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Agricultural and Syrian refugees in Jordan: current situation and opportunities ahead

Final report

May, 2017



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The commissioned study seeks to create baselines of beneficiaries in selected locations and to identify target households residing outside camps and living on households, while ensuring that the livelihoods and socio-economic profile of these populations are understood.

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Acronyms

ANOVA	Analysis of Variance
DFID	Department for International Development
DoS	Department of Statistics, Jordan
FGD	Focus Group Discussion
FHH	Female Headed Household
ICARDA	International Center for Agricultural Research in the Dry Areas
IFAD	The International Fund for Agricultural Development
ILO	International Labour Organization
MoA	Ministry of Agriculture, Jordan
MoL	Ministry of Labour, Jordan
PWDs	Persons with disabilities
RAIS	Refugees Assistance Information System
SIP	Small-ruminants Investment Project
SLF	Sustainable Livelihood framework
SWOT	Strengths, Weaknesses Opportunities, Threats analysis
UNHCR	United Nations High Commissioner for Refugees
UPB	Polytechnic University of Bobo-Dioulasso
VAF	Vulnerability assessment framework



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Executive summary

This study was conducted in four governorates of Jordan: Amman, Madaba, Irbid and Mafraq. These governorates of Northern Jordan were chosen based on the fact IFAD previous investment focused on the South. The representativeness of the wider area, the dependency on agriculture and the concentration of Syrians working in agriculture were the additional criteria that guided the selection of the four governorates. The study aimed at better understanding the livelihoods and socio-economic profile of Syrian refugees' households residing outside camps and living on farms. To ensure a better targeting and involvement of the beneficiaries, qualitative and quantitative approaches were combined to identify main wealth groups and livelihoods strategies and options: 16 focus group discussions, 8 key informant interviews were performed and 365 households were surveyed using a semi-structured questionnaire.

The main wealth groups found amongst the Syrian refugee community were:

- A. In Amman governorate
 - Wealth group 1. Large family size, high dependency low indebtedness - poor household group
 - Wealth group 2. Small family, low dependency, high indebtedness - poor household group
- B. In Madaba governorate
 - Wealth group 1. Large family size, high dependency, low indebtedness - poor household group
 - Wealth group 2. Large family size, low dependency, low indebtedness - better-off, household group
- C. In Irbid governorate
 - Wealth group 1. Large family, high dependency, low indebtedness - poor household group
 - Wealth group 2. Small family, high dependency, low indebtedness - middle income household group
 - Wealth group 3. Small family, low dependency, low indebtedness - better-off household group
- D. In Mafraq governorate
 - Wealth group 1. Large family, high dependency, low indebtedness - very poor household group
 - Wealth group 2. Small family, low dependency, low indebtedness - middle income household group



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- Wealth group 3. Small family, low dependency, low indebtedness - better-off household group

The main coping strategies of all wealth groups are borrowing money from landlords, friends and relatives, buying against credit, irregular work and child labour. The main lessons learn from the wealth breakdown and livelihood strategies analyses are:

- The wealth break down revealed high poverty pockets in areas like Amman governorate where Syrian are considered to have relatively better living conditions when only considering the whole population. It reinforces the necessity for a well targeted intervention;
- The seasonality of the main activity will likely increase Syrian refugee households mobility in search for employment;
- Children dropping out of school is linked to high dependency and poverty;
- Better-off households do not necessarily mean high earned income, but thanks to the contribution of humanitarian assistance their combined income is higher.

The study offers a methodological framework that can be used in other countries to analyze the refugee context and explore options for enhancing their livelihoods.

Given the current context of **lack of access to productive resources** namely land and livestock, the recommended livelihood options for improving the living of Syrian refugees in Jordan are diversified livelihood options which would combine employment of refugees by Jordanian (private or cooperative) and a start-up livestock capital of 3-5 small ruminants to support Syrian refugees living means. This option builds on synergies and complementarities between refugee and the host community for knowledge transfer from Syrian to Jordanian in the agricultural sector and for transforming the refugee influx into a viable economic opportunity for Jordan. It has potential for overcoming the issue of production resources access by refugees. It could be an incentive for Jordan government which seeks to secure jobs for Jordanian and offers chance for successful advocacy seeking the easing of regulations (work, driving license and market access). Moreover, Syrian refugees appeared during focus group discussions in support for this option. The option has therefore opportunities for scale up. It however requires concertation between humanitarian, developmental actor, the Jordan government, Jordanian cooperatives and Syrian refugee communities.

1. Introduction

The Jordan population is estimated to be 9,814,995 in 2017 with an unemployment rate 15.8 per cent at the end of the year 2016 (Dos, 2017b). Jordan agriculture represents 2.8% of economic sectors (MoA, 2015). It employs around 9 per cent of the active population and 70 per cent of them are women. Female employment in agriculture was 0.90 per cent while the male employment was estimated to 2.30 per cent in 2012. The agricultural labour is dominated by non-Jordanian. For instance, the permanent Jordanian employees in livestock production were estimated to be 1,140 in 2015 while the non-Jordanian employees were 11,420 in the same year (DoS, 2017c). Arable land represents only 6 per cent of the total surface area. Agriculture which receives relatively very low national or international investments is challenged by low and uneven distribution of precipitation (less than 200 mm for 90 per cent of the country), population growth and related pressure on natural resources. The livestock sector plays an important role in food security and poverty alleviation as it contributes for around 55 per cent to the national agriculture product. It employs in total (permanent, seasonal and casual employees) around 39,960 Jordanian and 17,590 non-Jordanian (DoS, 2017c). The livestock sector contributed for around 2.1 per cent to the country export in January 2017. The export value Free On Board (FOB) of live animals was estimated to be 5,616,700 JD while meat and meat offal amounted to 1,751,100 JD (DoS, 2017a).

The Syria crisis, now in its 6th year, has brought about an influx of 659,957 refugees (UNHCR, 2017). Around 80 per cent of Syrian refugees in Jordan live outside camps. Many work mainly in agricultural sector; their presence increases the pressure on agricultural resources and may challenge the contribution of the sector to development.

To date, there are no comprehensive socio-economic studies of Syrians in the agricultural sector in Jordan that allow for a clear understanding of refugees assets and strategies and how these have evolved since their arrival. Nor is there a systematic analysis of options available to them to make a living through agricultural activities, preserve and build assets.

The aim of the study is to better understand refugees' agricultural livelihoods (assets, strategies, and shocks/risks) and to identify best options for improving them guiding interventions targeting refugees.

The specific objectives of study are:

- To put the analysis into context, consider policies, institutions and process develop in-depth understanding of the socio-economic status of Syrian refugees engaged in agricultural livelihoods;



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- To determine the wealth breakdown (Ranking wealth groups), profiling of livelihood strategies of the potential beneficiaries of the project in the identified geographical areas;
- To assess livelihood options and constraints, identify assets of the different groups;
- To explore gender issues, identify potential risk factors that influence work of refugees in agriculture and especially the involvement of children in agricultural work;
- To provide a robust basis for targeting, identify HH to be targeted, measure baseline socio-economic situation of participants identified (target) so as to be later able to measure the impact of programmatic decisions on refugees' agricultural livelihoods.

2. Methodology

The study was conducted in February-March 2017. The methodological approach consisted in literature review and fieldwork for data collection. A total number of 16 focus group discussions were conducted with Syrian refugees working in agriculture. Key informants selected by the livelihoods unit of UNHCR-Jordan were interviewed. These informants comprised leaders of Syrian refugee communities, the Ministry of Agriculture, AgriJordan a private agribusiness company and the International Labour Organization (ILO). Household surveys were additionally carried out with a representative sample of 365 Syrian refugee households engaged in agriculture. Participatory wealth group identification was performed during focus group discussion (FGD). The results were triangulated by clustering quantitative data from household surveys. The entry variables considered for the clustering were variables from the FGD, literature review and expert knowledge. Detailed description of the methodology is provided in a dedicated document

3. Results and discussion

3.1. Socio-economic context of Syrian refugees working in agriculture

3.1.1. Demography of Syrian refugees' households working agriculture sector

The household survey results showed that the Syrian refugee households have an average size of 5 members in each of the four governorates (

Table 1) thus confirming findings of UNHCR(2015), CARE (2014) and Verme et al.(2016). The age composition presented in Figure 1. The legal work-age in Jordan (15-64 year-old) accounts for 51.3 per cent of the Syrian refugee population. These findings are in line with statistics from UNHCR (2017) which find a share of 45.3 of the age group 18-59.

Households in the Madaba governorate have highest number of workers (2) while the dependency ratio, meaning the number of non-workers dependent from worker was found to highest in Mafraq (3). As noted during focus group discussions, inactive family members include non-working youth, elderly, and persons with disabilities and worthy to note many women who are not often working due to cultural and religious perceptions. This certainly contributes to increase unemployment amongst women who are the most affected by unemployment (22.3 per cent) as is the case in the general population in Jordan (ILO, 2013). Up to 26 per cent of Syrian refugee household are Female Headed Households (FHH). Likely, this situation will expose the household to poverty (FAO, 2014b) as female are more affected by unemployment or may have lower income even if employed according to focus discussions findings.

Table 1. Demographic indicators of Syrian refugees' households

Governorate (Sample size)	Household size	Family workers	Dependency ratio	FHH (%)	Marital status of household head (%)			
					Single	Married	Divorced	widow
Amman	4.5±0.5	1.9 ^{ac} ±0.2	1.8 ^{ac} ±0.4	28.1	10.4	76.0	3.1	10.4
Irbid	4.7±0.5	1.7 ^a ±0.2	2.3 ^{abc} ±0.4	12.1	14.3	85.7	0.0	0.0
Mafraq	4.9±0.6	1.6 ^a ±0.2	2.6 ^b ±0.5	28.6	17.9	76.2	2.4	3.6
Madaba	4.8±0.5	2.1 ^c ±0.3	1.7 ^c ±0.4	37.2	18.1	77.7	0.0	4.3
Total	4.7±0.3	1.8±0.1	2.1±0.2	26.6	15.1	78.9	1.4	4.7

Source: Household surveys March 2017. Note: The numbers ± indicates confidence interval. Values with same letters in subscript are not significantly different at 5% (ANOVA results).

The households headed by divorced and widowed women were found to be 1.4 per cent and nearly 5 per cent respectively. The female headed households due to divorce or separation from the husband were mentioned by Syrian focus group participants the most vulnerable groups amongst Syrian and needing to be giving priority for interventions.

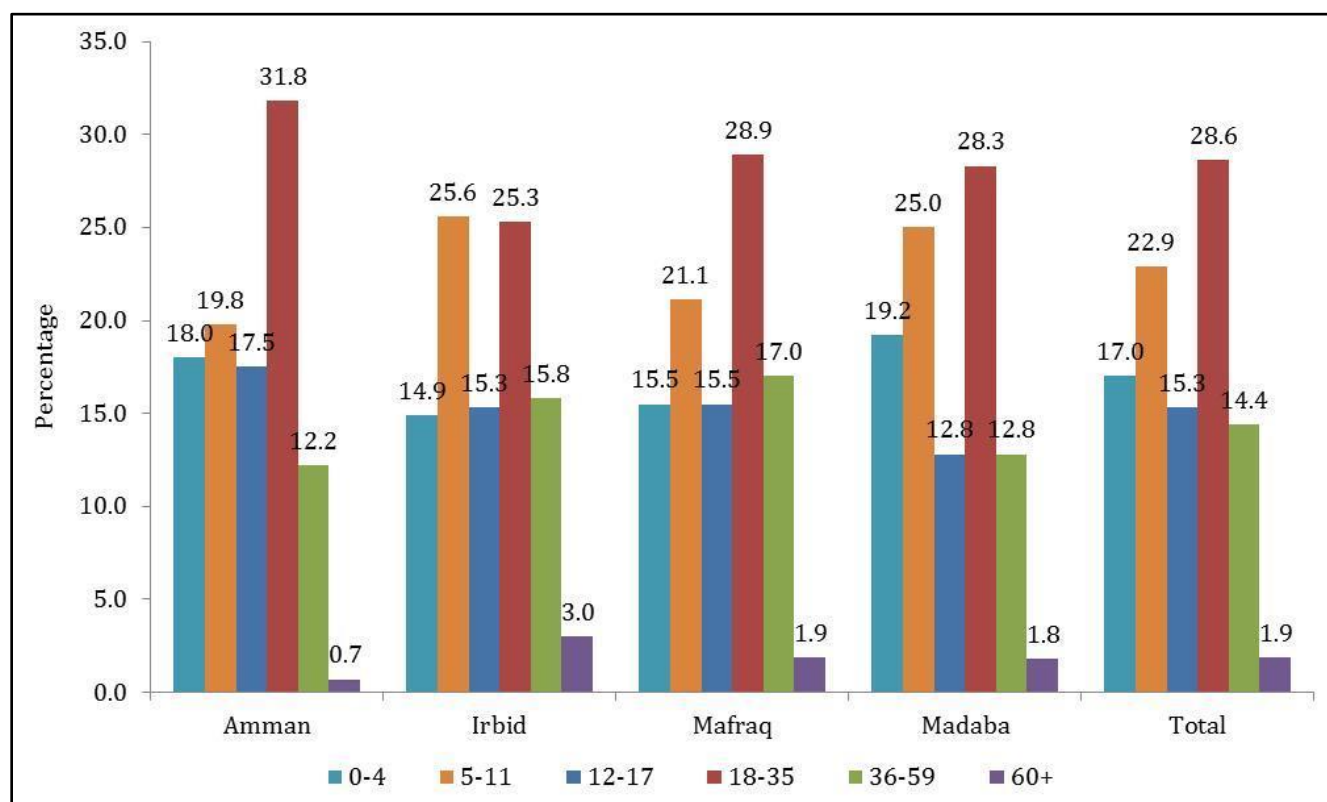


Figure 1. Age structure of the Syrian refugee population in the four governorates

There is generally good literacy amongst households' heads (Table 2). Up to 66 per cent have basic education levels. Around 25 per cent of household heads are illiterate (cannot read and write). However, 9 per cent have not attended school but can write and read. This can be seen as possible results of remedial education organized by organizations supporting refugees.

Table 2. Education level maximally achieved by Syrian refugee households' heads

Governorate	N	No education <i>Cannot read and write</i>	No education <i>Can read and write</i>	Primary school	Secondary school	Diploma or Bachelor
Amman	96	21.4	4.1	63.2	8.2	3.1
Irbid	91	31.9	7.7	47.3	12.1	1.1
Mafraq	84	16.5	15.4	61.5	4.4	2.2
Madaba	94	29.8	9.6	53.2	6.4	1.1
Total	365	24.9	9.1	56.4	7.8	1.9

Source: Household surveys March 2017.

3.1.2. Main livelihood activities of Syrian refugees in agriculture

Syrian refugees are mainly waged-employees. Household surveys results showed that 65 per cent of Syrian refugees are engaged solely in crop production (fruit and vegetables) (Table 3). The majority of Syrian refugees in Irbid governorate (82.4 per cent) work only in vegetables production. Around 13 per cent are involved in livestock production only. To support themselves and cope with the seasonality of the productions 22 per cent of Syrian refugees diversify their agricultural activities by working both in crop and livestock.

Table 3. Main agricultural activities of Syrian refugees' households

Governorate	Main agricultural activities of the household (%)					Total
	N	Livestock only	Fruits only	Horticulture only	Work in different activities (Fruits, livestock and vegetables)	
Amman	96	24.0	5.2	40.6	30.2	100.0
Irbid	91	8.8	4.4	82.4	4.4	100.0
Mafraq	82	1.2	25.0	44.0	29.8	100.0
Madaba	94	17.0	14.9	44.7	23.4	100.0
Total	365	13.2	12.1	52.9	21.9	100.0

Source: Household surveys, March 2017

The details on the 65 per cent of Syrian engaged in sole crop production indicate that only 8.9 per cent are renting land and less than 1 per cent practice sharecropping

Table 4. Exploitation regime for Syrian engaged in sole crop production

governorate	Waged-employee (%)	Sharecropping (%)	Renting land (%)
Amman	88.6	4.5	6.8
Irbid	97.5	0.0	2.5
Mafraq	91.4	0.0	8.6
Madaba	80.4	0.0	19.6
Total	90.3	0.8	8.9

Though many Syrian refugees are employed in the agricultural sector working on farms as farm hands, some of them raise their own livestock as a main activity or as a

supporting activity. Amongst Syrian households involved in livestock production, the study findings showed that 46 per cent have their own livestock (Table 5). In general the livestock they own is for consumption rather than for market. No livestock ownership was found in Mafraq Governorate while Amman governorate has the highest number share of Syrian employed in livestock in production (66.7 per cent). None of the interviewed household has declared to have brought livestock from Syrian. This confirms sayings during focus group as refugees declared to have abandoned behind their livestock, fleeing for their lives. However, FAO (2014b) noted that Syrian refugees have brought livestock from Syria to Jordan especially to Mafraq Governorate. These Syrian refugees who crossed the border with their livestock are very mobile in the Badia in search for pastures. In winter they are for most of them in Jordan valley as livestock cannot stand the cold in the other areas. They usually live in tents and rely mainly on traditional grazing as reported during focus groups and key informant interviews.

Table 5. Livestock ownership amongst Syrian households involved in animal production

	Governorate (number of households)				Total
	Amman	Irbid	Mafraq	Madaba	
Own livestock	(36)	(11)	(2)	(31)	(80)
No	33.3	72.7	100.0	67.7	53.8
Yes	66.7	27.3	0.0	32.3	46.2

Source: Household surveys, March 2017.

The main animal types owned are sheep, goats and chicken (



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Table 6). The biggest sheep flock size is encountered in Madaba governorate with 75 sheep per household and Amman governorate with 51 sheep in average. Goats are mainly found in Amman governorate (4.8 heads per household) and chicken had the biggest flock size in Madaba governorate. In general, the flock size for all livestock types and in all governorates varies a lot amongst owners as standard deviation is in general two folds the average flock size. This means some livestock owners only have few animals. The number of owned livestock varies from 3 to 54 for small ruminants as shown in Table 6.



Table 6. Mean Size of Flock owned by Syrian households

Governorate (number of households)	Flock size ± standard deviation				
	Sheep	Goat	Camel	Chicken	Other birds (Pigeons)
Amman (24)	51.0 ± 100	4.8 ± 20	0.1± 0.4	3.5± 6.	0.0
Irbid (3)	5.3± 5	0.0	0.0	2.7± 4	0.0
Mafraq (0)	0.0	0.0	0.0	0.0	0.0
Madaba (10)	75.7± 123	0.6± 2	0.0	7.7± 10	29.7± 94
Total (37)	54.0± 103	3.3± 16	0.1± 0.3	4.6± 7	8.0± 49

Source: Household surveys, March 2017. Note: Number in parenthesis indicate standard deviation

In addition to agricultural and livestock production, Syrian refugees are also working in other sectors as secondary activities (



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Table 7). These activities are mainly construction, domestic services and transportation and storage sectors. These activities by Syrian refugees are basically encountered in the governorates of Amman and Madaba. The construction sector employs 4.1 per cent of Syrian refugees, the domestic services 1.9 per cent and transportation and storage less 1 per cent. These activities are mostly performed by refugees out the agricultural season as source of income for supporting their livelihood.

Table 7. Secondary activities of Syrian refugees' households

Secondary activities (%)	Governorate (Number of households)				
	Amman (96)	Irbid (91)	Mafraq (82)	Madaba (94)	Total (365)
No secondary activity	91.7	95.6	98.8	82.8	92
Construction	3.1	2.2	0.0	10.8	4.1
Domestic service (Painting and decoration)	4.2	0.0	0.0	3.2	1.9
Transportation and storage	1.0	0.0	0.0	1.1	0.5
Accommodation and food service activities:					
Herding sheep	0.0	0.0	1.2	0.0	0.3
Agriculture (Olive picking and household supervision)	0.0	1.1	0.0	2.2	0.8
Total	100	100	100	100	100

Source: Household surveys, March 2017

3.1.3. Access to land

From focus groups discussions with Syrian refugees and interviews with key informants (Syrian and Jordanian), it was gathered that the legislation does not allow refugees to own property in Jordan. However livestock can be owned if for home consumption. None of the natural (land), physical (vehicle, motorbike, etc.) assets can be owned legally. They can only rent these assets (land, vehicle). Some Syrian refugees however do rent land informally (Table 8) when they have enough financial resource to do so. In that case no formal legal paper exists of the transaction: it is verbal arrangement between landlord and the person renting. Only 2.7% of Syrian refugees in Amman governorate indicate to be renting a land. No legal land rental was reported in the three other Governorates. Syrians may often get in partnership with Jordanian for running a business or acquiring a property using the name of the Jordanian partner (different from sharecropping). The lack of formal land access prevents many Syrian from investing in livestock including poultry, which could ensure permanent income throughout the year. This context compels many Syrian refugees to be employed as labor: agricultural cooperatives supported by the MoL/ILO facilitate access to work permits, thus ensure safe employment mobility of Syrian refugees working in

agriculture. The highest number of work permits issued to Syrians is in the agricultural sector, which therefore plays an important role in realizing the GoJ's – Jordan compact commitments. Recent studies indicate that the work permit in agriculture is at times obtained to work in other sectors in which is not as easy to formalize work (reference ILO/UNHCR study).

Table 8. Land access by Syrian refugees in four governorates (%)

Governorate	Formal rent	Informal rent	No access (Labourer)
Amman	2.7	6.8	90.4
Irbid	0	3.7	96.3
Ma'fraj	0	6.0	94.0
Madaba	0	16.0	84.0
Total	0.6	8.0	91.3

Source: Household surveys, March 2017

3.1.4. Income and expenditures of Syrian refugees working in agriculture

The income of Syrian refugees is characterised by its instability when there are not able to move to Jordan valley to continue working in the summer. Syrian refugees interviewed work in general 6.5 month a year. For the rest of the year they rely on savings, humanitarian assistance and social networks for their livelihoods. Refugees in Amman governorate work longer (7.5 month a year) than in the other governorates, probably due to the fact Amman governorate is the most urbanized and offers more working opportunities within and outside agriculture. The household surveys results showed that the income of Syrian refugees in Jordan has not improved since 2013. Indeed, in a baseline assessment in four location comprising three of the location targeted by the current study, CARE Jordan (2013) found the average monthly income of Syrian household was 190 JD against 193 JD found four years later for the current study. The 193 JD/month/household corresponds to an average of 53.5 JD/person/month (Table 9). It is worthy to note that income levels from CARE Jordan (2013) and current study are self-reported values from surveys. The Vulnerability assessment framework (VAF) baseline survey in 2015, predicts (not self-reported) an average of 56.48 JD per capita per month. Using this income indicator and the average household size of 5 members found in the present study, the non-self-reported income would be 282.4 JD/month/ household. The income would then under reported by 89.4 JD/month/household.

Findings of the current study indicate that almost all refugees live below the official poverty line in Jordan, estimated to be 2.23 JD/person/day (The United Nations Economic Commission For Europe, 2015). Only refugees in Amman governorate have average income above official poverty line. These findings corroborate UNHCR Vulnerability Assessment Framework findings (UNHCR, 2015). The average debt of Syrian households at the time of the study was found to be 711.8 JD per household (Table 9) against 606 JD per household found by UNHCR’s VAF baseline (UNHCR, 2015). The debt level has increased by about 14.08 %. The monthly expenditure was found to be 204 JD/household (Figure 2).

Table 9. Total income and indebtedness of Syrian refugees’ households

Governorate	Working months per year	Income (JD/household/month)	Incomer per capita (JD/person/month)	Indebtedness JD/household
Amman	7.4±1.4	221.1±51	65.5±16	645.3±191
Irbid	6.9±1.1	204.2±29	51.0±8*	916.4±429
Mafrq	5.5±1.2	157.1±19	43.0±7*	694.9±136
Madaba	6.1±1.5	185.5±29	53.1±12*	596.7±119
Average	6.5±0.7	193.0±17	53.5±6*	711.8±125

Source: Household surveys, March 2017

Note: The sign ± indicates confidence interval at 5%. The sign * indicate income below poverty line in Jordan. National poverty line in Jordan =2.23 JD/person/day (The United Nations Economic Commission For Europe, 2015)

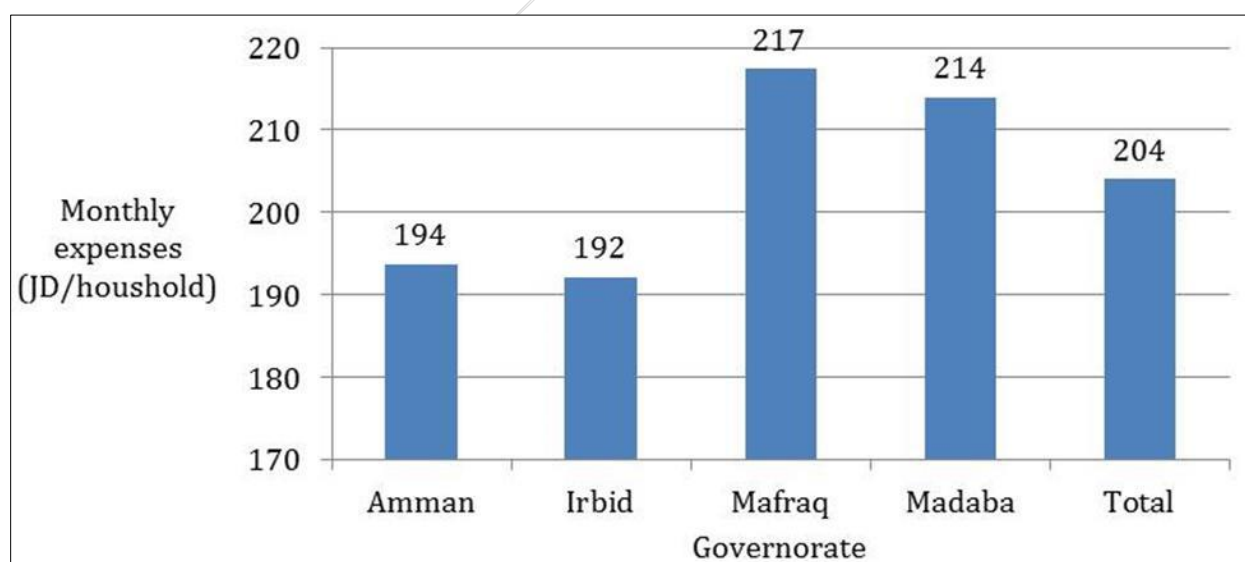


Figure 2. Expenditure of Syrian refugee household



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3.1.5. Social network

Social networks were identified through social and resource mapping exercise during focus group discussions. The outcome of the participative assessment was triangulated by findings from the household surveys. Syrian refugees declared to generally have good social networks (social asset) amongst themselves and with Jordanian and non-Jordanian as well. This is confirmed by household surveys of the study which showed that Syrian can borrow money from fellow refugees or from Jordanian (Landlord, friends) in case of need. However, Syrians are not member of any Jordanian cooperative. They do not also have their own association /organization, formally or informally. The main reason the interviewees mentioned is because they are employees and don't find it necessary to be members in current work status. They however stated they could work in cooperative/association if required.

3.1.6. Access to basic services and institutional support

Syrian refugees declared during social and resource mapping exercise in focus group discussion to have access to health service and schools for their children. However, for refugees leaving in remote areas the cost of transport appears to be the constraint for to accessing health services. The transport fees are as well a constraint for sending children to school even for refugees leaving in peri-rurban areas. A number of humanitarian organizations are providing assistance to refugees to improve their access to basic needs, including UNHCR, UNICEF, NGOs with monthly and targeted cash assistance and WFP with food vouchers. However, Syrian refugees seem not to understand or accept the way targeting is done ; they feel some less needy refugees receive better assistance than those who are more in need. This calls for better, repeated communication and more participative intervention by humanitarian organizations. Around 30 per cent of Syrian refugees interviewed declared to be receiving some form of monetary humanitarian assistance which well corresponds to the assistance levels recorded through UNHCR 's basic needs working group platform in Refugees Assistance Information System (RAIS) .

3.1.7. General discussion of the Syrian refugees context

A. Legal status of Syrian refugees

The influx of Syrians into Jordan did not start with the actual crisis in Syria. Syrian refugees make distinction between some of them who were already coming to Jordan for jobs and business from those who only entered Jordan amid the crisis. The first group is said to be relatively wealthy. They are at times legal residents who are able to invest in Jordan sectors other than agriculture and who might or might not have registered as refugees once the



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crisis set in. They are “stuck” in Jordan and are unable to resume their economic activities back home. The second group entered Jordan following the crisis and are now for the great majority registered refugees. They refer to themselves more often as “poor”. Fleeing for their lives they have abandoned all of their assets behind. As observed by ILO (2015), most Syrian cross host countries without much or not all economic resources.

Of the group living outside camps, 516,585 individuals according to UNHCR (2015), it is necessary to distinguish refugees renting accommodation in urban or peri-urban areas, from those who live on the farm where they are employed including informal tented settlement. The latter face problems with school access given the remoteness of their dwellings, and in general suffer from poor access to basic services and poor accommodation (Amnesty International, 2016, Odlum, 2015, REACH Jordan and UNICEF, 2013).

Syrian refugees interviewed reported to be generally in good terms with Jordanians who often are supportive. However some landlords exploit their relative vulnerability by not paying the entire agreed wage, or not paying on time; when this happens, Syrians refrain from complaining to the police as they fear to be deported. Only a few declared to be supported by the police or local tribe leader when they were courageous enough to ask for help (Box 1).

Box 1

During focus group discussion in Irbid, a lady told the story of the daughter whose landlord refused to pay her wages. They requested the help a leader of the landlord’s tribe. The local leader was able to obtain the lady to get paid half of the due wage. Though she did not get the entire wage, she said it was a consolation for her to have received the support of the local tribe.

As mentioned, Jordanian law does not allow ownership of assets by refugees (land, vehicles, etc.). Refugees are not allowed to have a driving license. Consequently, they are mostly employed as labour with a work permit that allows them to legally work in Jordan. The main complain about these work permits as also noted by Bellamy et al. (2017) is that it is bound to a particular job and that states the person/company the refugee is working for. This constrains the holder to legally work in one sector and with one employer, unless he/she changes jobs and gets a new contract. Refugees find much easier to get a work permit in agricultural sector including livestock rather than in other sectors because of a decision by MoL based on ILO’s advocacy , which allows agricultural cooperatives to issue

agricultural work permits to Syrians who can then go work on different depending on opportunities and season. This has led many Syrian to work in agriculture even if they have higher levels of education or if they had a different professional background before fleeing Syria.

The work permit is more frequently held by the head of household. Around 57% of households' heads interviewed declared to have a work permit. Other adult households' members are less likely to have a work permit (Table 10). However, the situation appears to be improving as UNHCR and an increasing number of work permit are being issued to women working in agriculture. MOL reports 39,325 Syrians among migrant workers having work permits, which represent 11% of the total population of migrant workers working formally. 2,352 work permits out of the 39,325 were issued to Syrian women which is 5% mostly working in agriculture

Table 10: Number of work permit detained per household

Work permits per household	Percent in study sample
0	61.3
1	32.1
2	4.9
3	1.2
4	0.6

Source: Household surveys, March 2017

Wages of refugees and payment modes differ depending on the type of agricultural activities they are involved in, but also on the landlord. For crops and vegetables, the wage can be daily or monthly on the basis of 1 JD/hour/adult with 8 to 10 working hours per day. Children often drop out of school to support parents in household activities. Though the legal working age in Jordan is 16 year-old, the minimum working age observed in households is 13 years regardless the gender. Under this age landlords often refuse to accept children as they believe they may be less productive. For landlords accepting child labour, children are paid half of an adult wage (0.5 JD/hour/child). Beside this hourly-base pay modality and particularly for olive picking, wage can be per kilogram depending on the Governorate or the landlord. In livestock production, the wage is usually monthly for small ruminants no matter the size of the refugees' family employed for livestock management. In the case of poultry the wage is per production cycle which is 3-4 months for meat



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chicken. Refugees employed in livestock are generally paid 300 JD per month for the whole family. The wages are not hourly based and per working person like for crop activities.

With the current situation, the legislation seems to be a major factor affecting the livelihoods of Syrian refugees. On one hand the work permit as currently implemented (a sector specific work permit mentioning the person the refugee is working with), limits work possibilities of refugees. As highlighted by Syrian and key informants, the work permit formula does not protect them from certain forms of abuse and at times adds to existing vulnerabilities, if the employer refused to release his employee before the end of the agreed working period. .

Well aware of that, authorities, UNHCR, the ILO and partners as well as have been working to improve access to jobs, streamlining procedures for issuance of permits, promoting safe working conditions. Of recent, also refugees who are camp residents have been given the possibility to work formally outside the camps. A system of exit permits regulates the exit/entry to the camps. Refugees are given either a daily or a renewable longer authorisation to leave camp. This is important to the sector as many refugees from Zataari camp work in agriculture.

On the other hand, the fact that refugees are not allowed to own property is another major constraint to enhancing the livelihoods of Syrian refugees. Indeed, the access to productive resources is the basis for improving household livelihoods. Refugees interviewed reported that they are not allowed to make decisions on production processed as they are simple employees. Only some refugees engaged in sharecropping are allowed to make decisions on the production as they also contribute to the cost of the production buying inputs and providing labor, while the land is provided by the Jordanian landlord. If there is no contribution to production costs, there is no right to decision making. It is widely discussed by Jordanians and Syrians alike, that Syrians are skilled farmers. During focus group discussions, Syrian refugees said they would be able to contribute knowledge if they had access to land and if they were allowed to make decisions. As highlighted by key informants, both Jordanian and Syrian could make the best of the situation if they are offered opportunity to work side by side.

B. Mobility of Syrian refugees within Jordan

Syrians are very mobile in Jordan. For an average 4.5 years of stay in Jordan, Syrian households change the place where they live and work 7 times on average (Table 11). Syrians in Madaba appear to be less mobile while those in Mafraq are the most mobile. They have changed location 5 and 11 times, respectively. They move from farm to farm, from one location to another in search for better working conditions and salaries.



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In addition, because of the different jobs that become available in different seasons they move from place to place in search of new and better jobs.

Table 11. Location change frequency of Syrian refugees in 4.5 years

Governorate	Amman	Irbid	Mafraq	Madaba
Location change frequency	9	7	11	5

Source: Household surveys, March 2017

Most movements take place in the summer to increase the employment length. The destinations are wetter areas with irrigation schemes like Jordan valley and Madaba. The seasonal move depends on the production in that specific locality (each governorate is more or less oriented in a particular production) and on the type of activity.

Syrians working in olive sector: they generally work 6 months. Then after olive season, in summer, most move to Jordan valley or Madaba where they have the chance of extending the working months by working in vegetable production (



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Table 12). Some may find non-agricultural work in town or work in greenhouses or for potatoes production in the same governorate. Syrians move in general with the whole family. This is costly and some years they may lack financial means to move to other places (in summer) even if they want to. When this happens they miss the season and rely on savings, borrowing money from Jordanians and on assistance.



Table 12. Seasonal movement of Syrian refugees involved in fruit and vegetable production

Governorate	Amman	Irbid	Mafraq	Madaba
Who moves?				
Whole family moves (% of respondents)	84.7	56.0	0.0	0.0
Some household members (% of respondents)	1.0	44.0	63.7	50.0
Nobody moves (% of respondents)	14.3	0.0	36.3	50.0
Destinations				
	<ul style="list-style-type: none"> • Amman • Mafraq • Jordan Valley 	Irbid	<ul style="list-style-type: none"> • Mafraq • Azraq 	<ul style="list-style-type: none"> • Madaba • Jordan Valley • Mafraq • Amman

Source: The statistics are taken from household surveys in March 2017 and the destinations are information from Focus group discussion

Due to limited pasture, Syrians working in livestock move within or outside the governorate in search for rangelands (Table 13). As poultry production is not seasonal, movements are limited unless there is a disagreement with the employer.

Table 13. Seasonal movement of Syrians involved in livestock production

Governorate	Amman	Irbid	Mafraq	Madaba
Share of Syrians moving	50	33.3	NA	30

Note: NA: Not applicable.

Source: Household surveys, March 2017

Other considerations are taken into account when decisions about working in agricultural are made: families who decide to live in town to allow children to attend school mainly work in greenhouses (at the margins of urban areas), pick olives nearby town and look for non-agricultural jobs (carrying things in markets, carpentry and building).

3.2. Wealth groups of Syrian refugees and their livelihood strategies

The identification of main wealth groups amongst Syrian refugees working in agriculture were done in a participative and quantitative way through an integrated research approach (Mabiso et al., 2014). Wealth criteria were identified in focus group sessions and

participants performed wealth grouping according to their perception. It appeared during focus groups discussions that Syrian refugees are spread in each governorate and sometime live in small groups employed by a same landlord. Therefore, for a given location in a Governorate, it was difficult to apply the classic ranking method (Zeller et al., 2006, ICRISAT, 2009) consisting of asking participants to clearly identify reference wealth group in the refugees community from a list of the community members. The participants were not often able to characterize wealth group with clear cut values. The output of the participatory wealth ranking exercise was triangulated with quantitative data clustering from household survey data; this helped filling the gap in wealth group characterization. The entry variables for the quantitative clustering were mainly the wealth criteria identified in the participatory assignment. Other relevant variables from literature and expert knowledge were added.

3.2.1. Participatory identified wealth criteria

To ensure the adherence by households to the wealth groups to be identified, a participative exercise was held to identify the criteria to appreciate wealth. The Sustainable Livelihood Framework defines the type of assets households employ to build strategies and achieve a certain level of livelihoods. In the case of the present study, refugees possess no basic agricultural assets such as land and equipment. They own not much livestock. In general they are employed as labour. The identified criteria therefore revolved around the household monetary income and livelihood results expressed in terms of access to basic needs. These criteria were found similar across the four study locations (Table 14) but some location specific criteria were also identified.

A. Common wealth criteria across zones

The total number of workers in the household and the number of male workers were cited by refugees in the four locations of the study as an important asset. Since refugees are mostly employed as labour and paid most frequently per person, the more a household has workers, the more it has a higher income.

The household income as well as its stability and regularity (given the seasonality of agricultural activities) were cited as criteria for wealth grouping by refugees. The ability of the household to cover the food needs of its members is also seen as a wealth criterion. This ability is influenced by the gender of the household head. Female headed households (FHH) are considered most vulnerable and less likely to be wealthy compared to male headed household. The gender of the household head was therefore cited as a wealth grouping criteria.

Table 14. Wealth criteria identified by Syrian refugees

Governorate			
Amman	Irbid	Madaba	Mafrq
<i>Criteria common to the four locations</i>			
Number of family workers	Coverage of food needs	Family workers	Number of family workers
Number of male workers	Reliance on humanitarian	Number of male workers	Number of male workers
Dependency: number of non-workers per worker	Salary level	Dependency: number of non-workers per worker	Dependency: number of non-workers per worker
Coverage of food needs	Regularity/stability of income	Capability of renting land	Reliance on humanitarian assistance
Reliance on humanitarian assistance	Decision making	Gender of household head	Capability of renting land
Decision making	Capability of renting land	Debt level	Access to water for irrigation
<i>Location specific criteria</i>			
Level of income diversification	Having own business	Selling food vouchers	
Household remoteness from house	Working in sharecropping		

Source: Focus group discussions, March 2017

Some households rely on humanitarian assistance (Table 15) to cover their food needs given their low income. The level of reliance on humanitarian assistance/food vouchers is then regarded by refugees as criteria for wealth grouping.

In some case refugees are given the possibility by the landlord to decide on agricultural practices. Since in general Syrian have better experience in agriculture than



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Jordanians, this empowerment leads to better productivity and thereby better income for the refugee especially when the exploitation mode is sharecropping. The household surveys revealed that sharecropping is not widespread. Indeed only 0.6% of respondents said they practice sharecropping while the great majority work as labourers. This is understandable as households declared during focus group that in the sharecropping the Syrian has to bear all production cost. The Jordanian partner generally only provides land. Field visits however seem to indicate that some forms of sharecropping could be more widespread.

Refugees then highlighted the empowerment in decision making and the fact of doing sharecropping rather than being paid a wage as an element giving better opportunities for building wealth. The capability of the household to rent land for own production is regarded as a sign of wealth.

B. Location specific wealth criteria

The level of income diversification was listed by households in Amman as a criteria for wealth. They explained that due to the seasonality of agriculture, being able to find job in different sectors throughout the year determines the level of income. Those working only in one activity will likely get income only part of the year. The fact that this criteria was raised specifically in Amman Governorate may reflect the fact that there exist more work opportunities for Syrian refugees outside agriculture due to the urbanisation level of the governorate. The remoteness of the household from the farm was also highlighted as a factor that affects wealth as people will have to spend more on transportation for going to work if they are not staying on the farmed land.

It appeared to be more opportunities for sharecropping in Irbid than in other governorates. However the practice of sharecropping is limited by the financial means and assets endowment of Syrian refugees: the shared crop can be one quarter (1/4), one third (1/3) or of half (1/2) of the output produced. Participants in the focus group discussions said that the sharing rule depends on the contribution of the Syrian in the farming cost. The more they contribute, the highest the share he gets and the more likely they will get better income. They consider sharecropping as more profitable than being employed. In the first case they make almost all production decisions and can expect better output given their experience, while in the latter case they are told what to do - usually not good decisions according to participants - and the output is below potential. Therefore, running the business, where they decide on the production, or working in sharecropping with more chance to be allowed to decide on production, are criteria of household wealth.

Vulnerable households may sell their food vouchers or borrow money for covering health or rent costs. Therefore, the selling of food voucher was considered particularly in Mafraq as additional criteria indicating the wealth of the household. In other locations households did not agree on the food voucher selling as wealth criteria. They argue that the practice is not widespread. However the household surveys results showed that the practice in use in all governorates though not too frequent; not more than 5 per cent of household declared to be selling food vouchers (Table 15).

Table 15. Share of households relying on humanitarian aid and selling food vouchers as a coping strategy in the four governorates

Coping strategy	Amman	Irbid	Mafraq	Madaba
Humanitarian aid (%)	16.3	6.6	13.2	2.1
Selling food vouchers (%)	5.1	3.3	2.2	1.1

Source: Households surveys, March 2017.

3.2.2. Main Syrian refugees' wealth groups in the four locations

Using the identified wealth criteria, Syrian refugees identified main wealthy groups in their community. Given the predominance of l waged employment vis-à-vis self-employment, the grouping was based on the source and levels of income as well as access to basic needs such as food.

The focus group participants and the surveyed Syrians considered that refugees working in agriculture are generally poor. The number of wealth groups found was different from location to location for both participative and quantitative methods.

The following section describes the wealth groups identified through participatory group discussions. Then, wealth criteria identified by households through the quantitative survey (clustering approach) is also presented. Finally, a summary table of wealth groups as identified by the two approaches is presented.

A. Main wealth groups in Amman governorate

In the participative assessment Syrians in Amman governorate reported two main groups amongst themselves (Table 16).

- **Poor household group:** they generally have several family members working in the household (at least 5 members) and get more income. They are allowed by the landlord to contribute to decision making on farming activities. There is trust between employees and employer. They have the chance of being allowed to stay on

the farmed land and therefore do not have to pay rent or transport. This allows them to save their earnings for other needs than rent.

- **Very poor group:** Their families count less than 5 members, meaning there are getting less income given that the salary is paid per person and per hour. They often have to pay rent because they do not live on the farmed land. They are employed and told what to do by the landlord who often employs an Egyptian supervisor to monitor the work on the household.

Table 16. Main wealth groups identified in Amman Governorate by the participative approach

Key variable	Poor Syrian households	Very poor Syrian households
Household workers over 18 years-old	More than 5 workers (meaning more earnings)	Less than 5 workers (meaning less earnings)
Remoteness of house from household lands	Less than 1 km	More than 1 km
Housing	Not renting	Renting, not living on household
Decision making	Is allowed to make decision on farming activities	Is not allowed to make any decision

Source: Focus group discussions, March 2017

The quantitative methods also identified two different wealth groups in Amman governorates (Table 17). Given it is only two groups; the difference between groups was tested using the independent sample T-test instead of the ANOVA for more than two groups. The number of groups corroborates the participative assessment outputs.

- **Wealth group 1** named “*Large family size, high dependency, low indebtedness and poor household group*”: The income is 2.1 JD/person/day. Households in this wealth group are characterised by an average family size of 5 persons, a dependency ratio of 2.1 and a debt value of 65.6 JD/household. Around 78 per cent of households belong to this group. They work 5 months in average.
- **Wealth group 2** named “*Small family, low dependency, highly indebted indebtedness and poor household group*”. Households of this group differ from the first group by the household size, dependency ratio (0.9) and debt amount (313.4 JD/household).

They have smaller family size (4 in average), and a lower dependency ratio (0.9) meaning there is one non-worker per worker at most. The income level equals to 2.1 JD/Person/Day. Around 32 per cent of households belong to this group. They work 7 months on average.

Table 17. Main wealth groups identified in Amman governorate by the clustering approach

	Wealth group 1 (70)	Wealth group 2 (20)
Discriminating variables	Large family size, high dependency, low indebtedness and poor household group	Small family, low dependency, high indebtedness and poor household group
Household size	5^a	4^b
Number of family workers	2 ^a	2 ^a
Number of male workers	1 ^a	1 ^a
Dependency ratio (Non workers in charge per worker)	2.1^a	0.9^b
Classic education of household head (no. of years)	7.5 ^a	6.5 ^a
Gross household income (JD/month/person)	63.1 ^a	62.3 ^a
Debt amount (JD/person)	65.6^a	313.4^b
Number of working months (no. of months per year)	7.3 ^a	7.1 ^a
Owned livestock (Tropical livestock unit per household)	1.2 ^a	0.9 ^a
Humanitarian assistance(JD/person/month)	5.1 ^a	4.3 ^a

Source: Household surveys, March 2017. Note: Values in the row and the same letter in superscript are not significantly different at 5% (p-value < 0.05) with the independent sample T-test for equal means.

B. Main wealth groups in Irbid governorate

Like in Amman governorate, Syrian refugee famers perceived two main wealth groups in Irbid governorate. Their grouping of the households was based mainly on the type of activity the household is employed in, and related seasonality (Table 18):

- **Poor household group** in which family members work in livestock. Livestock comprise mainly sheep, poultry and cattle depending on to households. Few of them are employed in poultry production. For poultry production households are paid

per production cycle (3-4 months) regardless the season. The income appears less subject to seasonality. They get income throughout the year. For that reason, household consider livestock sector as a better employment situation. The household in this group are in general headed by a male.

- **Very poor household group** in which member are mainly employed vegetable and fruit production. They are more subject to income seasonality. They have to look for employment at the end of each season: changing activity or looking for employment in non-agricultural sector. They are often female headed households.

Table 18. Main wealth groups identified in Irbid Governorate by the participative approach

Key variable	Poor Syrian households	Very poor Syrian households
Type of activity	Livestock production	Olives and vegetable production
Income stability	More stable	Less stable
Income seasonality	No seasonality	seasonality
Gender of household head	Male headed	Likely female headed

Source: Focus group discussions, March 2017

The quantitative approach in Irbid governorate revealed two wealth groups as well (Table 19):

- **Wealth group 1** named “*Large family size, high dependency, low indebtedness and poor household group*”: households of this group are characterized by a high dependency ratio. In effect, every worker has to take care of 2.4 non-workers. The income (82.5JD/per/month, meaning 2.75JD/person/day) is slight above the poverty line (2.3JD/person/day). They work 6.6 month per year. They form 90 per cent of the study sample. They work 7 months in average.
- **Wealth group 2** named “*Large family size, low dependency, low indebtedness and better-off, household group*”. This group differs from the first group by a lower dependency ratio (1.3), a far better income which was found to be 491.7 JD/month/person. This income corresponds to 16.4 JD/Person/day. In the year they work up to 2 month longer than the wealth group 1. The number of month they

work per year was found to be 8.4 months. The group comprises only 10 per cent of the study sample. They work 8 months in average.

Table 19. Main wealth groups identified in Irbid governorate by the clustering approach

	Wealth group 1 (78)	Wealth group 2 (09)
Discriminating variables	Large family size, high dependency, low indebtedness and poor household group	Large family size, low dependency, low indebtedness and better-off, household group
Household size	5 ^a	4 ^a
Number of family workers	2 ^a	2 ^a
Number of male workers	1 ^a	1 ^a
Dependency ratio (Non workers in charge per worker)	2.4^a	1.3^b
Classic education of household head (no. of years)	6.2 ^a	6.9 ^a
Gross household income (JD/month/person)	82.5^a	491.7^b
Debt amount (JD/person)	50.0 ^a	56.4 ^a
Number of working months (no. of months per year)	6.6^a	8.4^b
Owned livestock (Tropical livestock unit per household)	0.0 ^a	0.1 ^a
Humanitarian assistance(JD/person/month)	6.9 ^a	4.4 ^a

Source: Household surveys, March 2017. Note: Values in the row and the same letter in superscript are not significantly different at 5% (p -value < 0.05) with the independent sample T-test for equal means.

C. Main wealth groups in Mafraq governorate

The participatory assessment in Mafraq governorate yielded two main wealth groups among Syrian refugees' communities (Table 20):

- **Poor household group** which has a high number of workers. They have diversified activities and are less indebted. Households estimated the average debt level of this group to be 500 JD at the time of the fieldwork. They are male headed households for the majority.
- **Very poor household group** characterized by high dependency with disabled persons in charge. They are most likely female headed households and are likely highly indebted. The average debt level was estimated by households to be around 1,000 JD at the time of the study. It was mentioned that some of them sell food vouchers to cover health expenses needs.

Table 20. Main wealth groups identified in Mafrqa Governorate by the participative approach

Key variable	Poor Syrian households	Very poor Syrian households
Debt	500 JD	1,000 JD
Dependency	Low	High : members with disabilities
Selling food vouchers	Yes but not often	Yes, often
Gender of household head	Male headed	female headed
Income diversification	Diversified income	No diversified
Rent	Better coverage of house rent, in case of rental	Is not covering house rent
Household size	Around 9	Less than 9

Source: Focus group discussions, March 2017

The quantitative approach in Mafrqa governorate revealed more wealth groups than what was found in the participatory approach. Three wealth groups were identified as shown in Table 21 :

- **Wealth group 1.** It was named “*Large family, high dependency, low indebtedness and poor household group*”. It is characterized by large family size of 6 members in average. The dependency ratio is high as well. It was found to be 3.2, meaning every worker of the family has to take care of 3 members at least. They a low income found to be 70.5 JD/person/month; this corresponds to 2.35 JD/person/day which

equals to the official poverty line in Jordan. The group comprises 65 per cent of the study sample. They work permanently in 6 months on average;

- **Wealth group 2** named “*Small family, high dependency, low indebtedness and middle income household group*”. The group differs from the first group by its lower family size (4 members in average) and lower dependency ratio (1.9). This group however has a better income estimated to be 215.6 JD/person/month, meaning 7.1JD/person/day which is more than double the poverty line. This group is only 22 per cent of the study sample. They work permanently 6 months in average;
- **Wealth group 3** was named “*Small family, low dependency, low indebtedness and better-off household group*”. It was different from the group 2 only for the income. It had the highest income of the three groups. This income is up to 412.3 JD/person/month, corresponding to 13.7 JD/person/day; which is more than five times the poverty line. Only 14 per cent of the study sample was found in this group. They work permanently 5 months in average.

Table 21. Main wealth groups identified in Mafraq governorate by the clustering approach

	Wealth group 1 (51)	Wealth group 2 (17)	Wealth group 3 (11)
Discriminating variables	Large family, high dependency, low indebtedness and poor household group	Small family, high dependency, low indebtedness and middle income household group	Small family, low dependency, low indebtedness and better-off household group
Household size	6 ^a	4 ^b	4 ^b
Number of family workers	2 ^a	2 ^a	2 ^a
Number of male workers	1 ^a	1 ^a	1 ^a
Dependency ratio (Non workers in charge per worker)	3.2 ^a	1.9 ^a	1.6 ^a
Classic education of household head (no. of years)	6.8 ^a	5.9 ^a	8 ^a
Gross household income (JD/month/person)	70.5 ^a	215.6 ^b	412.3 ^c
Debt amount (JD/person)	34.8 ^a	41.3 ^a	68.8 ^a
Number of working months (no. of months per year)	5.7 ^a	5.6 ^a	5.4 ^a
Owned livestock (Tropical livestock unit per household)	0.0 ^a	0.0 ^a	0.0 ^a
Humanitarian assistance(JD/person/month)	3.5 ^a	3.4 ^a	1.9 ^a

Source: Household surveys, March 2017. Note: Values in the row and the same letter in superscript are not significantly different at 5% (p-value < 0.05) with the ANOVA.

D. Wealth groups in Madaba governorate

Syrian households did not perceive any significant difference among themselves in Madaba governorate. They find themselves are all poor.

The quantitative approach however identified three wealth groups. These results which do not support participatory assessment findings may be the fact that the participants of the participatory assessment were not diverse enough. The three wealth groups identified by the quantitative approach are as follow (Table 22):

- **Wealth group 1** named “*Large family, high dependency, low indebtedness and very poor household group*”: they have a large family size (6 members) and higher number of workers (3) amongst the wealth groups in the governorate. They are however also characterised by high dependency rate found to be 1.9, indicating that every worker has in charge 2 non-workers. They have the lowest income which is 43.5 JD/person/month, meaning each member of the household only have 1.45 JD/day, almost half of the poverty line levels (2.3JD/person/day). Up to 50 per cent of surveyed households belonged to this group. They work permanently 6 months in average.
- **Wealth group 2** named “*Small family, low dependency, low indebtedness and middle income household group*”. Households of this group have lower family size (4 members) and lower number of workers (2). But the dependency ratio which was 1.8 was not significantly different from the wealth group 1. The income was however higher than for the wealth group 1. It was found to be 153.5 JD/person/month, meaning 5.1 JD/person/day which twice the poverty line. Households in this group were 40 per cent of the surveyed households. They work permanently 6 months in average.
- **Wealth group 3** named “*Small family, low dependency, low indebtedness and better-off household group*”. The family size (3 members) and workers (2) of households in this group were significantly lower than in the wealth group 1 but was not significantly different from the wealth group 2. This group had the lowest dependency ratio which was 0.5. This indicates workers of this group have to take of one non-worker at most. They had the highest income which was 470 JD/person/month, meaning 15.7 JD/person/day. This income is almost seven times the poverty line. Only 10 per cent of surveyed households are in this group. They work 5 months in average.

Table 22. Main wealth groups identified in Madaba governorate by the clustering approach

	Wealth group 1 (45)	Wealth group 2 (36)	Wealth group 3 (9)
Discriminating variables	Large family, high dependency, low indebtedness and very poor household group	Small family, low dependency, low indebtedness and middle income household group	Small family, low dependency, low indebtedness and better-off household group
Household size	6 ^a	4 ^b	3 ^b
Number of family workers	3 ^a	2 ^b	2 ^b
Number of male workers	1 ^a	1 ^a	1 ^a
Dependency ratio (Non workers in charge per worker)	1.9 ^a	1.8 ^a	0.5 ^b
Classic education of household head (no. of years)	6.3 ^a	5.5 ^a	7.2 ^a
Gross household income (JD/month/person)	43.7 ^a	153.5 ^b	470.0 ^c
Debt amount (JD/person)	41.4 ^a	40.6 ^a	70.4 ^a
Number of working months (no. of months per year)	6.1 ^a	5.8 ^a	5.0 ^a
Owned livestock (Tropical livestock unit per household)	0.0 ^a	1.5 ^a	0.1 ^a
Humanitarian assistance(JD/person/month)	3.2 ^a	3.2 ^a	2.2 ^a

Source: Household surveys, March 2017. Note: Values in the row and the same letter in superscript are not significantly different at 5% (p-value < 0.05) with the ANOVA.

The results of the identification of the main wealth group among Syrian refugees and the final groups to retain and summarized in the Table 23. These groups will be referred to for the rest of the report.

Table 23. Summary of the main wealth groups amongst Syrian refugees in four governorates of Jordan

Governorate	Number of wealth groups			Comments
	Participative approach	Quantitative approach	Final wealth groups	
Amman	2	2	Wealth group 1. Large family size, high dependency, low indebtedness and poor household group Wealth group 2. Small family size, low dependency, high indebtedness and poor household group	6 outliers: 1 group of 4 households and 1 group of 2 households
Irbid	2	2	Wealth group 1. Large family size, high dependency, low indebtedness and poor household group Wealth group 2. Large family size, low dependency, low indebtedness and better-off, household group	4 outliers: 1 group of 2 households and 2 groups of 1 household
Mafraq	2	3	Wealth group 1. Large family size, high dependency, low indebtedness and poor household group Wealth group 2. Small family size, high dependency, low indebtedness and middle income household group Wealth group 3. Small family size, low dependency, low	No outliers

			indebtedness and better-off household group	
			Wealth group 1. Large family size, high dependency, low indebtedness and very poor household group	
Madaba	1	3	Wealth group 2. Small family size, low dependency, low indebtedness and middle income household group	4 outliers: 1 group of 2 households and 2 groups of 1 household
			Wealth group 3 Small family size, low dependency, low indebtedness and better-off household group	

Source: Focus group discussions and household surveys march 2017. Note: An outlier is a particular household very different from the majority of household for they are in specific conditions not shared by a majority of households.

E. Vulnerable groups

Beyond the present identification of wealth groups, focus group discussions and key informant interviewed highlighted the existence of specific groups among Syrian refugee community. These are the most vulnerable household that everyone agreed should be given priority for any intervention aiming at enhancing living conditions of Syrian refugees. The first vulnerable group are households headed by women. Women are considered as earning less money than men, and also have less work opportunities.

The second group is households with members living with disabilities (PWDs). These households have a higher dependency ratio. Active members have more burdens to bear and have more difficulties than the households with no members with disabilities.

3.2.3. Livelihoods strategies of the Syrian refugees agricultural livelihoods groups

A. Livelihood strategies of main wealth groups in Amman governorate

A few of the households of the two wealth groups identified in Amman (Table 24) are employed in supporting activities like construction (including painting and decoration) and domestic services. The income from secondary activities mostly serves for paying rent, according the focus group discussions findings. In the group 1, around 33 per cent of household work in fruit and horticulture sector as well as in livestock to diversify their source of income and reduce the seasonal unemployment. Only 23 per cent of households in wealth group 1 and 20 per cent of households in group 2 work permanently in livestock sector. More household of the group 1 own livestock compared to those in group 2 for which only 4 household have their own livestock and 3 household have poultry.

Table 24. Livelihood activities of main wealth groups in Amman governorate

	<i>Wealth group 1 (70)</i> Large family size, high dependency, low indebtedness and poor household group	<i>Wealth group 2 (20)</i> Small family size, low dependency, high indebtedness and poor household group
<i>Main agricultural activities (%)</i>		
Livestock only	22.9	20.0
Fruits only	5.7	5.0
Horticulture only	38.6	50.0
Work in different agricultural and livestock activities	32.9	25.0
Total	100.0	100.0
<i>Number of households working in livestock</i>		
Have own livestock	17	4
Have own poultry	9	3
<i>Number of households with Secondary activities</i>		
Construction (%)	50.0	50.0
Transportation and storage (%)	25.0	0.0



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Accommodation and food service (%)	0.0	0.0
Domestic service (%)	25.00	50.0
Total	100.0	100.0

Source: Household surveys, March 2017.

The bulk of the monthly income of the two groups is derived from labour (Table 25): 83 per cent for the group 1 and 89 per cent for the group 2. Households of the group 1 derive 5 per cent of the monthly income from livestock production while the second group get less than 1 per cent of their monthly income from livestock and livestock products. The reliance on humanitarian assist was similar for the two groups: 11 per cent for the group 1 and 10 per cent for the group 2. The two wealth groups rely mainly on borrowing money and buying against credit as livelihood coping strategies (Table 26). Around 27 per cent of households in the group 1 resort to money borrowing against 30 per cent for the group 2. The share of households buying against credit was slightly higher (20 per cent) than the share within the group 2 (17 per cent).

Table 25. Income structure of main wealth groups in Amman governorate

	Large family size, high dependency, low indebtedness and poor household group	Small family size, low dependency, high indebtedness and poor household group
Salaries	82.8	89.4
Pension income	0.7	0
Asset income	0.2	0
Livestock income	5	0.5
Remittance income	0	0
Humanitarian assistance	11.3	10.1

Source: Household surveys, March 2017

The two wealth groups who all poor have similar livelihood strategies. However the group 1 which has larger family size tend to diversify livelihood activities compared to the group 2. This diversification may explain why the first group is less indebted than the second group. A larger size of owned livestock may contribute to self-support through livestock product and reduce vulnerability.

Table 26. Coping strategies of main wealth groups in Amman governorate

	Wealth group 1 (70)	Wealth group 2 (20)
	Large family size, high dependency, low indebtedness and poor household group	Small family size, low dependency, high indebtedness and poor household group
Living together with host family (%)	2.2	2.2
Sharing costs with the family living in the same house (%)	11.2	15.2
Support from host community (%)	0.7	2.2
Humanitarian assistance (NGOs – excluding UNHCR-, donations, etc.) (%)	8.2	6.5
Selling properties (jewelry, car, etc.) (%)	1.5	2.2
Selling food vouchers (%)	2.2	4.3
Selling household assets (%)	0.0	0.0
Borrowing money (%)	26.9	30.4
Buying against credit (%)	20.1	17.4
Dropping children out from school (%)	9.0	6.5
Child labor (<16 years) (%)	3.0	2.2
Using savings (%)	2.2	0.0
Irregular work (not on monthly basis/previous work) (%)	4.5	6.5
Have not paid the rent for the past months (%)	8.2	4.3
Total	100	100

Source: Household surveys, March 2017

B. Livelihood strategies of main wealth groups in Irbid governorate

In Irbid governorate, the majority of Syrian households work in vegetable production (Table 27). 85 per cent of household in group 1 (poor household group) are in the vegetable growing business. Agricultural activities are not diversified as only 4 per cent of in this group work in other activities and around 8 per cent works exclusively in livestock production. Only 2 households of group 1 have their own livestock and are involved in secondary activities such as construction.

Households working almost exclusively in vegetable production will likely not be able to secure enough income due to the seasonality. They therefore have secondary activities outside the agricultural sector.

Table 27. Livelihood activities of main wealth groups in Irbid governorate

	<i>Wealth group 1 (78)</i>	<i>Wealth group 2 (09)</i>
	<i>Large family size, high dependency, low indebtedness and poor household group</i>	<i>Large family size, low dependency, low indebtedness and better-off, household group</i>
<i>Main agricultural activities (%)</i>		
Livestock only	7.7	11.1
Fruits only	3.8	11.1
Horticulture only	84.6	66.7
Work in different agricultural and livestock activities	3.8	11.1
<i>Total</i>	<i>100.0</i>	<i>100.0</i>
<i>Number of households working in livestock</i>		
Have own livestock	2	1
Have own poultry	3	0
<i>Number of households with Secondary activities</i>		
Construction	2	00.0
Transportation and storage	0.0	0.0

Accommodation and food service	1	0
Domestic service	0.0	0.0

Source: Household surveys, March 2017

The income of the better-off group consisted mainly of salaries (91 per cent). The contribution of humanitarian assistance was low and found to be around 6 per cent (Table 28). The poor household group derives 85 per cent of its total income from salaries. Up to 14 per cent is provided by humanitarian assistance, making them more reliant on assistance. In terms of strategies for covering the households' livelihood needs, most household of the better-off group resort mainly to money borrowing (54 per cent) from relatives, landlord and friends.

Table 28. Income structure of main wealth groups in Irbid governorate

	Large family size, high dependency, low indebtedness and poor household group	Large family size, low dependency, low indebtedness and better-off, household group
Salaries	85.4	90.9
Pension income	0	0
Asset income	0	0
Livestock income	0.8	3.3
Remittance income	0	0
Humanitarian assistance	13.8	5.8

Source: Household surveys, March 2017

The two wealth groups in Irbid governorate have similar coping strategies. Borrowing money was the most cited coping strategy by households of the poor household group (47 per cent of responses) and by the better-off household group (about 54 per cent). However, irregular work consisting of casual work was additionally cited as one of the most practiced strategy by the poor household group (15 per cent of the responses). However, child labour (2.1 per cent of responses), and children dropping out of school to support family in household activities (1.4 per cent of responses) were highlighted as coping strategies (Table 29) only by wealth group 1.

Table 29. Coping strategies of main wealth groups in Irbid governorate

	Wealth group 1 (78)	Wealth group 2 (09)
	Large family size, high dependency, low indebtedness and poor household group	Large family size, low dependency, low indebtedness and better-off, household group
Living together with host family (%)	1.4	7.7
Sharing costs with the family living in the same house (%)	4.3	7.7
Support from host community (%)	1.4	7.7
Humanitarian assistance (NGOs – excluding UNHCR- , donations, etc.) (%)	3.5	0.0
Selling properties (jewelry, car, etc.) (%)	2.1	0.0
Selling food vouchers (%)	0.7	0.0
Selling household assets (%)	0.0	0.0
Borrowing money (%)	46.8	53.8
Buying against credit (%)	17.0	15.4
Dropping children out from school (%)	1.4	0.0
Child labor (<16 years) (%)	2.1	0.0
Using savings (%)	1.4	0.0
Irregular work (not on monthly basis/previous work) (%)	14.9	7.7
Have not paid the rent for the past months (%)	2.8	0.0
Total	100	100

Source: Household surveys, March 2017

C. Livelihood strategies of main wealth groups in Mafraq governorate

Syrian households interviewed in this governorate seem to work in the agricultural sector only (Table 30). No household was found working in non-agricultural sectors like construction or domestic services. The households of the wealth group 1 (poor household group) work in majority in horticulture sector only (41 per cent) or in a set of agricultural activities including fruits and vegetable production. Very few households of this group (2%) are employed as labour in livestock sector despite the fact that Mafraq governorate is a livestock production zone. The two other household groups, the middle income household group and the best-off household group work in vegetable and fruit production and are not involved in livestock production. Most of the households belonging to the better-off household group work only in vegetable production. Households of the three group work 5 to 6 month per year. For their income (Table 31) they rely only on what they earn working in farms and humanitarian assistance which reaches around 8 per cent for the wealth group 2 (the middle income group).

Table 30. Livelihood activities of main wealth groups in Mafraq governorate

	<i>Wealth group 1 (51)</i>	<i>Wealth group 2 (17)</i>	<i>Wealth group 3 (11)</i>
	Large family size, high dependency, low indebtedness and poor household group	Small family size, high dependency, low indebtedness and middle income household group	Small family size, low dependency, low indebtedness and better-off household group
Main agricultural activities (%)			
Livestock only	2.0	0.0	0.0
Fruits only	23.5	35.3	9.1
Horticulture only	41.2	41.2	54.5
Work in crop and livestock activities	33.3	23.5	36.4
Total	100.0	100.0	100.0
<i>Number of households working in livestock</i>	<i>2.0</i>	<i>0.0</i>	<i>0.0</i>
Have own livestock	0.0	0.0	0.0
Have own poultry	0.0	0.0	0.0

<i>Number of households with Secondary activities</i>	0.0	0.0	0.0
Construction	0.0	0.0	0.0
Transportation and storage	0.0	0.0	0.0
Accommodation and food service	0.0	0.0	0.0
Domestic service	0.0	0.0	0.0

Source: Household surveys, March 2017

Table 31 Income structure of main wealth groups in Mafraq governorate

	Large family size, high dependency, low indebtedness and poor household group	Small family size, high dependency, low indebtedness and middle income household group	Small family size, low dependency, low indebtedness and better-off household group
Salaries	93.5	92.4	94.9
Pension income	0	0	0
Asset income	0	0	0
Livestock income	0	0	0
Remittance income	0	0	0
Humanitarian assistance	6.5	7.6	5.1

Source: Household surveys, March 2017

The results in Table 32 showed that the two main coping strategies for the poor household group were the fact of borrowing money from friends, relatives and landlord (57.5 per of responses), and buying against credit (15.1 per cent of responses). Households of this group often take children out of school (around 3 per cent of responses), and also use child labour (1.4 per cent of responses) as ways of getting more income for the household.

The major coping strategy for the middle income group (group 2) was borrowing money which accounted for around 63 per of responses. They as well resort to off-farm irregular work (8.3 per cent of responses) and share living costs with family members staying in the same house (8.3 per cent of responses).

The better-off household group (group 3) is the one resorting the most to humanitarian assistance as a coping strategy (21.4 of responses) while it was only 4.2 per cent and 11 per cent for middle income household group and poor household group,

respectively. The major coping strategy of the group 3 is the money borrowing with 57 per cent of responses.

Table 32. Coping strategies of main wealth groups in Mafraq governorate

	Wealth group 1 (51) Large family size, high dependency, low indebtedness and poor household group	Wealth group 2 (17) Small family size, high dependency, low indebtedness and middle income household group	Wealth group 3 (11) Small family size, low dependency, low indebtedness and better-off household group
Living together with host family (%)	0.0	0.0	0.0
Sharing costs with the family living in the same house (%)	4.1	8.3	7.1
Support from host community (%)	2.7	0.0	0.0
Humanitarian assistance (NGOs – excluding UNHCR-, donations, etc.) (%)	11.0	4.2	21.4
Selling properties (jewelry, car, etc.) (%)	1.4	0.0	0.0
Selling food vouchers (%)	0.0	0.0	0.0
Selling household assets (%)	0.0	0.0	0.0
Borrowing money (%)	57.5	62.5	57.1
Buying against credit (%)	15.1	8.3	7.1
Dropping children out from school (%)	2.7	4.2	0.0
Child labor (<16 years) (%)	1.4	4.2	0.0
Using savings (%)	0.0	0.0	7.1
Irregular work (not on monthly basis/previous work) (%)	1.4	8.3	0.0
Have not paid the rent for the past months (%)	2.7	0.0	0.0
Total	100	100	100

Source: Household surveys, March 2017

D. Livelihood strategies of main wealth groups in Madaba governorate

The three wealth groups in Madaba governorate have their households similarly working in livestock, vegetable, fruits and combination of these activities (Table 33). No big difference was seen amongst these groups for the type of agricultural activities households were involved in. However, fewer households of the better-off households (only 3) were working in livestock compared to the two other household groups, middle (10 households) and very poor household groups (14 households). Livestock ownership was very low for all wealth groups (1 to 4 animals). The main secondary activity was construction where 3 to 5 households were involved in for each wealth group.

Table 33. Livelihood activities of main wealth groups in Madaba governorate

	<i>Wealth group 1 (45)</i>	<i>Wealth group 2 (36)</i>	<i>Wealth group 3 (09)</i>
	Large family size, high dependency, low indebtedness and very poor household group	Small family size, low dependency, low indebtedness and middle income household group	Small family size, low dependency, low indebtedness and better-off household group
<i>Main agricultural activities (%)</i>			
Livestock only	15.6	11.1	11.1
Fruits only	13.3	16.7	22.2
Horticulture only	46.7	47.2	44.4
Work in many agricultural and livestock activities	24.4	25.0	22.2
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
<i>Number of households working in livestock</i>			
Have own livestock	1	4	1
Have own poultry	1	2	2
<i>Number of households with Secondary activities</i>			
Construction	5	3	3
Transportation and storage	1	0	0
Accommodation and food service	0	1	0
Domestic service	1	2	0

Source: Household surveys, March 2017



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3.2.4. General discussion on Syrian refugees wealth groups and related livelihood strategies

The participatory assessment was used to provide entry variables to the quantitative clustering of Syrian households working in agriculture. This combination has the advantage of providing a comprehensive participatory basis for the quantitative analysis. It gives better chance to get the adhesion of households to the outcome of the wealth breakdown. Such results help better targeting intervention and better involvement of the beneficiaries in the intervention.

The results of the two approaches corroborated as summarized in Table 23. In the particular context of refugees marked by the absence of assets from all the five capital defined by the Sustainable livelihood framework (human, financial, natural, physical and social), the classification was based on human assets and financial assets, namely income and owned livestock. Across the four governorates, we can globally distinguished three wealth group amongst Syrian refugees. The first wealth group which the poor household group (very poor and poor) is characterized by large families, high dependency and low or very low income. Refugees' income is tied to the number of workers as main income source is what is earned by each worker of the family. The less a family will count workers the more likely it will be poor and vulnerable. Such conditions will be favorable to child labour and children dropping out of school to contribute to income generation in the household as coping strategies beside widespread strategies such borrowing money or buying against credit.

Households that have short employment over the year and spend almost half of the year without safe employment, potentially end up highly indebted and much more involved in seasonal movement from location to location and from farm owner to farm owner in search of better working conditions. Most of Syrian refugees are found in this group.

The second wealth group is the middle income households with an income of at least three times the poverty line. Found in Mafraq and Madaba governorates, their main characteristics are a small family size (less than five members), and a low or high dependency. They work at least 6 months per year. Their main coping strategies are borrowing money or buying against credit. However they can sometime also resort to child labour or taking children out of school.

The third and last wealth group is the better-off households. Their key characteristics are that they work longer per year (up to 8 months) and have a lower dependency ratio. Their main coping strategies are borrowing money from landlords, friends and relatives. They are resort only rarely if at all to child labour and children

dropping out of school to support parents in households are also very infrequent. They are encountered in Irbid, Mafraq and Madaba. Very few of Syrian refugees are found in this wealth group.

Quantitative information and general analysis however does conceal profound disparities. One Syrian household in Amman governorate, for example, was in in particular good terms with the farm owner, he consults them on production decisions that are usually taken by the landlord himself or by the Egyptian supervisor. This brings about a win-win situation in which new knowledge is introduced, while the refugee feels empowered and more accomplished. Not all Syrians have the possibility to share knowledge with the Jordanian farmers and invest themselves in the business as if they were the owners. Many Syrian refugees interviewed would be ready to invest themselves much more if they had adequate access to land. While positive experiences might be rare, they are good examples of what could happen if refugees had access to assets.

The main lessons learn from the analysis of wealth breakdown and livelihood strategies are:

- The wealth break down revealed high poverty pockets in areas like Amman governorate where Syrian are considered to have relatively better living conditions when only considering the whole population. It reinforces the necessity for a well targeted intervention;
- The seasonality of the main activity will likely increase Syrian refugee households mobility in search for employment;
- Dropping children out of school is linked to high dependency and poverty;
- Better-off households do not necessarily mean high earned income, but thanks to the contribution of humanitarian assistance their combine income are higher.
- All wealth groups are vulnerable: earnings from labor are the major contributor to household income while none of the household members are employed full time for 12 months. Employment is seasonal. In addition, refugees fear deportation or other measures by law enforcement; therefore they are exposed to potential abuse from farm owners and are vulnerable.

As found by UNHCR(2014), the main coping strategies of Syrian refugees remain borrowing money, buying against credit. They also resort to irregular and potentially exploitative work to cover house rent and other expenses. These strategies are not



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sustainable, and the fact they continue to relying on it demonstrates their high vulnerability.

3.3 Livelihood options and constraints of the different refugees wealth groups

3.3.1. Strengths and opportunities for Syrian refugees

The Table 34 is a summary of information collected through focus group discussions, key informant interviews and observations from the field. Most strengths of Syrian refugees was common to the four locations. Syrian refugees interviewed that 18 to 35 year olds are most in demand as labourers. Syrians are generally appreciated for their hard work. They are said to be the driving force in companies where both nationalities – Syrian and Jordanians - work together. This has triggered a positive reaction on the host population and on the way certain jobs are perceived (some jobs considered “dirty” before, have now become more attractive as a result of Syrians taking them).

Syrians are known to be skilled in agriculture and livestock and to have substantial experience in these activities. They also have skills in other sector like mechanic, construction, carpentry but are not allowed to have these jobs in Jordan. In some governorates like Madaba and Mafraq, men were found to have particularly good education levels as some women do in Mafraq. In Mafraq and Irbid, women have received training in home service jobs or Kitchen gardening grown on the roof or balcony (photo 1). While these cannot be considered as livelihoods activities that lead to self-reliance, they do allow diversifying the diet and improving the nutrition status. It often supplies up to 20 per cent of household vegetable consumption according to households in focus group discussions.



Photo 1 . Kitchen gardening by women in Irbid

Table 35. Opportunities for Syrian refugees

ID	Opportunities/advantages	Amman (2 Wealth groups)	Irbid (2 Wealth groups)	Mafraq (3 Wealth groups)	Madaba (3 Wealth groups)
<i>Men</i>					
1	Labour demand in agricultural sector	**			
2	No competition with Jordanian for jobs in agriculture and livestock: Syrian better skilled in farming and livestock production	**	**	***	***
3	Work permit process has been eased	**	**	***	***
4	Land availability for cropping	**	**	***	***
5	In general Jordanian can be trusted	**	**	***	***
6	Syrian are given access to schools and health center	**	**	***	***
7	Work opportunities in other sectors: home service, carpentry, construction, repairs	**			
8	Cultural similarity of Jordan with Syria	**	**	***	***
<i>Women</i>					
1	No competition with Jordanian for jobs: Syrian better skilled in farming and livestock production	**	**	***	***
2	Work permit process has been eased	**	**	***	***
3	Land availability for cropping	**			
4	Processed household products market opportunities	**	**	***	***
5	In general Jordanian can be trusted	**	**	***	***
6	Access to schools and health center	**	**	***	***
7	Business opportunities in food and restaurant sector	**	**	***	***
8	Cultural similarity of Jordan with Syria	**	**	***	***
9	There are factories hiring women				***

Source: Participatory assessment and field observations, March 2017. **Note:** one * indicates that the constraint is the case with one wealth group.



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Many opportunities are available to Syrian refugees (Table 35). These opportunities relate to employment, land resources, access to basic services and market opportunities. The demand for Syrian labour in agriculture exists in all governorates as Syrian have goods skills in agriculture and livestock. This demand is facilitated by the non-competition with Jordanian given the agriculture and livestock sector do not particularly attract Jordanians (ILO, 2014). This creates employment opportunities for Syrian refugees.

Work permit acquisition process was eased recently to improve the access of Syrian to work permit. Syrians estimate that agricultural land can be accessed provided they have enough money for renting. If the market access was easier, Syrian women would be able to sell processed agricultural products.

Key informants indeed confirmed that there is a demand for sorted, processed and well packaged agricultural products. Syrian refugees could take advantage of these opportunities as many Jordanian find that Syrians can be trusted for developing joint business.

Syrians also have the opportunities of living in a host community with similar culture. Syrian women in urban and peri-urban areas estimate that market opportunities exist in food preparation and restaurant sectors. In urban and peri-urban areas, and especially women in Madaba governorate, highlighted the existence of factories which employ women.

3.3.2. Threats and weaknesses of Syrian refugees

The weaknesses of Syrian refugee households were assessed during focus group discussions. The main responses are listed in the Table 36. Weaknesses found across locations and gender were the fact that Syrian households are used to extensive production systems in Syria different from the systems in Jordan. This information was supported by results from key informants. Also Syrians are not members of any organization / cooperative. A situation which does not allow them to benefit from usual services offered by cooperatives.

Many refugees also do not know the process for renewing the work permit. They are often abused by some farmers who may ask up to 200-300 JD for renewing the permit while the process has been eased and costs only 10 JD. The gender specific weakness were the low literacy among women and the fact they are not allowed in some cases to work in a multicultural environment in which men and women work together. Men often think



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women and girls are unsafe when non-family members are around. There is also the lack of self-confidence of women in Amman governorate who said they usually do not dare to start things.

The results of the analysis of constraints facing Syrian households across wealth groups are presented in Table 37. The constraints range from work conditions to the access to production factors and enabling policies for Syrians. The common constraints to the different wealth groups are the cost of agricultural and livestock inputs and implements, the lack of access to lands, the remoteness to services like schools and health centers as well as the seasonality of employment, mainly in cropping rather than in livestock production.

The lack of enabling policies such access to credit and subsidies were also highlighted by the Syrian households.

The lack of work safety such wearing required equipment for applying pesticides or working on households was a concern for most of the wealth groups.

Type specific criteria were also found. For the poor and the middle income household group, the additional constraints were the low wages also noted by FAO (2014b), the cost of transportation, and the remoteness of the household the Syrian is working on. This last constraint was cited as wealth ranking criteria by households. The fact refugees are denied the ownership of property and assets, as well as the remoteness to market were also listed as type specific constraints of poor wealth group (group 1) in Amman governorate. The wealth group 1 in Irbid also highlighted the scarcity of water in the governorate as previously highlighted by ILO (2014).

Table 36. Main weaknesses of Syrian refugee households

Weaknesses	Amman (2 Wealth groups)	Irbid (2 Wealth groups)	Madaba (3 Wealth groups)	Mafrq (3 Wealth groups)
<i>Men</i>				
Used to extensive agricultural production	**	**	***	***
Lack of self-confidence/Risk averse: they often don't dare to try activities				
Low literacy				
Cultural believes and practices: don't allow women and daughters to work in multicultural environment: only allow them to work only in family				
No membership in organizations/associations	**	**	***	***
Many refugees don't know the process of renewing work permit	**	**	***	***
<i>Women</i>				
Use to extensive agricultural production	**	**	***	***
Lack of self-confidence/Risk averse: they often don't dare to try activities	**			
Low literacy	**	**	***	***
Cultural believes and practices: don't allow women and daughters to work in multicultural environment: only allow them to work only in family	**	**	***	***
No household organization/association	**	**	***	***
Many refugees don't know the process of renewing work permit	**	**	***	***

Source: Participatory assessment and field observations, March 2017. **Note:** one * indicates that the constraint is the case with one wealth group.

Table 37. Main constraints of the different wealth group in the study locations

Constraint	Amman governorate (2 Wealth groups)	Irbid governorate (2 Wealth groups)	Mafraq governorate (3 Wealth groups)	Madaba governorate (3 Wealth groups)
Abuse by landlord	*		**	**
Low access to work permit				
Cost of input and implements	*	**	*	**
Ownership for Syrian	*			
Lack of funds	**		**	**
No Land access	**	**	***	***
Transport access		*		**
No enabling policies	**	**	***	***
Remoteness of schools and health services	**	**	**	***
Remoteness from markets	*			
Lack of work safety	**	*	**	*
Low wages	*	*		
Seasonality of employment	**	**	**	***
Water scarcity		*		*

Source: Household survey, March 2017. Note: one * indicates that the constraint is the case with one wealth group

2.3.3. Assets of the wealth groups

As shown in the section 2.2, page 21, the assets endowment of Syrian refugees' households is very low. No household of the different wealth group in the four locations owns lands. The main access mode is informal through arrangement of sharecropping with landlords.

During focus group and key informant interviews it was said that most landlords claim back their land as soon as Syrians working the land implement soil management practices and the productivity of the land improved. Syrians have not right to drive or own a vehicle; their mobility, production capacity and access to markets would improve substantially.

Few livestock units, mainly sheep and goats are owned by poor household group (wealth group 1) in Amman governorate (1.4 TLU/household) and Middle income household group



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in Madaba governorate (1.5 TLU/household). Human resources are the main assets of Syrian refugees for all wealth groups. Large family size household groups have 6 members in average and 3 for the small family size household groups as shown in Table 38. The household income of the better-off household group was found to be 491.7JD/month/person in Amman governorate, 470.0 JD/month/person in Madaba governorate and 412.3 JD/month/person in Mafraq governorate. The very poor wealth group was found in Madaba governorate with 43.7 JD/month/person. Syrian refugees are not members of organizations/cooperatives.

The results show that Syrian refugee households are very vulnerable. Their main assets are human resources and limited income which is entirely provided by seasonal earnings. Households achieve their livelihood objectives from the assets portfolio they have. The transformation of these assets in livelihood strategies and outcomes differ among different wealth groups. The capability of this livelihood outcome to withstand changes and shocks determine the vulnerability of the household. The vulnerability of the livelihood may be reduced through the self-organizing of the household or of the community (Ifejika Speranza *et al.*, 2014). As shown in the methodological report, adaptive capacity and livelihood resilience of households is influenced by their buffer capacity, the self-organization ability and learning capacity. Unfortunately, in the current context of refugees in Jordan, the limitation and even absence of some basic assets (production resources such as lands and equipment) considerably reduce the buffer capacity of the households.

Table 38. Assets of main wealth group in the study locations

	Amman governorate		Irbid governorate		Mafraq governorate			Madaba governorate		
	Large family size, high dependency, low indebtedness - poor household group	Small family size, low dependency, high indebtedness - poor household group	Large family size, high dependency, low indebtedness - poor household group	Large family size, low dependency, low indebtedness - better-off household group	Large family size, high dependency, low indebtedness - poor household group	Small family size, high dependency, low indebtedness - middle income household group	Small family size, low dependency, low indebtedness - better-off household group	Large family size, high dependency, low indebtedness - very poor household group	Small family size, low dependency, low indebtedness - middle income household group	Small family size, low dependency, low indebtedness - better-off household group
Household size	5 ^a	4 ^b	5 ^a	4 ^a	6 ^a	4 ^a	4 ^a	6 ^a	4 ^b	3 ^b
Workers	2 ^a	2 ^a	2 ^a	2 ^a	2 ^a	2 ^a	2 ^a	3 ^a	2 ^b	2 ^b
Education	7.5 ^a	6.5 ^a	6.2 ^a	6.9 ^a	6.8 ^a	5.9 ^a	8 ^a	6.3 ^a	5.5 ^a	7.2 ^a
Income	63.1 ^a	62.3 ^a	82.5 ^a	491.7 ^b	70.5 ^a	215.6 ^b	412.3 ^c	43.7 ^a	153.5 ^b	470.0 ^c
Owned land	0	0	0	0	0	0	0	0	0	0
Livestock	1.2 ^a	0.9 ^a	0.0 ^a	0.1 ^a	0	0	0	0.0 ^a	1.5 ^a	0.1 ^a
Household association	No	No	No	No	No	No	No	No	No	No



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Credit	No	No	No	No	No	No	No	No	No	No
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Source: Household survey, March 2017. Note. Education, income and livestock are expressed in number of years of classic education of household head, JD/month/person, and Tropical livestock units, respectively. The letters compare assets for group within the same governorate. Groups with the same letters are not significantly different at 5 % ($p < 0.05$).





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Syrian refugees do not have many resources to rely on. The lack of access to cooperation and networks; their skills are not always recognised in spite of their experience in agriculture and livestock, reduces their self-organization capacity. This self-organization is not only important for the daily livelihoods but also in case shocks.

An advantage of the Syrian refugees' communities can be the fact that they have good knowledge of the opportunities and threats challenging their livelihoods. The remedial classes and trainings organized for them in some areas prove that they are keen to learn. This can contribute to e increase the adaptive capacity through trainings on the Jordanian context and best practices in agriculture and livestock sector. They have also shown during focus group discussion that they are available for knowledge sharing with Jordanian host. This can help engage Syrians and Jordanians together and revitalize a sector that has what are considered low-end occupations, as noted by key informants and the ILO (2014). Working side by side could generate positive effects for both communities and for the economy. Any intervention has therefore to consider Jordanian and Syrian in a synergy manner to make the socio-economic development dynamics sustainable.

3.3.4. Livelihoods options of Syrian refugees in relation to the SIP

This section presents the agricultural and livestock related livelihoods options. These options derive from the analyses of the assets available to refugees as well as their capabilities (strengths), advantages and constraints. They aim at building buffer-capacity and self-reliance of refugees involved in agriculture. This passes through improving income and its stability, and reducing the unemployment period. Four main groups of factors were given the policy context in which limited options are available to them : (i) first the assets availability, (ii) second, the strength and weakness of Syrian refugees, (iii) third, the opportunities and constraints refugees are facing, and (iv) fourth, the enabling environment.

Food security and better nutrition are still important objectives as many Syrian refugee households consume part of what is produced because they are not able to access diversified food.

A. Household livestock production-based livelihood option

Livestock production/rearing are not listed amongst occupations closed to foreigners. It is therefore a profession in which Syrian can legally engage. The governorates in the northern part of Jordan (Irbid and Mafraq) offer weather and natural conditions for the promotion livestock production despite the aridity of the area and potential livestock diseases(FAO, 2014b). This zone also called the Badia comprises rangelands which are



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traditionally used for livestock production in Jordan. Syrian showed interest for sheep and goat production mainly. It is raised for deriving products such as meat and milk used for home consumption. Milk is also often processed for cheese and other milk-based products. Some Syrian refugees are only employed in traditionally processed cheese. Syrians also produce poultry.

In general, Syrians already have skills and experience in livestock production. Syrian livestock keepers are used to traditional and extensive livestock production systems in Syria according to a key informant from the Jordan Ministry of Agriculture. In the refugee context, relying mainly on livestock will need intensifying the production and making the activity profitable and providing for the livelihoods needs of the households. Training in the intensification of livestock production and livestock management in Jordan context in general will be needed by Syrian to ensure the productivity and viability of the production. Field results revealed that few Syrian are not currently involved in livestock production due mainly to financial resources to constitute the livestock folk and due to the low access to pasture and feeds. Ensuring Syrian refugees' access to livestock feeds and animal health system will be required to preserve the livestock capital. Livestock production activities have to be developed in rural areas as urban and peri-urban areas are not compatible with such activities. This livelihood option will need full access to market for selling livestock at profitable prices. Households will need to be linked up with animal products processing units. Organizing households in cooperatives/associations will be useful for facilitating training, empowerment, and facilitating marketing negotiations. Such organizations will as well facilitate monitoring from the Jordan Ministry of Agriculture (MOA).

B. Diversified livelihood options

Fruits and vegetables sub-sectors are characterized by the seasonality of the production. Regarding fruits production Syrian refugees mainly work in the harvest and post-harvest handling (ILO, 2014) for 3-4 months per year. As for vegetable, the water scarcity does not allow producing the whole year in many areas. This situation leads Syrian refugees to seasonal movement for working in other sectors or to Jordan valley for working on irrigated households as labour. They spend 4-6 months per year in general without remunerated employment. The diversified livelihood options are options based on vegetable or olive production with the diversification of the household activities into small ruminant production, particularly sheep which is the most produced species (Department of Statistics, 2015) for both meat and milk. Small ruminant production in this option plays a role of supporting activity during the unemployed period the household. Milk and processed products can support the food consumption and diversify the diet of the household. The ownership of few sheep units and processing of milk can serve as



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homebased-processed activities for women who are usually not allowed to work outside the home.

Options with direct employment of refugee workers are often criticized to be short term programmes or to reach relatively limited beneficiaries (Jacobsen and Fratzke, 2016). Diversifying activities of employed refugees into small ruminant production allows addressing this criticism as workers will not only depend on the employment but also on provided start-up livestock units.

- ***Diversified household vegetable-based livelihoods option***

The regulations allow Syrian refugees to work in agricultural production in general and vegetable in particular. vegetables are produced under rain-fed and irrigated systems. Horticulture were produced on 18.3 per cent of cultivated lands in Jordan in 2015 (Department of Statistics, 2015). Many Syrians are involved in this production. It constitutes the main source of food consumption for most Syrians as landlord usually allows free consumption of the produce by the workers. Vegetable production has the advantage which is that it is accessible to modest resource households. As observed on the field it does not necessarily need very advanced technology to be produced and expected to be profitable. It appears from interviews with key informants that the sector has market opportunities on the local market and for export.

However, water availability is constraining the continuous production of vegetables over the year with many Syrian moving to Jordan valley at the end of rains season for seasonal work in irrigated schemes. The main constraints for Syrian besides water scarcity are access land, agricultural inputs and implement. The needs for promoting this option will be to provide irrigation water storage facilities and equipment as well as the access to improved seeds and fertilizers. The water available has to be guarantee most time of the year to allow household rely on this option. The household vegetable production-based livelihood option requires the household to rent the land or be engaged in sharecropping. In sharecropping mode, the Syrian household makes production management decisions. He is more incline to do his best to ensure household productivity. According to focus group discussion findings, even men reluctant to women and adult daughters work are keen to allow them to work in such environment under their control. This may contribute to reduce women unemployment.

- ***Diversified labour/employment-based livelihoods option***

This option corresponds to the current situation of most Syrians who are indeed employed as labour for livestock production, fruit or vegetable production. The labour market in



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Jordan is still in demand for Syrian labour as noted by key informants and Syrian refugees. Syrian workers are considered as more competitive in terms of wages and skills (ILO, 2013) on one hand, and the Syrian influx has not removed the labour availability issue in agricultural sector (ILO, 2014). But as the households surveys results have shown, the wage levels of Syrian refugees in agriculture has not improved from 2013 to now based on the statistics from the baseline study carried out by CARE Jordan (2013).

To produce an improvement of Syrian household income these option can take three forms:

- *Partner Jordanian-Syrian workers:* a Syrian family is employed by a Jordanian household or landlord. This option was suggested by Syrian refugees' households who believe that this would help solving land access issue, and ensures synergy between Jordanians and Syrians for mutual benefit. They suggest that intervention targeting Syrian should support the Jordanian who under UNHCR overseeing will have to ensure stable and good enough earnings of Syrians working. The Small ruminant project can support Jordanians while targeting Syrian refugees with a startup livestock flock (3-5 sheep) that they can raise for milking;

- *Jordanian private agribusiness company employing Syrian household workers:* this option sparks from the AgriJordan company model. It consists in creating opportunities in host community and connecting companies to refugees for promoting the employment of the latter. The project can partner with AgriJordan to identify or create viable agribusiness companies with the assistance of the Jordan Ministry of Agriculture, the Jordan Ministry of Interior, and the International Labour Organization (ILO);

- *Strengthening agricultural cooperatives to include Syrians as members:* while the role of cooperatives has been and continues to be fundamental to allow Syrian refugees to work formally and allow for the mobility that the sector requires, a greater opening membership and active involve of Syrians in the cooperative could produce the change in the economy of agriculture needed. More cooperatives need to be supported and developed in the country.

3.4. Gender issues and risk factors

3.4.1. Gender issues

The female population represented 48.6 per cent of the surveyed population. Almost half of this population has more than 17 year-old (Figure 3) and can legally work according to regulation of MOL(2016). However, 47.3 per cent of this Syrian female age-class is unemployed. As noted by REACH Jordan and UN WOMEN (2016), Syrian women have low chance to work compared to Jordanian women. In most cases, this unemployment is explained by the cultural context of the refugees. In effect, the first gender-related issue reported by women during focus group discussions is that females are not often allowed by the men to work or involve in income generating activities outside the immediate family environment as previously found by RFSAN (2016). Men acknowledged this issue raised by the women. Women work when they widowed or when the husband has disabilities and no other active member is available to provide for the household.

Secondly, women’s labor rights are more likely to be abused based on their gender: they may not be paid fully or at all or in time as reported by some farmers during focus group discussions.

Thirdly, child care and house responsibilities continue to be a major impediment to women’s work.

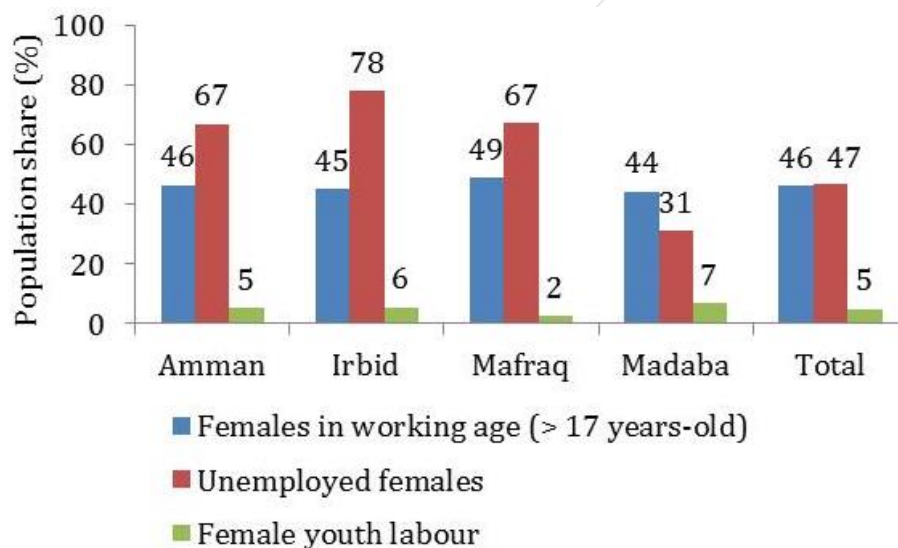


Figure 3: Women employment in the four governorates

3.4.2. Child labor and child protection

Child labour is considered as the employment of children below the legal age of employment in Jordan (16 years-old) and the employment of children between 16 and 17 years-old for more than 36 hours per week (Center for Strategic Studies et al., 2016). Key informants and refugees reported child labour as a major concern within the Syrian refugee community. In many households child labour contributes to the income of the family. In particular, when the payment mode is per person, the level of income depends on the number of workers the household has at its disposal. Many children drop out of the school to support the parent in the households. Many group discussion participants recognised this as a bad practice; lack of money to pay for school-related expenses has also been brought up as a major challenge by parents. Children’s work is paid half that of adults. As shown in the Figure 4, around 20 per cent of children is employed as labour in the overall study location against 1.9 per cent of child labour in Jordan general population (Center for Strategic Studies et al., 2016). This illustrates the vulnerability of Syrian and their needs. The Madaba governorate is where child labour has been reported more frequently by interviewees (29 per cent).

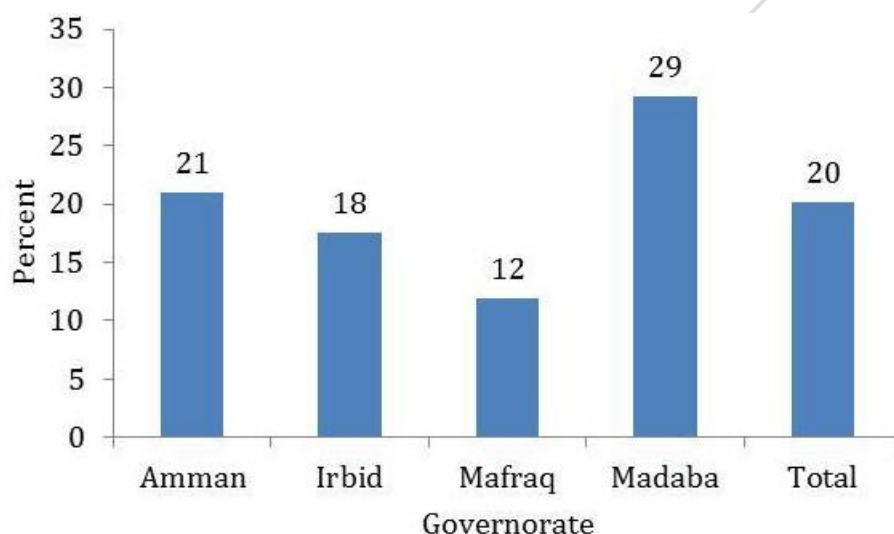


Figure 4. Youth working within total youth population in the four governorates

3.4.3. Risk factors

Syrian refugees’ influx has increased an already high pressure on existing socio-economic and natural resource systems in Jordan (RFSAN, 2016, Achilli, 2015). The ability of refugees to build self-reliance in this context will be challenged by interrelated factors.



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First of all, the institutional factors: indeed, the potential to achieve self-reliance is directly related to the extent to which refugee rights are guaranteed (Hunter, 2009) the right to the access to basic services, the right to ownership of productive resources such land and livestock. Without ownership of land and livestock, interventions aiming at enhancing livelihoods of refugees cannot achieve their goal, if refugees are not teamed up with Jordanians who have access to production resources. The actual lack of access to market by the refugees is also a risk. Without driving licenses and car ownership Syrian cannot use agricultural machinery nor can move livestock in search for pasture and water resources. If the above are not addressed the creation of real economic opportunities for refugees will be impossible. Livelihood investment cannot pay-off without political support and enabling environment (Jacobsen and Fratzke, 2016). The above risks should be addressed through increased advocacy efforts for all refugee wealth groups.

The success of the interventions may be put at risk by factors inherent to the presence of refugees. Jordan is considered as the third most water insecure country worldwide (RFSAN, 2016) and the presence of Syrians in Jordan has impacted services and resources

Host communities perceive the presence of refugees as a burden on water resources and accuse Syrian refugees of improper practices in agriculture. This risk can be addressed through capacity building in good agricultural practices targeting both Syrians and host communities: fertilizer application, irrigation, cultivation in greenhouses, etc. In this matter two set of actors can greatly help: the Jordan Ministry of Agriculture; and private sector companies like AgriJordan, which implement successful agribusiness models.

Refugees rely on a number of different income sources with assistance being an important safety net for vulnerable families. Targeting of the intervention will need to take into consideration motivation, interest and the relative importance of assistance in the household. Fears of losing assistance once work is formalized with a work permit exist. This risk is likely to be faced mostly by wealth groups for which humanitarian assistance significantly contributes to the household income.

Given current level of vulnerability, some refugee household might not be able to sustain agricultural and livestock management good practices due to costs of agricultural inputs, animal feeds and veterinary care. The provision of support such as fertilizers, seeds, and livestock fodder in the short term could help strengthen their productive capacity. This risk might particularly affect very poor and poor wealth groups, and specific vulnerable groups (female headed households and households with PWDs).



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Cooperatives can help Syrian refugee women to work: refugees are scattered and collective activities will increase the challenges with transport unless this is addressed by the programme. Homebased-processing activities as an alternative to cooperatives may also be challenged by the hygiene and sanitation condition of Syrian dwellings. Syrian refugees often live in precarious housing condition (UNHCR, 2014). This risk will likely be faced by all wealth groups.

Another major risk is related to gender issue. Indeed, cultural issues related to gender roles and the concerns about child care can stop women from taking jobs especially when they are requested to work full time and where the workplace is gender-integrated and where workers come from different parts of the world.

Providing start-up livestock units to all refugees may not be financially feasible for the programme. Many Syrian said during focus group discussions that they would like to have access to capital without paying interest ; the intervention could as a first step proceed to genetic selection of sheep or goat by using the *habannaye* technic (Kéré, 2017). Indeed it was observed in the field that some sheep and goat breeds give multiple offspring. The *habannaye* technic aims at isolating pure breeds of animals giving multiple births per pregnancy. This allows selected animal to breed and rapidly multiply the number of available animals as they will give birth to multiple off-springs unlike unselected animals. In a second step, beneficiaries are organized in groups/cooperative of households geographical closed from one another to be able to collectively manage the flock. A few genetically selected animals are given per small group of refugees to rear. The group will have in charge to ensure the multiplication of the animals so that each member of the group can in a relatively short time have his own animals from the project. Startup animals are directly given to a household which will commit to return off springs to the project in a given time, so that another household can be giving a startup flock.

3.5. Basis for targeting Syrian refugees

Targeting context-specific consists in a first step in identifying the most suited livelihood options which each of the wealth group should achieve. Targeting will consider the current assets of the different wealth groups. For instance, for managing a livestock flock, even of small size, it will require the participant in the project to have space. He/she will have to be living outside town, on a farm and be allowed by landlord to keep livestock. When not living on a farm, as revealed by participatory assessment, neighbours may feel uncomfortable with the smell generated by the livestock.



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Households to be prioritized within each wealth group are identified based on vulnerability criteria highlighted by key informants, during focus groups as well as on the basis of field observations and of the economic profile of the households. The group specific targeting is described as in Table 39.

Wealth groups to target under the household livestock production-based livelihoods option. For the sustainability of livestock rearing and for better efficacy, wealth groups that should be targeted under this livelihood option are households already involved in livestock production and for which livestock plays a role in income formation. This means that they already depend for at least more than 1 per cent on livestock for their income; demonstrating their motivation and engagement in livestock production. Households of the wealth group 1 in Amman outskirts and the households of wealth group 2 in Irbid governorate would be the best suited for developing this livelihood option.

Wealth groups to target under the diversified household vegetable-based livelihoods option. Mainly households from better-off households groups may engage in this option as it requires financial resources for renting land and contribute to production costs under the sharecropping mode. These wealth groups comprise wealth group 2 in Irbid governorate, and wealth groups 3 in Madaba and Mafraq governorates.

Wealth groups to target under the diversified labour/employment-based livelihoods option. This option does not require the Syrian household to be renting or having access to land. Households from very poor and poor wealth group should be targeted in priority under this option. On farm employment will be optimized though access to information and training and will allow participants in the project to have additional income. The start-up folk will keep them producing income during the out-season when they are not employed on farms. With multi-purpose ruminant (wool, milk and meat production), women will be able to initiate home-based processing activities from milk. Women could also be trained to develop the manufacturing of wool-based products (handicraft) for the market. These activities will be a good source of income for women not allowed to work outside the house.



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Table 39. Targeting beneficiary wealth groups

Livelihood option	Amman governorate		Irbid governorate		Mafraq governorate		Madaba governorate			
	Large family size, high dependency, low indebtedness and poor household group	Small family size, low dependency, high indebtedness and poor household group	Large family size, high dependency, low indebtedness and poor household group	Large family size, low dependency, low indebtedness and better-off household group	Large family size, high dependency, low indebtedness and poor household group	Small family size, high dependency, low indebtedness and middle income household group	Small family size, low dependency, low indebtedness and better-off household group	Large family size, high dependency, low indebtedness and very poor household group	Small family size, low dependency, low indebtedness and middle income household group	Small family size, low dependency, low indebtedness and better-off household group
Household livestock production-based livelihood	X			X						
Household vegetable production-based livelihood				X			X			X
Labour/Employment-based	X	X	X		X	X		X	X	



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livelihood
option

Source: constructed from the analysis of the participatory assessment, households surveys and field observations, March 2017. **Note:** the sign x the wealth group is targeted under the corresponding livelihood option.



As for the identification of households that should not be targeted, all Syrian refugees' households working in agriculture are vulnerable given their economic situation and lack of assets. However, most vulnerable groups were found and should be given priority by any intervention. Key informants and Syrian refugee participant to focus group discussion provided criteria for identifying particular vulnerable groups (Table 40). These criteria are as also found by Bottone et al. (2016) for Syrian refugees in Jordan and Lebanon based on vulnerability level, are related to the gender of the household head, and the dependency level in the households. To these criteria we can add criteria relating to child labour which affects the schooling of children. Households to be given priority should be identified using these criteria.

Table 40. Criteria for household targeting

Criteria	Comments
Female headed household	The case of a female headed household as a result of the husband being disabled or with chronic illness
Widow/divorced female headed household	Women living alone with children
Household with one or more members with chronic illness or disabilities	High dependency ratio of the households. It can be male or female headed household.
Household whose members are predominantly women	Household with more 50 per cent female members. This indicates low income generation possibilities as women usually are not allow to wok or have less work opportunities
Poor household whose children drop out of school or whose children work	Targeting these household which, given a chance, let children resume school attendance (condition for being part of the project)



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4. Conclusion

The study used the sustainable livelihood framework and the vulnerability concept to analyze the current situation of Syrian refugees working in agriculture in Jordan. A wealth breakdown was conducted using combined participatory assessment and household surveys. The results showed the existence of three main wealth groups in the study area. The first wealth group which is the poor household group (very poor and poor) is characterized by large family size, high dependency and low or very low income. The second wealth group was the middle income households with an income of at least three times the poverty line. The third wealth group was the better-off households. Their key characteristics are that they work longer per year (up to 8 months) and have a lower dependency ratio. The main coping strategies are borrowing money from landlords, friends and relatives, buying against credit, irregular work and child labor. The main assets of Syrian refugee households in these different groups were mainly the human capital (labor) and the income drawn mainly from seasonal employment and humanitarian assistance. The weak endowment in livelihood assets (lack of tools, access to land and water, little ownership of livestock) denotes a low buffer capacity ; households engaged in agriculture are therefore generally vulnerable . They show low reliance on own resources, and resort to humanitarian assistance, borrowing and buying on credit as coping strategy. In addition their participation in formal networks and cooperatives is quasi inexistent. This reduces their self-organization capacities and augments vulnerability.

Given the context of Syrian refugees, livelihood options were identified for building assets and enhancing the livelihood of Syrian refugees. These options could be livestock-based or diversified, combining agricultural activities (farming on rented land or sharecropping), employment and livestock production at small scale.

The study recommends that intervention aiming at enhancing Syrian refugee livelihoods in Jordan should be wealth-group specific optimize synergies between Syrian refugees and host Jordanians. Changes are required at different levels. On the government side, there is a need to ease regulations to allow livestock ownership by Syrian and to facilitate access to land. Easing regulations should as well consist in improving access to driving licenses for refugees working in the agricultural sector. The refugees should be giving access to markets for selling produce and for buying inputs and feeds. More sensitization for women to get work permits, and regularize their work in agriculture, is also needed. Humanitarian organizations and other like International Labour Organization need more coordinated actions, sharing experience, lessons learnt, achievements and challenges. Finally, a cultural shift from both the Jordanian and the Syrian communities in order to set aside prejudices, accept each other and work together is needed.



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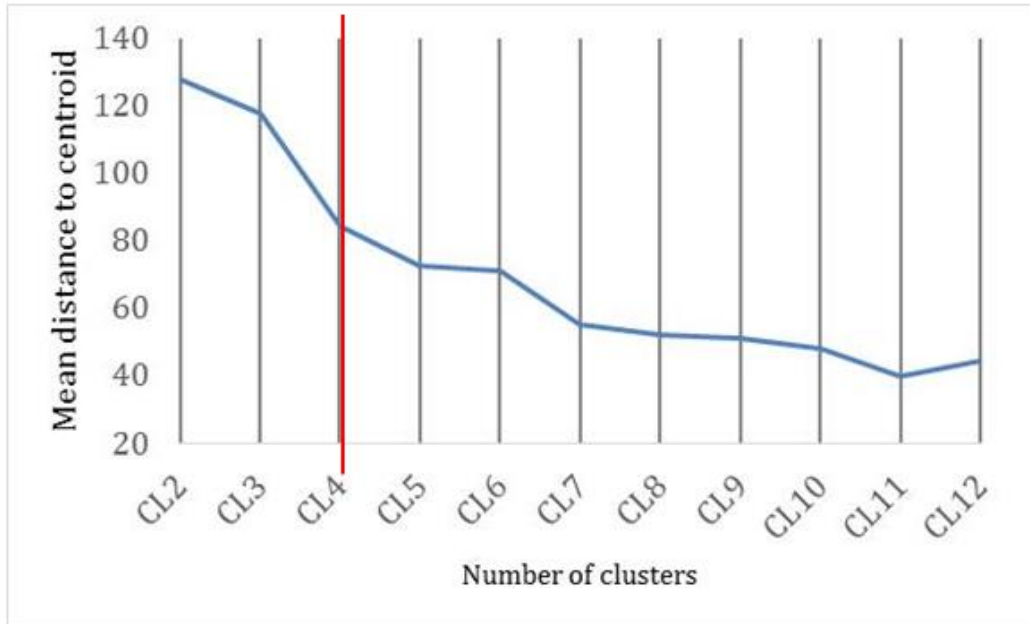
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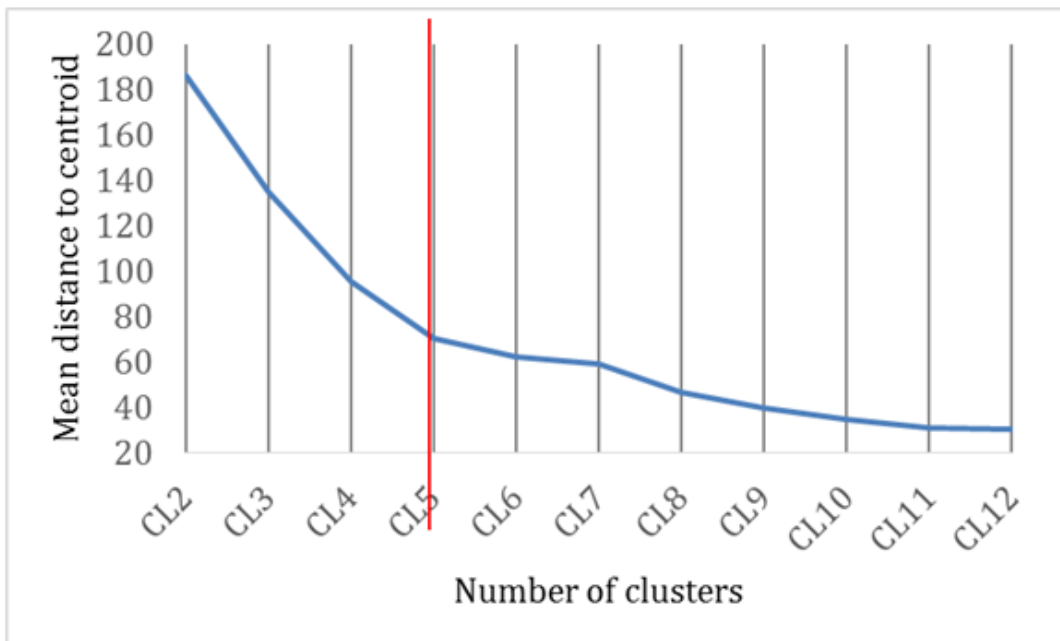
Annexes

Annex 1. Knee curve for determining the number of cluster in Amman governorate



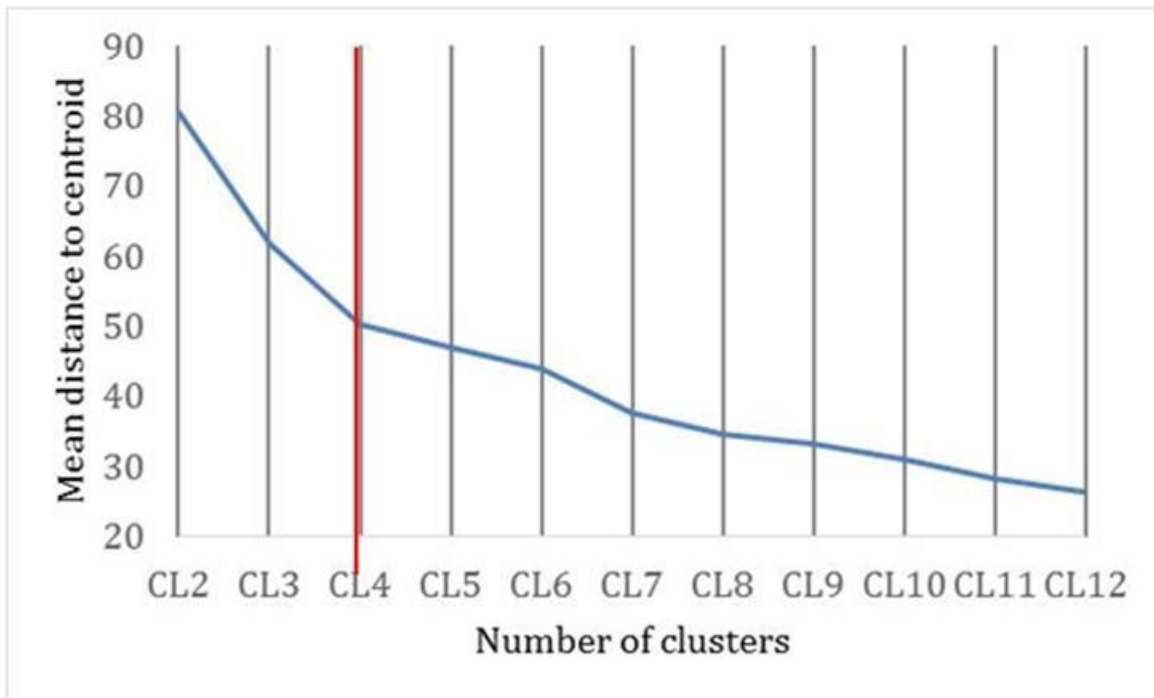
Note: The vertical red lines indicate the optimum number of clusters to retain

Annex 2. Knee curve for determining the number of cluster in Irbid governorate



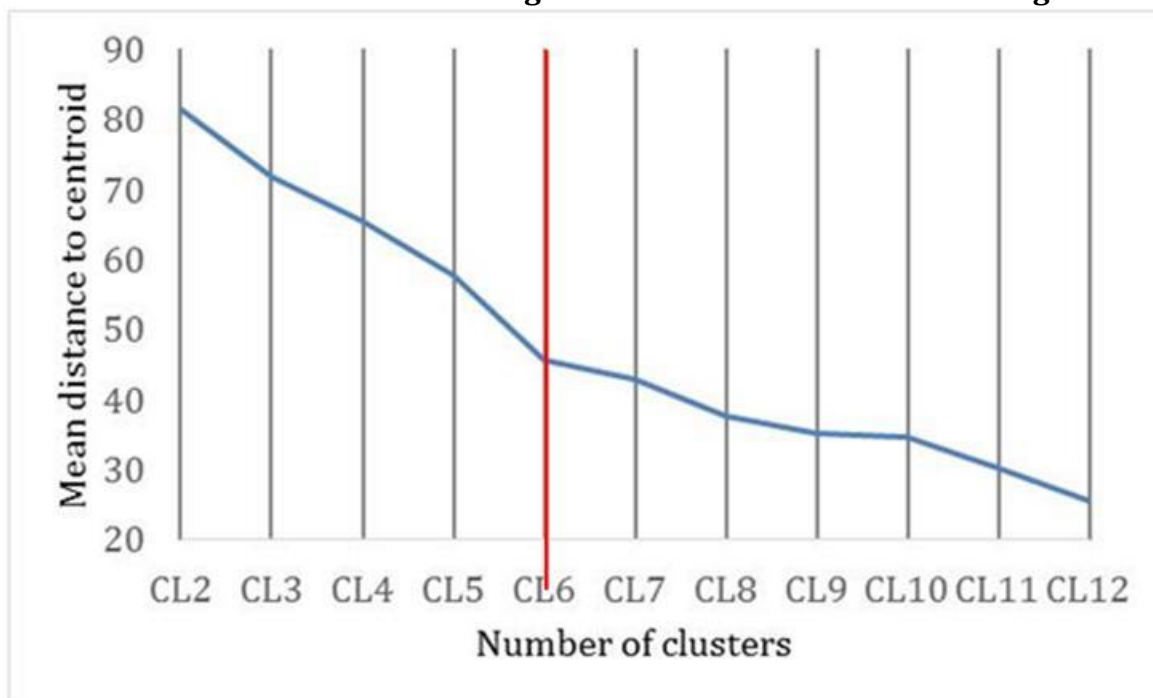
Note: The vertical red line indicates the optimum number of clusters to retain

Annex 3. Knee curve for determining the number of cluster in Mafraq governorate



Note: The vertical red line indicates the optimum number of clusters to retain

Annex 4. Knee curve for determining the number of cluster in Madaba governorate



Note: The vertical red line indicates the optimum number of clusters to retain