



Participatory Watershed Management in the Wadi Rajib Catchment

A Report on the Approach, Project Experiences
and Prospects for the Future

Main Report & Annexes

Amman, December 2000

The Hashemite Kingdom of Jordan
Ministry of Agriculture
Department of Forests and Range

Federal Republic of Germany
Ministry for Economic Cooperation and Development - BMZ
German Agency for Technical Cooperation - GTZ

WATERSHED MANAGEMENT PROJECT

Department of Forestry
and Range (DFR)

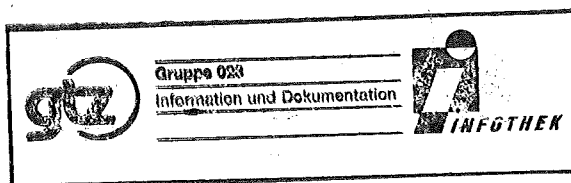
Deutsche Gesellschaft
für Technische
Zusammenarbeit (GTZ)

Participatory Watershed Management in the Wadi Rajib Catchment

A Report on the Approach, Project Experiences and Prospects for the Future

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AMMAN

NOVEMBER 2000

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FOREWORD

With this report the WSMP is presenting the second part of the documentation series on project experience. The first part, published and distributed in December 1999, has been dealing with the project experience in participatory watershed management in the Ibn Hamad catchment.

This second part concentrates on the Wadi Rajib catchment in the northern part of Jordan. The report describes and discusses the situation in the project area and the results achieved so far.

A project evaluation has taken place at the beginning of the year orienting the project towards poverty alleviation, local institution building and strengthening of self-help efforts. Therefore this report concentrates more on building up of local groups and the working experience with communities in implementing small income generating activities and improvements in land and water use through construction of water storage devices in combination with water harvesting and drip irrigation systems. Less emphasis has been put on watershed management and land use planning. Project experiences with three local organisations are discussed. Some of the results obtained are quite encouraging. Based on these positive results the project will continue to work, hoping to further improve the participatory project approach. The annexes (and attached maps) provide additional inside information and help to get a more clear picture of the situation in the project area.

As in the first part, again the entire WSMP-team has contributed to the report, indicating the willingness to critically evaluate project results and continuing the search for further improvements. Florian Rock also has continued in assisting the team in this process of self-reflection and edited the final report.

It is hoped that this document will help governmental and non-governmental institutions and other projects in Jordan to learn from the achievements and failures experienced by the project. This could then also contribute to strengthening participatory working methods in other projects and programs in the entire Kingdom of Jordan.



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EXECUTIVE SUMMARY

The Jordanian-German Watershed Management Project implemented by the Department of Forestry and Range with assistance of GTZ underwent a project progress review and re-planning exercise in early 2000. Since then, the project purpose has been re-defined as: "Women and men in self help groups in selected watersheds manage their resources sustainably and increase their income". By achieving this objective, the project will contribute to the improvement of living conditions for the rural poor in Jordan.

Field activities of the Watershed Management Project (WSMP) started in 1995 in a first demonstration area, the Wadi Ibn Hammad catchment, south of Amman. During 1997 a decision was taken to expand project activities to a second project area, located north of Amman. This is how the Wadi Rajib watershed in Ajlun Governorate was selected. Field activities actually started there in September 1997 with a target group analysis.

The project experiences gained in the first demonstration area of Wadi Ibn Hammad were documented in a comprehensive report in December 1999. This present report attempts to summarise the developments in the second project area of Wadi Rajib.

The Wadi Rajib catchment drains the central plateau towards the Jordan River in the West. The total area of the watershed covers 85 km² (85.000 dunum) and the main wadi flows over a distance of 26 km. The highest elevation in the watershed is at 1241 m a.s.l., while the confluence with the Jordan River is at 300 m b.s.l.. Thus, the area is marked by a mountainous terrain and receives some of the highest amounts of rainfall in Jordan. The mountain slopes are still widely covered with oak and pine forests. The inhabitants of Wadi Rajib have always used these forests as grazing land for their livestock and for household energy supplies. But rapid population increases over the past decades have led to widespread degradation of the forests and in many places rocks and bare lands have emerged as a result of subsequent erosion.

The population of this area lives in about seven major villages with a few hamlets further dispersed in the forest lands. The rural towns of Kufranja, Anjara and Ajlun are all located on the northern fringes of Wadi Rajib. In 1997 there were approximately 40.000 people in over 6.000 households living in or very close to this watershed. The majority of these people can be classified as part-time farmers, as more than 85 % of the population in Wadi Rajib is involved in agricultural activities, but at the same time 70% of the families derive their main income from employment or pensions. The poverty line is defined as a monthly family income of less than 100 JD. Current population growth has been estimated at 3.7% per year.

Many families own small areas of olive plantations, very often under the joint ownership scheme called Masha'a, keep a number of goats or sheep and a few chicken in their homegardens. Irrigated agriculture is dominant in the western part of the catchment. Many of the landless people of the area are involved in various sharecropping or land leasing schemes for vegetable production in these lower-lying parts of Wadi Rajib. As it is often the case, women and women headed households are among the most vulnerable to the effects of underemployment and poverty.

When WSMP started activities in Wadi Rajib in 1997, the project's intention was to test and demonstrate a participatory watershed management approach in the area in view of helping the local population to improve the use of their local resources and to increase their income from a number of agricultural as well as non-agricultural

activities. Based on previous experiences in the South, it was considered crucial to identify suitable target group organisations to take a leading role in local development. These local institutions would then be further strengthened by the project through institution building measures and provided with loan funds for the implementation of income generating activities (IGAs) and cistern constructions.

After an initial assessment of the situation, WSMP selected a first pilot area in the center of the catchment, in one of the poorest parts of the watershed. This area became known as the Al Hillal pilot area, after the name of a local charitable society. More pilot areas were added successively, with the Jabal Al Akhdar Women's Cooperative becoming a project partner in 1998, the Thaghrit Zabeed Women's Cooperative in mid 2000 and the Ba'oon Women's Society in late 2000.

In all four pilot areas, the local organisations now have a efficient management structure and operate revolving loan funds, with 85% of these funds originating from grant support through WSMP. Meanwhile other funding agencies, such as GEF and various embassies in Amman have also contributed funds to the increasingly successful groups. To strengthen their capacities more than 25 training courses on organisational and community development issues were provided through WSMP.

By November 2000 a total of 160 income generating activities have been supported in the four pilot areas through the loan funds with WSMP staff providing technical advice and general guidance. About 30 technical training courses have helped the target groups in the successful implementation of their activities. About 70% of all beneficiaries are women, as the project has over the past two years constantly increased its co-operation with women's organisations. The most common IGAs are poultry raising, lamb fattening, horses for ploughing, dairy cows and bee keeping projects. Handicraft production has recently developed into one of the most important fields of activities, involving as many as 75 rural women working together in production groups. First monitoring exercises on the costs and benefits of IGAs have shown that average profits range from 30 - 50 JD per month.

In the same pilot areas some 50 cisterns have been built with project support in order to alleviate the water shortages for human and animal consumption as well as for some supplementary irrigation.

In the pilot area of Al Hillal a participatory land use planning exercise was conducted on 253 private plots and specialists investigated the government land to analyse the current condition of the remaining forests. Overall, the land use planning activities have shown once again that due to the predominance of Masha'a and the high percentage of private land with olive plantations and natural forests, there is hardly any room for land use changes. One exception could be the propagation of undercropping systems under olive trees, which was successfully demonstrated by one farmer working with WSMP in producing irrigated vegetables from his orchard.

The Watershed Management Project has in the past years successfully transformed itself from a project focussing on land use and management of natural resources to a project dedicated to the alleviation of rural poverty. People, and women in particular, have gained first benefits from this co-operation between WSMP and their local organisations. These benefits are not only of material nature, but also concern increased self-reliance, mobility for women and more productive use of time. The high acceptance with the target population and first successes show that the approach followed by the project is now ready for replication on a wider scale.

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ABBREVIATIONS AND ACRONYMS

ACZ	Agro-Climatic Zone
CARE	International NGO
DFR	Department of Forestry and Range
DLS	Department of Lands and Survey
DM	German Mark
DoSD	Department of Social Development
FAO	Food and Agriculture Organisation, Rome
GEF	Global Environment Facility
GIS	Geographic Information System
GTZ	German Agency for Technical Cooperation
GUVS	General Union of Voluntary Societies
IFAD	International Fund for Agricultural Development, Rome
IGA	Income Generating Activities
JCC	Jordanian Cooperative Corporation
JD	Jordanian Dinar
JICA	Japanese International Corporation Agency
M&E	Monitoring and Evaluation
MoA	Ministry of Agriculture
MoSD	Ministry of Social Development
JCC	Jordan Cooperative Corporation
NCARTT	National Centre for Agricultural Research and Technology Transfer
NGO	Non-Governmental Organisation
PRA	Participatory Rural Appraisal
RRA	Rapid Rural Appraisal
STC	Short Term Consultant
SWC	Soil and Water Conservation
UNWG	United Nations Women's Guild/Amman
VS/C	Voluntary Society/Cooperative
WFP	World Food Programme
WR	Wadi Rajib
WM	Watershed Management
WSMP	Watershed Management Project

MEASURES AND CURRENCY EQUIVALENTS

1 dunum	=	1000 m ²	=	0.1 ha
1 JD	=	3.23 DM		(15 November 2000)
1 JD	=	1.41 US \$		(15 November 2000)

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Chapter 1: INTRODUCTION

1.1 History of the Watershed Management Project and its Objectives

For almost two decades, the Jordanian forest administration under the Ministry of Agriculture has been supported by the German Government to implement a number of projects in the forestry sector. The technical assistance for these projects was provided by the German bi-lateral aid agency GTZ (Gesellschaft fuer Technische Zusammenarbeit). The last such project, the joint project on "Forestry Advisory Services" was implemented between 1991 and 1993.

All previous Jordanian-German projects dealing with natural resources management, and forestry in particular, had a clear focus on strengthening Government institutions e.g. the Department of Forestry and Range, supporting human resource development activities within the country and abroad as well as providing materials and equipment. New branches of forestry services were created and developed (e.g. the National Seed Center) and various research activities on indigenous forest species and the introduction of exotic trees were undertaken.

In the field activities major emphasis was placed on either developing appropriate technical solutions to soil conservation on a watershed level (e.g. Zarqa River Basin Project) or institutionalising efficient forestry services in the northern part of the country capable of managing the existing forest resources and carrying out widespread afforestation programmes.

Several other soil conservation and watershed management projects and programmes funded by various international donors have also yielded valuable data and a number of suitable conservation techniques. Yet, in most cases, the acceptance by the local population and their active contribution to the conservation works still posed a problem. The lack of target group representation and participation in the development and implementation of improved land use practices seriously placed in doubt the sustainability of the proposed measures.

In 1992 the Jordanian Government submitted another project proposal to the German side targeting the "Improvement of forest and range management in a watershed context" as a continuation of the successful Jordanian-German co-operation in the previous projects. After initial approval by the German Government in late 1992, a project appraisal was carried out between July and September 1993¹.

During the appraisal and planning phase of the new project it became obvious that a multi-sectorial and process-oriented approach to watershed management in pilot areas would be the best option. It was found that the scope of the project would have to be substantially widened beyond the forestry sector or the mere implementation of soil conservation measures on Government or private land. Major emphasis would have to be placed on testing participatory working methods with full integration of the local population in planning, decision making and implementation of the project activities as the ultimate goal.

In order to achieve more sustainable use and management of natural resources in a particular project area, the various socio-economic needs of the target population would also have to be considered and supported by the new project. What resulted from the project appraisal was the decision to develop, test and evaluate a new

¹ Krimmel, T. and Brechtel, H-M.: Project Appraisal Report – Watershed Management Project 1993

approach to be called "participatory watershed management" in selected target areas. The new project became known as the "Watershed Management Project-WSMP".

For the first project phase a catchment area south of Amman in the relatively dry Kerak Governorate was selected, the Wadi Ibn Hammad watershed. During the first project progress review mission in October 1996 a recommendation was formulated to complement the Wadi Ibn Hammad target area in the South by expanding activities to a second catchment in the higher potential areas of Ajlun Governorate, north of Amman. Thus the second target area of the Wadi Rajib watershed was selected (see location map on page 8).

Implementation of the new Jordanian-German Watershed Management Project began in January 1995. Project implementation was to be carried out in two phases, the duration of the first from January 1995 to May 1997 and the second from June 1997 to November 2000. After a second project progress review (PPR) in January 2000, the review mission recommended an extension of the project into a third and last phase, scheduled to last from December 2000 to November 2003. The budget allocated for the implementation of phase I and II amounted to a total of DM Mil. 7.1, of which the German side contributed up to DM Mil. 5.7 and the Jordanian Government the equivalent of DM Mil. 1.4. For Phase III the German Government will support the project with an additional DM Mil. 2.5.

The purpose of the Watershed Management Project (WSMP) for the first two phases was defined as follows:

"Watershed management planning based on a participatory approach, is developed and tested in demonstration areas."

In the wake of the project review a replanning workshop was organised in Amman in late January 2000. During this workshop the project planning document was revised and adapted to the priorities of a third project phase. For the final 3 years of project duration the purpose was reformulated as:

"Self-help capacity of rural communities in selected watersheds is strengthened."

This change in the definition of the project's main objective clearly reflects the shift from a watershed management planning approach and the testing of these plans, towards supporting rural communities living in watersheds to increase their self-help capacities with regard to income generation and improved management of their local resources.

The latest project planning documents foresee four immediate outputs of the project:

1. A concept for institution building at target group level is consolidated;
2. Selected measures to generate income are further developed and their implementation is supported in selected areas;
3. Improved land and water management practices, mainly on private land, are further developed and promoted;
4. Promotion of project results on a larger scale is initiated.

Project implementation is carried out in two wadi catchments:

- a) In the Wadi Ibn Hammad catchment area in the South since February 1996 (i.e. during Project Phases I, II and III)

- b) In the Wadi Rajib catchment area in the North since September 1997 (i.e. during Project Phases II and III)

A comprehensive report on project activities in the Wadi Ibn Hammad area was already published in December 1999². This present report is therefore the second of its kind and only deals with activities carried out and lessons learned in the second target area of Wadi Rajib (WR).

The target area of the Wadi Rajib, approximately 70 km north of Amman was selected as a suitable location for developing a model approach in participatory watershed management in the northern part of Jordan. This area, representative of the cooler and moister northern highlands, was chosen as an ideal addition to the ongoing activities in the dry and hot Wadi Ibn Hammad catchment.

1.2 Participatory Watershed Management within the Framework of Jordanian Government Policies

In 1996, the Ministry of Agriculture published the Agricultural Policy Charter³ which constitutes an integral part of the overall policy for the development of the Jordanian society and economy, recognizing the interdependence and yet polarity of rural and urban development.

In general, the agricultural policy aims at achieving balanced rural development by support provided to the farmers in shouldering their responsibility in producing high quality products, applying sustainable production technologies which are compatible with the national goal of preserving the natural environment.

There are eight wide ranging objectives in the Agricultural Policy of which three are directly relevant to the work of the Watershed Management Project:

- The ratio of Jordan's food self-reliance is increased.
- Available agricultural production factors, especially water, land, capital and labour are managed and used with economic efficiency, while preserving the environment and ensuring the sustainability of agricultural production in the long term.
- Profitability and income generated by the agricultural sector as well as standards of living for farmers, entrepreneurs and workers employed in agriculture are improved and increased.

The Policy Charter also presents policies and strategies for each sub-sector. Relevant excerpts are:

On irrigated agriculture: "Policies aiming at maximizing the efficiency of water storage, conveyance, distribution and on-farm application will result in substantial savings and reduce the presently experienced shortages of irrigation water."

On rainfed agriculture: "Increasing productivity of land, water and labour, in rainfed agricultural zones, through an efficient allocation of these resources"
"Attaining continuity in the engagement of the public and private sectors in soil and water conservation"

² Participatory Watershed Management in the Ibn Hammad Catchment, WSMP MoA/GTZ 1999

³ Hashemite Kingdom of Jordan, Ministry of Agriculture, Agricultural Policy 1996

"The expansion of upland resources in olive and deciduous fruit and grape production will be encouraged, especially on land with a slope greater than eight percent, because the economic return for fruit production is higher than that for traditional annual rainfed crops and because the establishment of orchards and vineyards, with their walls and terraces is an effective means for soil and water conservation"

"Farmers will be encouraged to shift to a mixed barley-livestock farming system".

On Soil and Water Conservation: "Soil and water conservation will be targeted on land with slopes which are greater than eight percent"

"Public-sector involvement will be expanded with the aim of increasing the productivity of the land, and at the same time protecting soil and water resources. An increase in the pivotal role of the private sector will be encouraged, especially through investing in the establishment and maintenance of fruit-tree farms".

Concerning low rainfall zones: "Prevent rangeland degradation and reverse the desertification process"

"Restore rangeland productivity and stabilize range forage and livestock production"

"Enhance environmental quality"

"Improve the economic and social welfare of the people inhabiting and drawing their livelihood from the lands".

On forestry: "Diversify forestry activities to meet peoples' needs"

"Promote sustainable land-use and consolidation of forest land"

"Discourage practices that are environmentally unsound. A more careful and creative approach is needed, both in selecting land for conversion to agriculture, and in encouraging more sustainable use of the land, e.g. through agro-forestry systems and other combinations of trees and crops on farm lands".

The participatory watershed management approach for Wadi Ibn Hammad and Wadi Rajib areas is therefore in line with the national strategy to promote sustainable development of land resources, income generation and community development, as well as environmental protection.

Government institutions in Jordan have recognised the need for more participatory working methods when dealing with issues of natural resources management or rural development. Undoubtedly this change of attitude has also been enhanced by the influence and the policies of the numerous donor agencies working in the country. As in many other parts of the world the NGO funded projects are at the forefront of introducing and testing more participatory approaches when dealing with their respective target groups.

The Department of Forestry and Range, as well as the entire Ministry of Agriculture, has in the past closely monitored the efforts undertaken in NGO and foreign donor funded projects to introduce more participatory working methods. The fact that the WSMP was given the task of applying, testing and evaluating the results of this new approach within the structures of the Department of Forestry and Range and in close collaboration with the concerned Agricultural Directorates is an expression of the wish by the Jordanian Government to gradually institutionalise more participatory work methods. WSMP has been repeatedly described by Jordanian Government officials as a pilot or model development project which could be the starting point for a major transformation of future approaches dealing with natural resources management.

1.3 The Project Team

The Jordanian Department of Forestry and Range whose main offices are in Kamaliya near Amman and the German agency for technical cooperation (GTZ) are the main partners in the implementation of the WSMP. On the local level the responsibility for agricultural and forestry services in the Wadi Rajib area is under the Agricultural Directorate of Ajlun.

The project team in charge of activities in Wadi Rajib therefore consists of:

- 1) Jordanian technical long-term project staff, which is partly seconded by the Department of Forestry and Range and partly GTZ-employed; these specialists operate out of Kamaliya near Amman; during the year 2000 they comprised one project coordinator, one land use planner and specialist on cistern construction, one expert on income generating activities, one female expert on public relations and documentation and two female experts on rural development and gender;
- 2) Jordanian field staff working in forestry, agricultural extension, soil conservation etc. from Ajlun Agricultural Directorate and the director of that institution;
- 3) Jordanian short-term experts on gender, agro-economics, participatory appraisal and planning methods, environmental awareness, handicraft development, business creation and many other subjects;
- 4) the German team leader (GTZ);
- 5) a number of international short-term consultants e.g. on participation and target group analysis, monitoring and evaluation, as well as on the final elaboration and editing of this watershed management report.

1.4 Objectives of this Report

One of the main duties of pilot type projects, trying to adopt and test new approaches to dealing with familiar problems in land use, income generation and community development, is to document the entire work process and to critically reflect on the outcome of the implemented activities.

The project planning documents of the WSMP stipulate the elaboration of two "participatory watershed management plans" during phase II, one for each target area. The initial idea was to follow a participatory approach in elaborating a model plan for the development and the conservation activities in the entire watershed, based on the mutual agreement with the target population. This plan would then be jointly implemented by Government institutions and members of the target groups, possibly with financial and technical support by foreign donors.

At a later stage of the implementation of WSMP the word "plan" was dropped in favour of calling it a "report" as the emphasis shifted from elaborating a development plan for the area to the description and analysis of experiences gained by the project team when trying to implement a new approach to participatory watershed management in a chosen area⁴.

⁴ The approach is described in detail under Chapter 4 in this report.

The elaboration of this report on participatory watershed management in Wadi Rajib stretches over a period of more than two years. It was the task of a foreign consultant to accompany the project team in their process of self-reflection and constant evaluation of all working steps. The same consultant was also responsible of guiding and supervising the process-oriented documentation of the project results. The report was therefore not written in one go, but developed step by step to clearly reflect the learning cycles within the project team and the target groups.

This report on the Wadi Rajib target area starts by describing the situation encountered at project inception. During the initial stage all available background information and data about the area was collected and analysed. In addition to this a number of technical reports by Jordanian and foreign experts were elaborated in order to complement the first information available about the project area in terms of natural conditions and the socio-economic situation. All these documents and statistical data were used to describe the target area in as much detail as possible.

The report then attempts to document the strategy followed by the team, the work process and the participation by the target groups. It reflects the lessons learned during 3 years of close co-operation with the people living in the Wadi Rajib area, trying to jointly work towards an improved management of natural resources in the area. During this co-operation with the local population in the pilot areas the working approach and principles had to be constantly revised and adapted. This document will therefore also describe the failures and misconceptions in order to reflect the learning cycles experienced by the project team members as well as the project achievements and success stories.

All the working steps will be analysed in detail to serve as a reference for others trying to implement similar approaches elsewhere in the country. The outcome of the various activities will be critically reviewed and lessons will be drawn for future implementation. Finally a number of conclusions from this work will be drawn up and summarised as policy recommendations to the Jordanian Government in order to institutionalise and replicate elements of the participatory watershed management approach.