Qasabet Irbid (Qasabah District)



NB: This area which is bordered in red and looks like a butterfly is the so-called Qasabet Irbid, and it is the biggest area in the city in terms of population density. It is clear on the map that's very close to the Syrian south borders. That's why it host around one-third of the registered Syrian refugees in Irbid (NRC, 2014).