

**THIRD TOURISM DEVELOPMENT PROJECT
SECONDARY CITIES REVITALIZATION STUDY**

Karak

Economic analysis

Annex 6

JOINT VENTURE OF COTECNO WITH ABT ALCHEMIA CDG MGA

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Table of contents

1.	INTRODUCTION.....	4
1.1	Actions, foreseen investments costs, timing and starting years.....	4
1.2	Distributional effects.....	6
2.	ECONOMIC ANALYSIS	7
2.1	General overview of the four physical actions	7
2.1.1	K.01 “Upgrading of the street network”	7
2.1.2	K.02 “The new ‘Heritage Trail’ along the eastern side of Karak”.....	7
2.1.3	K.03 “Re-design of the existing bus station”.....	7
2.2	The Capacity Building Action.....	7
2.3	Cost-benefit analysis.....	8
2.3.1	Investment and operating costs.....	8
2.3.2	Benefits.....	9
2.3.3	Economic effectiveness.....	13
3.	ANNEX 1 – ECONOMIC ANALYSIS TABLE	14

Abbreviations and acronyms

CAS	Country assistance strategy
CH	Cultural heritage
CBO	Community based organisation
CRP	City Revitalisation Programme
DOS	Department of Statistics
EIA	Environmental Impact Assessment
GKM	Greater Madaba Municipality
GOJ	Government of Jordan
IBRD	International Bank for Reconstruction and Development
ITFCSD	Italian trust fund for culture and sustainable development
JTB	Jordan Tourist Board
MENA	Middle East and North Africa
MOE	Ministry of Environment
MOMA	Ministry of Municipal Affairs
MOPIC	Ministry of Planning and International Cooperation
MOTA	Ministry of Tourism and Antiquities
NEAP	National Environmental Action Plan
NGO	Non Government Organization
PA	Public Awareness
PPP	Public-private partnership
STDP	Second Tourism Development Project
TOR	Terms of reference
TTDP	Third Tourism Development Project
UNESCO	United Nations Educational, Scientific and Cultural Organisation
URP	Urban regeneration program
VEC	Valued Environmental Components
WB	The World Bank
WHL	World heritage List
WTO	World Trade Organisation

1. Introduction

The economic analysis of CRP proposal for Karak has been developed from both a qualitative and a quantitative point of view.

For each of the envisaged program actions a general analysis has been conducted in terms of identification and qualitative analysis of the economic effects, without proceeding with their quantification in monetary terms, while a cost-benefit analysis has been realized in order to evaluate the cost-effectiveness of the whole Karak CRP.

1.1 ACTIONS, FORESEEN INVESTMENTS COSTS, TIMING AND STARTING YEARS

The economic analysis has been developed according to the data reported in the following table regarding foreseen investment costs, duration and starting year of the works related to each of the envisaged actions.

ACTIONS	INVESTMENT COSTS (US\$)	TIMING	STARTING YEAR
K.01 Upgrading of the street network	4,484,218	34 months	1
K.02 The new "heritage walk" along the eastern side of Karak	1,846,941	17 months	1
K.03 The re-design of the existing bus station	1,878,918	35 months	2
Capacity building action	457,650	30 months	1

TABLE 1 - ACTIONS, INVESTMENT COST, TIMING AND STARTING YEAR

The first step of the economic analysis has been to define the distribution of costs over the time that is a fundamental issue for the elaboration of the project cost-benefit analysis. Therefore, the project time sheet has been designed taking into account, on the one hand, the priority level of each action, and, on the other hand, the logical links among them.

The following table shows the time sheet regarding all actions of the CRP proposal for Karak.

ACTIONS	YEARS				
	1	2	3	4	5
K.01 Upgrading of the street network	█	█	█	█	
K.02 The new "heritage walk" along the eastern side of Karak	█	█			
K.03 The re-design of the existing bus station		█	█	█	
Capacity building	█	█	█		

TABLE 2 – ACTIONS' TIME SHEET

1.2 DISTRIBUTIONAL EFFECTS

From a merely economic point of view, the main beneficiaries of Karak CRP will be the owners of the commercial and economic activities directly and indirectly related to the tourism industry, who will increase their businesses. Such increase will, in turn, result in additional job opportunities for Karak's citizens, thus increasing the overall activity rate of the city and making individual and households' earnings grow. This will affect mainly youngsters and women, who currently represent the most disadvantaged groups in Karak.

Regarding both formal and informal private existing activities that could be easily "upgraded" to provide tourism or culture related services works and products, opportunities could be found in the construction sector (skilled construction workers) that seems have been growing during the last years. Development opportunities are also in the handicraft (formal and informal production) for the typical products of the city (such as traditional food, embroidery, wood carving, etc). It is, however, essential to make efforts to improve the more directly tourism-related services (restaurants, guides, etc) in order to enhance customer satisfaction of Salt's visitors

In general, the economic sector most directly affected during the realisation phase will be, undoubtedly, that of construction, this will, in turn, strongly impact the small enterprises and craftsmen sectors, while during the management phase the most affected sectors will be the following:

- commercial (shops in the historic cores);
- handicraft (both as building-related and commerce-related);
- informal sector;
- public/municipal sector;
- tourism-related activities (restaurants, hotel, other accommodations, tourist guides, tourist transport);
- services related to all the above.

The expected outcomes of the Karak CRP's implementation in the economic sectors potentially involved in the operational phase of the revitalisation program will be in terms of improvements in the production performances resulting in both sectoral occupancy and value added increase.

2. Economic analysis

2.1 GENERAL OVERVIEW OF THE FOUR PHYSICAL ACTIONS

2.1.1 K.01 “UPGRADING OF THE STREET NETWORK”

The interventions aimed at upgrading and improving the urban spaces will generate economic benefits that will result in an increase of attractiveness of the whole city centre both for people from the city itself and from outside, who will visit the commercial streets in order to shop there. Such benefits will be quantified in Chapter 4 of this Annex.

2.1.2 K.02 “THE NEW ‘HERITAGE TRAIL’ ALONG THE EASTERN SIDE OF KARAK”

The creation of an alternative pedestrian approach to the Castle along the Old city wall will have a very important impact on Karak’s revitalisation, since it will increase the opportunities of interaction between the tourists arrived at Karak only to visit its famous Castle and the Old city with its commercial activities. This will stimulate a growth in business volumes and value added generated by the additional tourist expenditures.

In this regard, it should be noticed that the choice of making the trail starting directly from the bus station will further strengthen the effect on tourists’ attitude towards the historic core of the city. This could finally encourage the adaptive reuse of the existing buildings located in the proximity of the trail through the establishment of new tourist related economic activities (such as cafes, restaurants, hotels, handicraft centre, etc.) thus revitalising Karak tourism sector.

2.1.3 K.03 “RE-DESIGN OF THE EXISTING BUS STATION”

The re-design of the existing bus station will result in a rationalization of traffic pattern all over Karak city centre, thus:

- making the city core more comfortable to reach and visit first of all for Karak residents themselves, but also for both the commuters from surrounding villages and for the tourists that visit the city;
- reducing traffic jams and congestion within the city centre.

Moreover, a re-designed and more comfortable bus station will improve the overall quality of life of passengers who use the bus daily to reach/leave Karak for job reasons. In some cases, this improvement will also succeed in convincing people to prefer public transport for moving from/to the city, thus further limiting vehicular congestion within the city centre.

Furthermore, the construction of a ticket-selling facility and an hotel within the bus station with incorporated café and upper covered panoramic terrace will, on the one hand, create several new job opportunities and, on the other hand, contribute to make the bus station a focus point where people can meet and socialise in close proximity to the city historic core.

Finally, since in many cases the bus station represents the first contact visitors have with the city, its re-design, together with the realization of the “Heritage trail”, will result in a better visual impact on the foreigners, thus increasing the number of tourists who decide to stop in Karak in order to visit it.

2.2 THE CAPACITY BUILDING ACTION

The capacity building action within Karak Municipality has to be regarded to as an essential feature to guarantee the sustainability of the CRP envisaged benefits in the long period.

Indeed, as clearly emerged from the analysis carried out in Section 5 of Annex 1 “Detailed description of the CRP”, in the present situation the Municipality currently misses the expertise required in order to correctly design, implement, manage, monitor and evaluate the actions foreseen by the CRP as a whole. Without proper training and capacity building interventions specifically addressed to the Public Administration officers, who will have after all the ultimate responsibility of the CRP implementation, the results achieved by the Program implementation will not be able to consolidate and, consequently, to fully activate the socio-economic benefits described above.

2.3 COST-BENEFIT ANALYSIS

2.3.1 INVESTMENT AND OPERATING COSTS

The reconstruction of investment and operating costs’ breakdown over the years is the first step of the cost-benefit analysis.

Therefore, the following tables present both investment and operating costs of the whole Program. The operating costs considered in the analysis have been calculated on a forfeit base, according to the features of each action, and have been broken down over the first 10 years of project’s activity (considering both construction and operation phases).

A) WORKS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
ROAD CONSTRUCTION	15,697	227,595	776,942	0	0	1,020,234
SOFT LANDSCAPING		47,989	431,898			479,886
UTILITIES UPGRADING		124,291	1,118,615			1,242,905
TRAFFIC MANAGEMENT PLAN		3,529	31,757			35,286
PEDESTRIAN PATHS	9,315	83,839				93,154
HARD LANDSCAPE AND CANOPIES	11,291	101,623				112,914
SITE SPECIFIC ACTION: ancient wall restoration	52,929	476,358				529,286
BUS PARKING AREAS		11,517	46,069	57,586		115,173
GREEN AREAS		565	2,258	2,823		5,646
SPECIAL CANOPY STRUCUTRES		14,114	56,457	70,572		141,143
REHABILITATION OF THE EASTERN GATEWAY TUNNEL		11,291	45,166	56,457		112,914
NEW BUILDING CONSTRUCTION			282,286	423,429		705,715
INTERNAL FURNISHING			169,372	254,057		423,429
TOTAL COST OF THE WORKS	89,232	1,102,710	2,960,819	864,924		5,017,686
B) ADDITIONAL PROVISIONS						
b1) TECHNICAL EXPENSES						
Detailed design consultancy (8% of A)	7,139	88,217	223,316	48,869		367,541
Construction supervision and management (8% of A)	7,139	88,217	214,847	36,166		346,369
Construction site security (3% of new building construction)			8,469	12,703		21,171
Topographical & archaeological surveys/specialistic investigations (5% of A)	4,462	55,136	133,927	22,075		215,599
b2) CONTINGENCIES (15% of A)	13,385	165,407	418,717	91,630		689,139
TOTAL COST OF THE ADDITIONAL PROVISION	32,124	396,976	999,275	211,444		1,639,818

C) LAND ACQUISITION	381,086	705,715				1,086,801
D) DEMOLITION OF INTRUSIVE BUILDINGS		42,343				42,343
E) TRADITIONAL BUILDINGS REHABILITATION		423,429				423,429
F) CAPACITY BUILDING						
Recruitment of personnel	26,880	26,880	26,880	26,880	26,880	134,400
Training	13,500	6,750				20,250
Municipal Information System	10,000	20,000	10,000			40,000
Technical Assistance	20,000	20,000				40,000
In-kind Assistance	115,000				108,000	223,000
TOTAL COST OF THE CAPACITY BUILDING	185,380	73,630	36,880	26,880	134,880	457,650
FINAL ACTION PROJECT COST (A+B+C+D+E+F)	687,822	2,744,803	3,996,975	1,103,240	134,880	8,667,727

TABLE 3 – KARAK CRP - INVESTMENT COSTS (IN US\$)

As shown by the table, the investment costs of the Program amount to a total of 8.667 million US\$.

OPERATING COSTS										
Action	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
K.01				8,968	17,937	26,905	35,874	44,842	44,842	44,842
K.02			3,694	7,388	1,108	14,776	18,469	18,469	18,469	18,469
K.03					34,000	46,000	58,000	58,000	58,000	58,000
Capacity building						26,880	26,880	26,880	26,880	26,880
Total			3,694	16,356	53,045	114,561	139,223	148,192	148,192	148,192

TABLE 4 – KARAK CRP - OPERATING COSTS (IN US\$)

2.3.2 BENEFITS

As already mentioned above when describing the main economic effects of each Program action, the economic benefits generated by the implementation of the Karak CRP can be quantified as follows:

- economic benefits related to the improvement of the quality of Karak urban spaces through the rationalization and beautification of both the street and the landscape of the very historic core of the city, making it more attractive for walking and for shopping;
- economic benefits related to the increase of tourists' presence in Karak due to the general improvement of its cultural facilities and supply.

The first class of generated economic benefits is related to the sales increase foreseeable for the shops located within the city core, due to the Project generated improvement in streetscape quality, which will make the whole area more attractive for shopping. Undoubt-

edly, another effect of the project implementation will be the increase in the real estates values, but this second benefit category has not been quantified since it could be very difficult to precisely estimate the involved building volume.

The following table reports the main data on sector enterprises in Karak.

Sector	No. of Establishment	%	Employment	%	Total Value Added	%	Total Gross Output	%	Total Sales (JD)	%
Manufacturing	400	11.41	1,127	15.47	1,809,270	14.25	5,211,124	23.22	5,211,124	7.31
Trade	2,242	63.93	4,546	62.39	7,480,662	58.94	11,051,768	49.24	59,848,432	84.01
Services	865	24.66	1,613	22.14	3,402,534	26.81	6,182,150	27.54	6,182,150	8.68
Total	3,507	100	7,286	100	12,692,466	100	22,445,042	100	71,241,706	100

TABLE 5 - DATA ABOUT SECTOR ENTERPRISES IN KARAK BY 2002

The hypothesis taken into account is that only the value added growth generated by the increasing of the shop sales has to be considered in the benefit estimation. It is reasonable to foresee a value added growth of 10% due to the projects implementation.

In this respect, it should be noticed that, in order to avoid duplications in the estimation of benefits, the value added increase has been determined without estimating the increase in expenditures for shopping generated from the increased number of visitors, consequent to the improvement of Karak cultural supply. Those benefits are quantified below, through the evaluation in monetary terms of the effects of the CRP implementation on tourists' presence in Karak.

Given the above, the economic benefits related to the growth in trade activities will amount to 1,186,530 JD per year.

As observed for the first class of benefits presented above, it is assumed that during the first 4 years of operation the value added will progressively increase as follows:

- year 1: 40% normal operation;
- year 2: 60% normal operation;
- year 3: 80% normal operation;
- year 4: 100% normal operation.

As for the second class of economic benefits, the ones deriving from the increase of tourists' presence in Karak have to be considered together with the ones already calculated. It can be assumed that the street and landscape beautification within the city core, together with the upgrading of urban spaces and, above all, the provision of new cultural assets and reuse of open spaces, will definitely contribute to increase the tourism attractiveness of Karak. The increase in number of visitors could induce a more general increase in tourism revenues, deriving from the tourist additional expenditures. According to that, the indirect benefits of Karak CRP can be quantified measuring the value added generated by the increase in tourists' expenditure.

Indeed, the implementation of the Program may have two effects on tourists: it will attract more visitors and/or will result in a longer stay of those tourists who would have come to Karak in any case. The increase in number of visitors could induce a more general increase in tourism revenues, deriving from the tourist additional expenditures. This additional expenditure can be assumed equal to the present tourists' average daily expenditure multiplied by the additional number of tourists.

The overall additional number of tourists can be calculated starting from the number of visitors to Karak Castle, assuming that the CRP implementation will attract a 10% more visitors with respect to the visitor flow of 2000 (the peak of the last years). It has been assumed that one third of those additional visitors will represent additional arrivals in Jordan and Karak.

	1998	1999	2000	2001	2002	2003
USA and Canada	4,944	10,090	10,252	8,938	2,521	1,871
Europe	65,134	93,395	106,792	59,347	30,291	19,645
Asia	874	956	1,184	1,647	924	22,535
Australia & New Zealand	914	1,027	1,041	1,106	292	678
Arab Countries	664	610	696	504	427	568
Jordan	16,205	14,928	10,700	12,562	10,195	7,313
Israel	2,061	3,734	2,611	61	2	57
African Countries	52	5	4	0	51	60
TOTAL	90,848	124,745	133,280	84,165	44,703	52,727

TABLE 6 - NUMBER OF VISITORS TO KARAK CASTLE BY NATIONALITY (1998-2003)

In the following table the comparison between the additional tourist arrivals and the inflows detected in 1999 and 2003 is presented. As compared to 1999, the estimation foresees an increase of 10%; to 2003, of 67%.

	Compared to 1999	compared to 2003
3	3%	20%
4	4%	27%
5	5%	34%
6	6%	40%
7	8%	54%
8	10%	67%

The average daily expenditure of overseas tourists is of 140.9 JD per arrival, as shown in the following table.

	Tourists	Acco- moda- tion	Food and Drinks	Health treat- ment	Study/U niversi- ties etc.	Internal Tranpor- tations	Recrea- tion	Shop- ping	Group tours	Other Exp.	Total
Total	4,098,316	76,909	106,374	76,816	18,020	67,234	43,380	107,338	50,458	31,066	577,593
per arrival		18.766	25.955	18.743	4.397	16.405	10.585	26.191	12.312	7.580	140.934
value added		11.86	16.41	11.85	2.78	10.37	6.69	18.62	7.78	4.79	91.15

To convert expenditures in value added, gross output and gross value added of the main sectors (industry, service and trade) have been considered (see the table below).

	GROSS OUTPUT	GROSS VALUE ADDED	COEFFICIENT OF VALUE ADDED INDUCEMENT
Industrial sector	4,080,021	1,447,068	0.35
Service Sector: profit	740,979	468,401	0.63
Service Sector: non-profit	105,139	64,766	0.62
Service Sector: total	846,118	533,168	0.63
Trade	774,732	550,749	0.71

TABLE 7 - TOTAL VALUE ADDED OF INDUSTRIAL SECTOR FOR 2002- NATIONAL LEVEL (JD 000)

Economic benefits, in the situation of normal operation will be of 404,960 JD per year.

It is assumed that during the first 5 years of operation the increase in tourists' flow will progressively develop as follows:

- year 1: 30% normal operation;
- year 2: 40% normal operation;
- year 3: 50% normal operation;
- year 4: 60% normal operation;
- year 5: 80% normal operation.

YEAR	ADDITIONAL VISITORS	ADDITIONAL ARRIVALS	ADDITIONAL RECEIPTS	ECONOMIC BENEFITS
1				
2				
3	3,998	1,333	187,837	121,488
4	5,331	1,777	250,450	161,984
5	6,664	2,221	313,062	202,480
6	7,997	2,666	375,675	242,976
7	10,662	3,554	500,899	323,968
8	13,328	4,443	626,124	404,960
9	13,328	4,443	626,124	404,960
10	13,328	4,443	626,124	404,960
11	13,328	4,443	626,124	404,960
12	13,328	4,443	626,124	404,960
13	13,328	4,443	626,124	404,960
14	13,328	4,443	626,124	404,960
15	13,328	4,443	626,124	404,960
16	13,328	4,443	626,124	404,960
17	13,328	4,443	626,124	404,960
18	13,328	4,443	626,124	404,960
19	13,328	4,443	626,124	404,960
20	13,328	4,443	626,124	404,960

TABLE 8 - ECONOMIC BENEFITS RELATED TO INCREASE IN TOURISTS' PRESENCE IN KARAK

According to the table below, the total amount of economic benefits generated by the implementation of Karak CRP will amount to more than 1.590 million of JD per year in situation of normal operation.

YEAR	TOURIST ECONOMIC BENEFITS	COMMERCIAL ECONOMIC BENEFITS	TOTAL ECONOMIC BENEFITS
1	-	-	-
2	-	-	-
3	121,488	229,034	350,522
4	161,984	474,612	636,596
5	202,480	720,190	922,670
6	242,976	965,767	1,208,743
7	323,968	1,203,073	1,527,041
8	404,960	1,186,530	1,591,490
9	404,960	1,186,530	1,591,490
10	404,960	1,186,530	1,591,490
11	404,960	1,186,530	1,591,490

YEAR	TOURIST ECONOMIC BENEFITS	COMMERCIAL ECONOMIC BENEFITS	TOTAL ECONOMIC BENEFITS
12	404,960	1,186,530	1,591,490
13	404,960	1,186,530	1,591,490
14	404,960	1,186,530	1,591,490
15	404,960	1,186,530	1,591,490
16	404,960	1,186,530	1,591,490
17	404,960	1,186,530	1,591,490
18	404,960	1,186,530	1,591,490
19	404,960	1,186,530	1,591,490
20	404,960	1,186,530	1,591,490

TABLE 9 – KARAK CRP ECONOMIC BENEFITS (IN JD)

2.3.3 ECONOMIC EFFECTIVENESS

The indicators of return calculated are the Economic Net Present Value (ENPV) and the Economic Internal Rate of Return (EIRR).

Considering the difference between the time frame of the analysis, which is 20 years, and the useful economic life of the project, a residual value of 4,022 thousand of US\$ has been considered.

The net flow of economic benefits is determined by the difference between the economic benefits and costs considered for the purposes of the profitability analysis.

The results obtained (see the table in Annex 1) show an almost sufficient profitability for the project: a positive ENPV is found, evaluated at a discount rate of 12%, of 3,888 thousand US\$ and a EIRR of 20.3%.

In order to evaluate the economic stability of the project, a sensitivity analysis has been carried out. Taking into account changes on: benefits, investment costs and running costs, three hypotheses have been developed; the results are listed in the table below.

	HP1	HP2	HP3
Benefits Change	0	-15%	-10%
Investment costs change	10%	0	10%
Running costs change	10%	0	10%
EIRR	20.2%	16.7%	13.0%
ENPV	3,609	1,967	459

TABLE 10 – HYPOTHESIS A SENSITIVITY ANALYSIS

3. Annex 1 – Economic analysis table

ECONOMIC ANALYSIS FOR THE COMMUNITY – KARAK CRP

	YEARS																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Investment costs	638	2,547	3,709	1,024	125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Running costs	0	0	4	16	53	115	139	148	148	148	148	148	148	148	148	148	148	148	148	148
Indirect economic benefits	0	0	495	899	1,302	1,706	2,155	2,246	2,246	2,246	2,246	2,246	2,246	2,246	2,246	2,246	2,246	2,246	2,246	2,246
Residual value																				4,022
Net benefits	(638)	(2,547)	(3,218)	(142)	1,124	1,591	2,016	2,098	2,098	2,098	2,098	2,098	2,098	2,098	2,098	2,098	2,098	2,098	2,098	6,120
Accrued net benefits	(638)	(3,185)	(6,404)	(6,545)	(5,421)	(3,830)	(1,814)	284	2,383	4,481	6,579	8,677	10,775	12,873	14,971	17,069	19,167	21,265	23,363	29,483

ECONOMIC IRR	20.3%
ECONOMIC PNV (,000 US\$)	3,888
BACK DISCOUNTING RATE	12,00%

	HP1	HP2	HP3
Benefits change	0	-15%	-10%
Investment costs change	10%	0	10%
Running costs change	10%	0	10%
EIRR	20.2%	16.7%	13.0%
VAN	3,609	1,967	459