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RESEARCH DESIGN FOR THE LABOR SUPPLY AND DEMAND STUDY IN MAFRAQ AND IRBID

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ACRONYMS

MDC	Mafraq Development Corporation
IDA	Irbid Development Area
KHBTDA	King Hussein Bin Talal Development Area
MDA	Mafraq Development Area
DOS	Department of Statistics
NCHRD	National Center for Human Resources Development
NEC	National Employment Center
VTC	Vocational Training Corporation
MOL	Ministry of Labor
CSB	Civil Service Bureau
GDP	Gross Domestic Product
CV	Coefficient of Variation
EAR	Economically Active Rate
MOU	Memorandum of Understanding

EXECUTIVE SUMMARY

The USAID Jordan Economic Development Program (SABEQ) is supporting the Mafrq and Irbid Development Zones in their efforts to attract new high-quality investments, through providing technical assistance and consulting services. One of the critical factors affecting the decision of the investor to invest in development zones is the quantity, quality and availability of labor force. In order to provide investors with valid information about the labor force, a scientific study of labor situation reflecting supply and demand is required. Therefore, the SABEQ program contracted Dajani Consulting to carry out the Labor Supply and Demand Study first in Mafrq and then in Irbid, to identify the labor profile and the gaps within the labor market.

The first task of the study involved preparing a research design, explained in this document. The research design was based upon background information about Irbid and Mafrq Governorates covered in a review made of the literature of official statistics and reports on employment and the labor market.

The most important component of the research design is the methodology. The methodology of conducting the Labor Demand Study implies collecting labor and employees' recruitment data from potential interested investing companies in the Development Zones, using a specifically designed tool (this being a questionnaire). The scope of the Labor Demand Study must cover all potential companies, since there are few of them at this stage. On the other hand, the methodology of the Labor Supply Study consists of preparation of a sample, development of a Survey Tool, testing of the Survey Tool, recruitment and training of Surveyors, an awareness campaign through the media, conducting a field survey on the target segment, data entry, data verification, data analysis, and reporting. The scope of the Labor Supply Study covers the population of Mafrq / Irbid who are over the age of sixteen.

The fieldwork plan for the Labor Force Survey in Mafrq has inherent in its design some assumptions. It includes the sample size distributed on demographic and gender proportions, in addition to the number of Surveyors and a timeframe for conducting the survey.

The analysis of the Labor Demand Study shall concentrate on the quantity and quality of the required labor in terms of position, skills, attributes, benefits, salaries and other factors. The analysis of Labor Supply Study shall yield indicators about the labor force status, preferences, work conditions and others.

1. STUDY OBJECTIVES

The objective of the Labor Force Demand Study for Irbid and Mafrq is to identify the quantity of possible job opportunities that may be on offer by the potential investors in the Mafrq and Irbid development zones. The study also aims at determining the different aspects of the required positions such as work environment, education, skills, salaries, compensations, benefits and recruitment policies. This will provide updated information for Mafrq Development Corporation (MDC) to plan their support and coordination activities with the training providers in order to serve the investors' needs.

The main objective of the Labor Force Supply Study for Mafrq and Irbid is to assess the labor force supply in these governorates, and identify the characteristics of the available workforce in order to compare it to the labor force demand at a later stage. The overall objective of this study is to develop a comprehensive labor profile database of Mafrq and Irbid, including the templates and tools, for use in other development zones in the future. Another objective is to provide specific updated information about the labor force in Mafrq and Irbid to MOL, in order to feed into its national employment databases and job application electronic system.

2. CLIENT

Mafrq Development Corporation (MDC)

3. STAKEHOLDERS

- Ministry of Labor
- Development Zones Commission
- King Hussein Bin Talal Development Zone in Al Mafrq
- Irbid Development Area
- Jordan USAID Economic Development Program (SABEQ)
- Shabakat Al Ordon
- Vocational Training Corporation
- Training and Employment Initiatives and Programs
- Al Mafrq and Irbid Local Communities

4. BACKGROUND

The Government of Jordan released its National Agenda in 2006, in which it is stated 23% of the population will have reached working age within the coming ten years; however the Jordanian economy does not have the capacity to absorb the annual inflow of job seekers. According to the National Agenda, the unemployment rate in Jordan is around 14% but could reach the alarming rate of 20% by 2015 should conditions remain the same. Forty percent of the Jordanian population is economically active, which means they are considered part of workforce. The economically active population divided into 87% employed and 13% unemployed. The profile of the unemployed in Jordan according to the Department of Statistics in 2007 includes 29% of Bachelor degree (BA/BSc) holders, and 45% of *"less than general secondary certificate"* holders. The labor market in Jordan is characterized by the dominance of well-educated Jordanian males and females, but limited in the supply of skilled Jordanian labor, whose insufficiency is currently supplemented by the employment of foreign workers.

The labor profile differs among Jordanian Governorates and cities, depending on the economic activities and investments within each Governorate. The study of the labor market of each Governorate assists in designing more responsive approaches in solving the unemployment problem, and preventing its effect from spreading to the main neighboring cities.

One of the solutions for the high unemployment rate is the creation of Development Zones that can host labor-intensive industries in remote Governorates. Jordan has four Development Zones in Irbid, Mafrq, Ma'an and Aqaba. Due to the lack of significant data and indicators about the labor supply in these governorates, it is essential to conduct a comprehensive study that would yield the required information.

Irbid governorate has the largest population in Jordan after Amman, while Mafrq is the fifth largest populated governorate in Jordan. The total population of Irbid is 1,018,700 while the total population of Mafrq is 269,000 (DOS, 2007). In principle, Irbid governorate provides more job opportunities than Mafrq due to its demographic and economic situation.

In general, about 58% of the population is within the age segment of 15 – 59 years old age segment (DOS, 2007), which represents the Jordanian workforce. This means that more than the half of governorate's population can be considered as the labor market. It is worth mentioning that this segment includes employed, unemployed and economically inactive persons.

Economic indicators show that certain sectors were the major contributors to GDP during the past ten years. For example, the average contribution of finance, insurance, real estate and business services sectors to the GDP was 18% during 1998–2006, while the manufacturing sector contributed an average of 14.5% and whilst transport, storage and communications contributed an average of 13.7% to the GDP (DOS, 2007). These results reflect upon the size of required labor for these sectors. Usually, the sectors with high contribution to the GDP are labor-intensive sectors, which absorb most of the labor force in the market.

Table 1
Estimated Population of the Kingdom by Governorate at
End of Year 2007 (DOS, Yearly Statistical Book)

Governorate	Total Population	Percentage (%)
Amman	2216000	38.7 %
Irbid	1018700	17.8 %
Zarqa	852700	14.9 %
Balqa	383400	6.7 %
Mafraq	269000	4.7 %
Karak	223200	3.9 %
Jarash	171700	3.0 %
Madaba	143100	2.5 %
Ajlun	131600	2.3 %
Aqaba	124700	2.2 %
Ma'an	108800	1.9 %
Tafileh	80100	1.4 %
Total	5723000	100 %

The employment and unemployment statistics reveal interesting facts. Most of the unemployed (76.8%) are concentrated in the age segment 20 – 39 years old (DOS, 2007). The majority of employed persons can be found in Amman and Irbid, while other governorates tend to have lower employment (DOS, 2007).

Table 2
Employment by Governorate at End of Year 2007 (DOS,
Employment and Unemployment Survey)

Governorate	Total Population	Employment (%)
Amman	2216000	41.6 %
Irbid	1018700	17 %
Zarqa	852700	14.3 %
Balqa	383400	6.7 %
Karak	223200	4.1 %
Mafraq	269000	4 %
Jarash	171700	2.6 %
Madaba	143100	2.4 %
Ajlun	131600	2.2 %
Aqaba	124700	2.1 %
Ma'an	108800	1.7 %
Tafileh	80100	1.4 %
Total	5723000	100 %

A deep review of the current employment situation in Irbid and Mafrq shows useful indicators about the types of jobs and the employment patterns. 22% of the unemployed Jordanians are in Irbid, while 5% of the unemployed Jordanians are in Mafrq (DOS, Employment and Unemployment Survey 2007). The employed Jordanians in Irbid and Mafrq are distributed among several occupations, where certain occupations attract more Jordanians than other occupations. For example, 24.1% of the employed Jordanians in Irbid work in elementary occupations, while 17.8% of the employed Jordanians in Mafrq work in elementary occupations (DOS, Employment and Unemployment Survey 2007).

Table 3 Employment by Occupation in Irbid and Mafrq Governorates (DOS, Employment and Unemployment Survey 2007)		
Occupation	Irbid (%)	Mafrq (%)
Elementary Occupation	24.1%	17.8%
Craft & Related Trades Workers	14.3%	17.3%
Service Workers & Shop & Market Sales Workers	14.9%	14.9%
Plant & Machine Operators & Assemblers	12.2%	13.7%
Professionals	17.2%	13.4%
Technicians & Associate Professionals	10.1%	11.3%
Clerks	4.9%	7.7%
Skilled Agricultural & Fishery Workers	2.3%	3.4%
Legislators and senior officials & Managers	0%	0.6%
Total	100%	100 %

The most attractive sectors for Jordanian employment in Irbid include public administration and defense, education, wholesale and retail as shown in table (4). The same fact applies to Mafrq, but with addition to the transport, storage and communication, and agriculture, hunting and forestry. (DOS, Employment and Unemployment Report 2007).

Table 4 Employment by sector in Irbid and Mafrq Governorates (DOS, Employment and Unemployment Survey 2007)		
Sector	Irbid (%)	Mafrq (%)
Public Administration and Defense (Compulsory Social Security)	25.7	31.3
Education	14.9	11.8
Transport, Storage and Communications	8.2	11.4
Wholesale and Retail Trade, Repair of Motor Vehicles, Motorcycles & personal & Household Goods	14.3	11
Agriculture, Hunting And Forestry	3.7	10.4
Other Community, Social And Personal Service Activities	5	5.8
Construction	6.9	5
Manufacturing	8.2	4.4
Health and Social Work	5.7	3.7

Electricity, Gas and Water Supply	1.6	2.3
Real Estate, Renting & Business Activities	2.4	1.4
Financial Intermediation	0.9	0.8
Mining And Quarrying	0.4	0.3
Hotels And Restaurants	1.6	0.3
Private Households with Employed Persons	0.3	0.1
Extra-Territorial Organizations and Bodies	0.1	0.1
Fishing	0	0
Total	100%	100 %

The unemployment rate among Jordanians in Irbid and Mafrq is due to several reasons. The most common reason for unemployment is the unavailability of job opportunities within the governorate according to the unemployed (DOS, Employment and Unemployment Report 2007). Table (5) illustrates the main reasons for unemployment as mentioned by the unemployed persons in Irbid and Mafrq.

Table 5 Reasons for Unemployment in Irbid and Mafrq Governorates (DOS, Employment and Unemployment Survey 2007)		
Sector	Irbid (%)	Mafrq (%)
Believe No Work Available	55.2%	43%
Tired of seeking Work	7.1%	9.7%
Do not know How to seek Work	2.9%	3.3%
Can not find suitable work	17.9%	14%
Not Qualified	5.6%	15%
Other	11.5%	14%
Total	100%	100 %

The labor market is a dynamic environment influenced by factors such as mobility and commuting of workforce. Usually, the residents of a governorate work in it, but some of the workforce come from neighboring governorates. For example, in Irbid 92.5% of the employees are residents of Irbid, while only 55.9% of the workforce in Mafrq resides in the same governorate (DOS, Employment and Unemployment Report 2007).

Table 6 Employment of Irbid and Mafrq Governorates by the place of residence (DOS, Employment and Unemployment Survey 2007)		
Governorate	Irbid (%)	Mafrq (%)
Amman	1.2%	6.3%
Irbid	92.5%	19.9%
Mafrq	1.7%	55.9%
Jarash	1.3%	3.5%
Ajlun	1.7%	3.4%
Madaba	0.1%	1.2%

Zarqa	0.7%	5.4%
Balqa	0.3%	1.5%
Karak	0.3%	1.6%
Tafileh	0.1%	0.6%
Ma'an	0.1%	0.6%
Aqaba	0%	0.3%
Total	100%	100 %

5. TARGET SEGMENTS

A. LABOR FORCE DEMAND STUDY

The target segment is the potential investing companies in KHBTDMA-Mafraq and IDA-Irbid. The list of companies in Mafraq includes nine companies, while the list of companies in Irbid is as yet, not defined. The companies belong to different industrial and service sectors.

MDA focuses on investment companies in the following sectors:

- a- Food industry
- b- Light chemicals
- c- Logistics and warehousing
- d- Pharmaceuticals and medical supplies
- e- Other manufactured products (e.g. engineering industries, electrical, equipment).

IDA focuses on investment companies in the following sectors:

- a- Information Technology
- b- Electronic Industries
- c- Light Industries
- d- Other manufactured products

B. LABOR FORCE SUPPLY STUDY

Since this study is a labor supply survey, it should cover the following segments in Mafraq and Irbid:

- a- Unemployed youth regardless of their education level (Local community)
- b- Job seekers in the local community
- c- Jordanian residents of the governorates
- d- Other segments (Department of Statistics, NCHRD, and Ministry of Labor) as sources for secondary data.

6. STUDY LIMITATIONS

A. LABOR FORCE DEMAND STUDY

The Labor Demand Study may have the following limitations:

1. Limited number of target segment companies, which may reflect on the depth and accuracy of the study
2. Focus on certain sectors relevant to the available investments in the area may lead to excluding other potential sectors from the study
3. Most of the investments at the development areas are in the planning or construction phase, which may affect the accuracy of the study
4. The unavailability of the senior management of the company may delay the study

B. LABOR FORCE SUPPLY STUDY

The Labor Supply Study may have the following limitations:

1. Limited or lack of raw and updated data about the labor supply in these Governorates
2. The wide geographic area covered during the field survey
3. Lack of interest among target segments to participate in the study
4. Involvement of stakeholders may result in some delays
5. Difficulty of coordination between concerned parties may cause bottlenecks or delays

7. STUDY METHODOLOGY

A. LABOR FORCE DEMAND STUDY

1. Sources of data and information

- Secondary data: the Consultant shall collect and review available reports, studies, etc. MDC, IDA and other stakeholders may provide previous studies and information about the companies that would assist in designing the research.
- Meeting with stakeholders and client: the Consultant shall meet the MDC and stakeholders to agree on the contents and expected output of the study.
- Overview of similar activities: the Consultant shall arrange visits to model companies and investments operating in the targeted sectors, in order to define the parameters and indicators of the actual level of labor force in terms of age, sex, education, skills, experience, attitude, training and job duties...etc.
- Survey Tool development: [the Survey Tool developed by Consultants in cooperation with MDC and SABEQ]. It is based on previous tools used by MDC during analysis of the human resources needs of the potential investors. A Labor Demand Assessment Tool was prepared [and applied by MDC in cooperation with International Consultants early in 2008], as a part of a study about hiring challenges and advantages of Mafrq employers seeking Jordanian workers. A review of International Labor Demand Studies by Consultants was carried out to integrate essential and relevant points in the tool.

The labor demand tool comprises three main parts:

- Basic Information
- Labor Demand Profile
- Labor Demand Factors

The Tool was developed as a general questionnaire in Excel format, and then it was tested and customized to become sector specific. The Consultant presented the tools to MDC and the stakeholders to obtain their approval after making the required adjustments. The sector-specific versions included a cover page and instructions for completing the questionnaire. The questionnaire is targeting the key person responsible for human resources and employees in the investment companies. The questionnaire recommends completion in presence of the research Consultant, but if this is not feasible, the questionnaire is user-friendly and may be completed by the key person without assistance. The questions are in the form of tables and drop-down lists which facilitates answering

The basic information part contained the company's contact information, sector, status, activity, main processes, size of operations, main departments, sections and expected total staff number.

The labor demand profile part contained the job titles according to department and the job description or profile including type of work, location, workplace environment, sex, education level, experience, expected salary, technical skills, personal skills, benefits and compensations, in addition to recruitment process information.

The labor demand factors part contained a breakdown of the required human resources according to the recruitment plan of the company for the coming five years. It also included a ranking of the challenges faced by company regarding hiring employees when opening an investment in the Development Areas.

The Labor Force Demand questionnaire form is included in **Appendix (1)**

2. Study Population

As mentioned earlier, the target segments include potential investors in MDA and IDA. The list of MDA potential investors is included in **appendix (2)**. The list contains ten companies in KHBTDA that already signed a MOU with MDC. The list of companies in IDA is not determined yet.

3. Study Procedure

- Conduct interviews with key personnel or senior managers at the investing companies in the area using the developed tools, to collect the labor demand information and their perception on national and foreign labor.
- Review and analyze the collected information in comparison with the parameters and indicators of labor force.
- Classify the labor demand into categories based on the job type, skill level and the other parameters.
- Produce a draft report of the findings and analysis. The analysis shall yield collective information about the summation of the required workforce and the profile of the different positions planned for forthcoming recruitment by the companies.
- Submit the draft report to SABEQ and present to stakeholders (MoL, DZC, MDC, IDA, etc) for comments.
- Amend and submit the final study report (in English).

B. LABOR FORCE SUPPLY STUDY

The overall approach was based in three stages:

- a. Design and Preparation
- b. Conducting fieldwork
- c. Analysis and reporting

While Dajani Consulting shall carry out the first and the last stages, Shabakat Al Ordon as arranged by SABEQ and MDC shall carry out the fieldwork stage. The methodology will be applied to Mafraq as a pilot study, and then repeated in Irbid after completion of Mafraq pilot study.

The detailed methodology to perform the Labor Supply Study includes:

1. Design and Preparations

- Meeting with the client (MDC) and the stakeholders to agree on the expectations and the study plan. Issues regarding the impact of this study on employment, development of the private sector, involvement of the civil society, enhancing labor force skills and others points shall be discussed. (This step is completed)
- Collect raw data (statistics, reports, studies) available on the labor market of Mafraq and Irbid from different sources including DOS, NEC, NCHRD, MOL, CSB and others. (This step is completed)
- Review of previous information and studies completed on the labor market, particularly indicators pertaining to labor supply in Jordan in general, and Mafraq and Irbid in particular. (This step is completed)

- Literature review: analysis and quality assessment of the collected data to produce a baseline profile of the labor force supply and population in Mafrq and Irbid. As a result, any gaps and deficiencies in the data will be detected and taken into consideration when designing the Survey Tool and methods. Certain criteria being used to classify and analyze the data such as economic-active age, gender, education, experience, employment record, employment locations and more. The baseline profile will also facilitate the design of the supply survey sample and tools. (This step is completed)
- Development of the Labor Supply Survey tool for Irbid and Mafrq: the tool will be in the form of a questionnaire used to collect information during a face-to-face interview with the target segments. The design of the tool will take into consideration the objectives of the study, and integrate the previous surveys, the feedback of stakeholders, and the comments of the client within the questionnaire. First, a basic standard questionnaire is prepared, based on the questionnaires used by DOS in the employment and unemployment survey, other forms used by MOL and other organizations, but with customization and adaptation to serve the purpose of this study. More than one version of the questionnaire being developed whilst some questions to be addressed to all persons, via different manners, and other specific questions will be addressed to certain categories. Attention paid to the fact that questions must directly lead to the delivery of data related to the selected labor profile indicators. Only a few of these questions will be "open-ended", while the majority will be "closed-ended" questions (Yes/No, multiple choice) to facilitate data entry and analysis in later stages. Questions will concentrate on topics and issues related to the scope of the study such as:
 - Age
 - Gender
 - Social status
 - Number of family members
 - Educational qualifications
 - Specialization and level of education
 - Training courses
 - Skill type and level
 - Employment status
 - Current employment location
 - Current job type
 - Number of work hours
 - Previous employment record
 - Previous work location
 - Qualifications and skills gained during previous jobs
 - Income sources and value
 - Permanent and temporary residence
 - Job applications submission and rejection
 - Reasons for leaving job
 - Availability for employment
 - Sector preferences (public, private, international, other)
 - Economic activity preferences (industry, services, trade, transport...etc.)
 - Salary expectations
 - Compensation, benefits and incentives
 - Location preferences (within governorate, outside governorate, outside Jordan)

The draft Survey Tool being tested in the field, then improved and approved by the stakeholders and the client. (This step is completed)

- Pilot testing of the questionnaire in Mafrq, by two Surveyors where fifteen draft questionnaires were filled out with members of the target segment. A trial test of the Survey Tool was executed upon a small sample of fifteen persons, in order to detect problems or deficiencies in the survey tool. Main issues and difficulties encountered then were taken into account to better adapt and improve the quality of the tool. This led to some minor changes in the questionnaires. As a result, the survey tool became amended and improved to render it more applicable to the actual field -work. The expected amendments are re-phrasing of questions and answers, and re-organization of the questionnaire parts. Because of the testing, a number of modifications were then introduced to the questionnaire. A summary report of testing shall be prepared and submitted to SABEQ and MDC in order to approve the modifications. Ultimately, a final version was reached when a master copy of the questionnaire became ready. The summary report of testing is included in **appendix (3)**, and copy of the Survey Tool is included in **appendix (4)**. (This step is completed)
- Sample preparation: The sampling methodology complies with the statistical standards and practices used in employment and unemployment studies. First, to determine the population of the study, it is essential to study the total population. Tables (7), (8) and (9) show the population projections at the end of year 2007 by district, gender and age for the two governorates according to the Unemployment Survey Report published by DOS. It is observed that Mafrq's population represents about 26% compared to Irbid's population. Irbid's population is composed of 51.2% males and 48.8% females, while Mafrq's population in composed of 51.8% males and 48.2% females. *THE WORKFORCE CAN BE DEFINED AS ECONOMICALLY ACTIVE PERSONS FROM THE AGES OF FIFTEEN YEARS AND ABOVE.*

Table 7			
Estimated Population of Irbid and Mafrq Gov. by Sex and District, at End-year 2007 (DOS, population projections)			
Administrative Divisions	Total	Male	Female
Irbid Governorate	1018700	521700	497000
Irbid Qasabah District	412170	211480	200690
Ramtha District	119770	60750	59020
Koorah District	99920	50970	48950
Bani Kenanah District	83840	42720	41120
Northern Aghwar District	93500	48310	45190
Bani Obeid District	102680	52350	50330
Northern Mazar District	48460	24970	23490
Taybeh District	31970	16440	15530
Wastiyyah District	26390	13710	12680
Mafrq Governorate	269000	139400	129600
Mafrq Qasabeh District	112050	57760	54290
Northern Badiah District	63570	32680	30890
Northern Western Badiah District	82580	42560	40020
Al Rwaished District	10800	6400	4400

Table 8
Estimated Population of Irbid by Sex and Age Group, at End-year 2007 (DOS, population projections)

Age group (year)	Male		Female		Total	
	No.	%	No.	%	No.	%
0-4	65665	12.59	62365	12.55	128030	12.57
5-9	66605	12.77	63915	12.86	130520	12.81
10-14	64915	12.44	61610	12.40	126525	12.42
15-19	61430	11.78	57555	11.58	118985	11.68
20-24	57210	10.97	52560	10.58	109770	10.78
25-29	47555	9.12	43055	8.66	90610	8.90
30-34	39605	7.59	38425	7.73	78030	7.66
35-39	30940	5.93	30130	6.06	61070	5.99
40-44	22780	4.37	22620	4.55	45400	4.46
45-49	16220	3.11	16010	3.22	32230	3.16
50-54	12240	2.35	12150	2.45	24390	2.39
55-59	10315	1.98	10375	2.09	20690	2.03
60-64	9620	1.84	8970	1.81	18590	1.82
+65	16600	3.18	17260	3.47	33860	3.32
Total	521700	100.00	497000	100.00	1018700	100.00

Table 9
Estimated Population of Mafrq by Sex and Age Group, at End-year 2007 (DOS, population projections)

Age group (year)	Male		Female		Total	
	No.	%	No.	%	No.	%
0-4	19350	13.88	18260	14.09	37610	13.98
5-9	19480	13.97	18060	13.94	37540	13.96
10-14	17895	12.84	16985	13.11	34880	12.97
15-19	15790	11.33	14640	11.30	30430	11.31
20-24	14870	10.67	13320	10.28	28190	10.48
25-29	12520	8.98	11420	8.81	23940	8.90
30-34	10240	7.35	9560	7.37	19800	7.36
35-39	8025	5.76	7275	5.61	15300	5.69
40-44	5390	3.87	5000	3.86	10390	3.86
45-49	3770	2.70	3535	2.73	7305	2.72
50-54	3580	2.57	3050	2.35	6630	2.47
55-59	2480	1.78	2680	2.07	5160	1.92
60-64	2200	1.58	2150	1.66	4350	1.62

+65	3810	2.73	3665	2.83	7475	2.78
Total	139400	100.00	129600	100.00	269000	100.00

The sample of this survey is designed using the **stratified sample method**. The sample was designed and based upon the data of the employment and unemployment analytical report 2007 published by DOS. Relevant to this information, the sample size was estimated to provide results with CV (Coefficient of Variation) not more than 10%.

Due to the availability of data, the geographical area in which each Governorate was also taken into consideration in stratifying the population. Each district, in each Governorate is considered as an independent stratum, so the total number of strata in Irbid governorate is nine districts and in Mafrq Governorate is four strata and the grand total of all strata is thirteen. The sample being allocated amongst strata by the "**proportion to size**" allocation method, which takes into consideration the population size of each stratum to provide reliable results. Another important variable in the design of the sample is the gender, so the sample is further designed according to the proportions of males and females in the population. [Therefore, each stratum being divided into two sub-strata: males and females]. Using the stated assumptions, and the "**sample size calculation**" standard formulas, table (7) below illustrates the number of sample members selected in each stratum.

The sample size for the Employment and Unemployment Survey, which is conducted quarterly, in 2000 households in Irbid and 800 households in Mafrq, with CV of economic activity rate 1.53% in Irbid Governorate and 2.50% in Mafrq Governorate (table 8). The average employed person is 1.2 people per household, therefore the sample size is 3,360 persons, and due to expected non-response rate, additional 640 persons being then added to the sample, so the **final sample size equals 4000 persons**. This methodology can be adapted to the labor force supply survey. (This step is completed)

Table 10 Estimated Sample Size of Irbid and Mafrq Gov. by Sex			
Administrative Divisions	Total	Male	Female
Irbid Governorate	3164	1620	1544
Irbid Qasabah District	1280	657	623
Ramtha District	372	189	183
Koorah District	310	158	152
Bani Kenanah District	260	133	128
Northern Aghwar District	290	150	140
Bani Obeid District	319	163	156
Northern Mazar District	151	78	73
Taybeh District	99	51	48
Wastiyyah District	82	43	39
Mafrq Governorate	836	433	403
Mafrq Qasabeh District	348	180	168
Northern Badiah District	198	104	94

Northern Western Badiah District	256	133	123
Al Rwaished District	34	18	16

Table 11 Economic Activity Rate (EAR) and Coefficient of Variance (CV) by Governorate and Gender, 2007 (DOS, Employment and Unemployment Survey, 3rd quarter 2007)						
Age group (year)	Male %		Female %		Total %	
	EAR	CV	EAR	CV	EAR	CV
Irbid	64.4	1.37	14.5	5.20	39.1	1.53
Mafrq	61.1	2.35	12.8	8.11	37.1	2.50

- Prepare a survey design and fieldwork plan for Mafrq based on the labor supply questionnaire and sample profile. The fieldwork plan shall include the target segment sample size and geographic distribution in Mafrq proportional to population density at districts and sub-districts. The survey design will include the directions and instructions on how to use the Survey Tool, how to conduct the fieldwork, and how to monitor progress and overcome field obstacles. The fieldwork plan is included in appendix (4). (this step is completed)
- The Consultant will then select methods for data collection, and analysis, preparation of the subsequent data entry frame.

2. Conducting Field Work

- Once labor profile indicators and targeted group become identified, the Consultant will be in a better position to prepare the set of survey instruments. It is useless to send questionnaires without adequate explanations and then very often these questionnaires are returned to the Consultant incomplete. The Consultant shall develop a training manual including the survey design, guidelines for surveyors, instructions for field supervisors and data entry procedures. The training manual shall be prepared in Arabic. The training manual will have the following components:
 - a. An *Interview Guide* to facilitate the interview, [The contents of the guide shall elaborate on the process of reaching and contacting the sample members].
 - b. Two other survey-supporting documents: a *Questionnaire User Guide/ Manual* [for the surveyor and a grid for examination or check of the collected questionnaires].
- Develop Data Entry Frame [with special attention to entering reliable data and to the computerized processing of data in order to facilitate the set-up of the labor force profile indicators]. This database will be concise and set-up for the purpose of the analysis of the study data; it will be designed using MS Excel as a user-friendly program, which is convertible to any other database such as SPSS or STATA. MOL and SABEQ will be consulted during the development of the Data Entry Frame.
- At this stage of the project, the Consultant is ready to prepare the overall organization of the fieldwork; work schedule, timing, survey personnel, list of sample locations, sharing of tasks among the team, methods to process and analyze data collected. [The sample being mapped for Mafrq governorate].
- Shabakat Al Ordon shall be responsible for recruitment and management of the surveyors and data entry staff. The consultant and Shabakat Al Ordon shall agree on

a realistic fieldwork plan and map. The required resources to perform the fieldwork are determined during this stage. All documents and tools will be prepared in Arabic, then when approved they will be translated into English. It is estimated that twenty Surveyors (males and females) in addition to four data entry staff will be required. It is recommended to recruit surveyors from the residents of Mafraq governorate to overcome cultural and social barriers.

- In coordination with Shabakat Al Ordon, a 3-day training program for the Surveyors to be held to introduce the survey tool and present the work plan. The Surveyors will have the chance to learn the skills and competencies useful for labor studies. Shabakat Al Ordon will select the candidates/interns for the training session, and shall attend and supervise the session as part of its role. A first one-day training session will be held for the Surveyors to familiarize them with the survey methodology, instruments already prepared (questionnaires, interviews, guides etc) and also as to methods for interviewing and collecting data and all related field work to be accomplished (organization, identification of sample members, mapping of skills, attitudes, interviewees' approach etc). A second 2-day training session to be held for the Surveyors to practice the use of survey tools, and demonstrate possible scenarios and situations that may possibly be encountered during the fieldwork, and how to deal with each case. Surveyors will learn how to make contact with target segment, how to ask questions in a clear manner, how to receive answers and how to record the answers. They will also learn the social skills for interacting with the community, through giving them a further background about the governorates and districts in terms of the local community norms, traditions, beliefs, surrounding environment, dominant culture, accent and behaviors. The training sessions shall be arranged and held at a suitable facility in Mafraq. Shabakat Al Ordon shall handle all requirements and services.
- MDC and Development Zones Commission in coordination with Shabakat Al Ordon shall carry out a media campaign to introduce the survey to Mafraq citizens and obtain their acceptance by preparing them psychologically for the interviews.
- Shabakat Al Ordon shall launch and monitor the field survey according to the work plan, and regularly inform Consultants of the latest developments. According to the proposed sample and plans, surveyors will identify the target segment to meet. Before launching the field work itself, all final documents (questionnaires, interview guides etc) will be reproduced in as many copies as needed for each of the surveyors. It is estimated that the fieldwork will take two weeks in Mafraq, to collect the questionnaires from the sample members. Approximately five to seven questionnaires shall be collected each day by each Surveyor, under observation and supported by three field Supervisors. The average number of questionnaires collected daily is 75. In case some Surveyors fail to achieve this daily target number of questionnaires, additional Surveyors will be called on to support the field team and adhere to the timeframe of the survey. During the survey, the team will work in pairs in each sub-district in order to interview male and female sample members.
- During the Fieldwork, Surveyors shall have open communication channels with field Supervisors to give feedback about the progress of the survey process. Field Supervisors shall keep the Survey Manager at Shabakat Al Ordon posted of the latest developments in the work. The survey manager will be instructed to intervene in case of any incident or situation that might delay the schedule of the survey or affect the quality of collected data. A daily verbal report will be communicated to the Survey Manager, and a weekly progress report shall be produced to ensure adherence to the plans. The weekly progress report shall be available for SABEQ and Consultant to review.

- At the end of the workday, the field supervisors will review the collected questionnaires in order to inspect the quality of the data. A quality control will be systematically undertaken of all the questionnaires by Shabakat Al Ordon. In case there is an indicator of sub-standard quality, a briefing session shall be held for the Supervisors and Surveyors to provide a solution that ensures high quality of questionnaires. In addition, quality control will take place before data entry on sample of the received questionnaires by consultants.
- Shabakat Al Ordon shall complete the data collection and entry in the database designed by Consultants. Once questionnaires are reviewed and their quality is accepted, they will be transmitted to the data entry staff, managed by the Statistician from Shabakat Al Ordon. They will enter and process the data and information collected. [The data entry process will take place simultaneously to the field survey, using Excel software]. The developed Data Entry Frame will have unique features such as validation rules and skipping patterns, to minimize human error during data entry.

3. Analysis and Reporting

- Examination of the entered data, performance correction and cleaning of data will be done by Consultant. Data entry staff shall review the received questionnaires on daily basis against errors, mistakes and incomplete or missing information. Credibility of questionnaires will be checked by selecting a sample of the questionnaires and calling respondents to thank them for participation in the survey. Furthermore, a sample from the questionnaires will be crosschecked with the entered data to ensure validity. After data processing, the database will be ready to be integrated with MOL labor profile database.
- Statistical analysis of the data to yield useful indicators about the Labor Force Supply in Mafrq. The consultants will finalize data analysis from the data collected in order to generate the labor profile indicators/ criteria as selected at the starting point of the project. In particular, they will take into account results obtained in terms of quantitative and qualitative assessment of the labor supply profile through the selected indicators. They will have to determine to which extent the collected data is relevant to and compliant with the survey objectives. The analysis will show the available work force (unemployed, job seekers) in terms of number, geographic distribution, education level, skills, experience, attitude towards jobs, willingness to work in the private sector, preferred work environment, minimum acceptable salary, expected benefits and other indicators.
- Development of labor force supply profile of Mafrq, including tables and charts showing the results of the survey analysis. The Labor Profile will be produced in the form of report and presentations.
- Submitting the draft reports of Labor Force Supply Profile to SABEQ and the client for review and comments, after making the necessary amendments, the final reports will be approved.
- Development of a Toolkit and Guidelines for the use of the Survey Tool and Methodology in other governorates and for updating the Labor Supply Profile in the National Database by MOL.

8. ACTION PLAN AND TIMEFRAME

A. LABOR FORCE DEMAND STUDY

The Labor Demand Study is planned to be conducted during the period October 2008 – February 2009. The detailed timeframe following.

Table 12 Labor Demand Study - Timeframe					
Step	Oct. 2008	Nov. 2008	Dec. 2008	Jan. 2009	Feb. 2009
Prepare for the labor demand study					
Conduct interviews with companies					
Follow up on the companies to complete questionnaires					
Review and analyze questionnaires					
Classify labor demand into categories					
Prepare draft report					
Discuss the draft report					
Prepare final report					

B. LABOR FORCE SUPPLY STUDY

The Labor Supply Study is planned to be conducted during a period Nov. 2008 – April 2009. The scope of the study shall cover Mafraq governorate for the current time. The timeframe following.

Table 13 Labor Supply Study - Timeframe						
Stage	Nov. 2008	Dec. 2008	Jan. 2008	Feb. 2009	Mar. 2009	Apr. 2009
Design and preparations						
Conducting field work						
Analysis and reporting						

A more detailed timeframe for the field survey is included in the field plan in **appendix (5)**

9. DELIVERABLES

A. LABOR FORCE DEMAND STUDY

- General Labor Demand Survey Tool
- Sector-Specific Labor Demand Research Tool for five sectors
- Final report including the quantitative and qualitative labor demand breakdown of KHBTDA in Mafraq
- Final report including quantitative and qualitative labor demand breakdown of IDA in Irbid

B. LABOR FORCE SUPPLY STUDY

- Labor supply profile of Irbid and Mafraq (based on available data and studies)
- Survey tool, design and fieldwork plan (supply survey tool, Appendix 6)
- Surveyors training material and sessions
- Labor force supply profile of Irbid and Mafraq (based on the survey results) containing:

(i.) Employed force profile, [which may contain – but not limited to –] the following criteria:

- Education level
- Education specialization
- Age
- Sex
- Skills
- Current occupation
- Previous occupation
- Experience period
- Actual weekly hours of work
- Wanting another or additional work
- Willingness to work in the private sector
- Incentives required to work in the private sector
- Wages and salaries (income)
- Marital status
- Employment status : employee, employer, self-employed, unpaid family worker, unpaid worker
- Work environment
- Economic activity
- Location (rural\urban, district, sub district and so on and so forth)

(ii.) Unemployed force profile, which may contain – but not limited to – the following criteria:

- Education level
- Education specialization
- Age
- Sex
- Skills
- Previous occupation (if applicable)
- Willingness of unemployed people to work in the private sector

- Incentives required to work in the private sector
- Previous wages , salaries /income (if applicable)
- Marital status
- Previous employment status (if applicable) : employee, employer, self-employed, unpaid family worker, unpaid worker
- Previous work environment (if applicable)
- Previous economic activity (if applicable)
- Previous work status
- Current job applications (public institutions, private companies etc)
- Duration of unemployment
- Method of seeking work
- Location (rural\urban, district, sub district, and so on and so forth)
- Draft and final report of the labor force supply profile of Irbid and Mafrq containing:
 - a) Executive summary
 - b) Introduction
 - c) Study objective
 - d) Scope of work
 - e) Methodology
 - f) Main findings
 - g) Analysis results
 - h) Conclusions and recommendations
 - i) Appendices
- Labor force supply toolkit and guidelines.

10. APPENDICES

APPENDIX 1: LABOR MARKET DEMAND SURVEY

APPENDIX 2: LIST OF COMPANIES IN KING HUSSEIN BIN TALAL DEVELOPMENT AREA – MAFRAQ

APPENDIX 3: SUMMARY REPORT – TESTING RESULTS OF THE MAFRAQ LABOR FORCE SUPPLY SURVEY QUESTIONNAIRE

APPENDIX 4: MAFRAQ LABOR SUPPLY STUDY – FIELD SURVEY PLAN

APPENDIX 5: MAFRAQ LABOR FORCE SUPPLY SURVEY QUESTIONNAIRE - ARABIC

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