MSc programme Management of Agricultural Knowledge Systems (MAKS)

MSc Thesis

GENDERED PARTICIPATION AND WATER USERS' ASSOCIATIONS

CASE STUDIES OF DRINKING WATER AND IRRIGATION WATER USERS' ASSOCIATIONS IN TUNISIA

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MAKS 16

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WAGENINGEN UNIVERSITY
SOCIAL SCIENCES

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Thesis submitted in the partial fulfilment of Master of Science (MSc) degree in "Management of Agricultural Knowledge Systems"MAKS)

MAKS 16

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March 200
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DEDICATION

To my parent S & M, my family and my friend K, whom never doubted that "I can do it". Their trust and confidence helped me whenever I felt that things were getting out of my hand.

ABSTRACT

Tunisian is a country that claims to be a leader among Arab and Muslim countries that had promulgated a Personal Status Code since 1957, which confirmed that women rights are inseparable from those of men. The code has eliminated legal provisions that could be interpreted as discriminatory and sexist. This study on the gendered participation in Water Users' Association (WUAs) was intended to explore and analyze the gender related policy reforms in drinking water and irrigation management in the context of Tunisia. The study brings together two case studies, first the *Gdara* drinking water system and secondly the *Saafet* irrigation system.

As a part of the National Strategy for Water Conservation, several reforms had been introduced in the past few years. The main reforms were related to the rehabilitation of the old systems and creation of new ones, the promotion of water users' associations, and the increase in the price of water. Such changes had necessitated the need for new institutions (Groupement d'Intérêt Collectif (GICs) or Water Users' Associations) and new tool for implementation (beneficiaries' participation based on participatory approach). This new tool assumed that all beneficiaries, including women, are involved in the design, implementation and evaluation of the projects. The influence of donors was quite noticeable in the promotion of the gender participation. Nonetheless, the study noticed a quasi absence of gender lens in the national water policy. Therefore, exploring the path of the rural development policies revealed that rural women were visible directly or indirectly in the rural development policy. A national awareness about the importance of the role of rural women led to the elaboration of the National Plan for Rural Women.

Policy formulation tends to be perfect compared to the implementation. The case studies had explored in practice and in depth the gender role in the management of the WUAs at users' level. They had described the emergence of the new GICs in a country where there were no traditional or existing organisations at community level. Furthermore, the case studies focused on the gender performance in drinking and irrigation water management in terms of access to water, operation and maintenance, decision-making and the financial sustainability of the GICs. Within both the systems, women's participation was limited in terms of quality and quantity. The factors like lack of self-esteem, age, education, politics, tradition, and carrying out of three different roles by women affected their level of participation in the management of the GICs. Besides, men's attitude towards women as heads of household had an important role in the women's non-participation and absence from meetings of the GICs. Finally, the study suggests some recommendation to improve women's participation in GICs.

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A series of papers based on parts of this work were presented first at the IIIrd World Congress of Rural Women. The congress is organized by the Spanish Women's Institute and the Spanish Ministry of Agriculture. Secondly at the Edberg Seminar, "Global Water Crisis". The seminar is organised by the Edberg Foundation and the Karslatd University. I am most appreciative of the opportunity these meetings gave me to present structural framework, the findings of this research and to receive comments that stimulated my thinking.

I have enjoyed the love and unfailing encouragement of my family and my parents, S. and M. whom I thank for fostering in me the life of the mind and the belief in an international intellectual community, even though they never suspected any of it to take me this far from Tunisia.

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ACRONYMS

Abbreviations	French	English
AFD	Agence Française de Développement	French Development Agency
AfDB	-	The African Development Bank
AICs	Association d'Intérêt Collectif	Collective Interest Associations
CRSP	Commissariat Régional de la Santé Public	Regional Commissions for public health
CDR	Rassemblement Constitutionnel Démocratique	Constitutional Democratic Rally
CEDAW	-	The Convention on the Elimination of All Forms of Discrimination against Women
Chichma	Borne Fontaine	Public tap
CRDA	Commissariat Régional au Développement Agricole	Regional Commissions for Agriculture Development
CREDIF	Centre de Recherche, d'Études, de Documentation et d'Information sur la Femme	The Center for Studies, Research, Documentation and Information on Women
DEPI	Direction d'Exploitation des Périmètres Irrigues	Exploitation of irrigated Perimeters District
DGGREE	Direction Générale du Génie Rural et d'Exploitation d'Eaux	General Directory of Rural Engineering and Water Exploitation
DGR	Direction de Génie Rurale	Rural Engineering District
DGRE	Direction Générale des Ressources en Eaux	General Diretory of Water Resources
DIWUAs	-	Drinking and Irrigation Water Users Associations
DMEH	Direction de Maintenance des Équipement Hydrauliques	The Hydraulic Equipments Maintenance District
DTN	Dinar Tunisien	Tunisian Dinar
DWIGICs	-	Drinking Water and Irrigation Groupement d'Intérêt Collectif
DWUAs	-	Drinking Water Users Associations
EU	-	European Union
FADES	Fonds Arabe de Développement Économique et Social	Arab Fund dor Economic and Social Development
FIDA	Fonds International de Développement Agricole	International Fund for Agricultural Development
GDP	-	Gross Domestic Product

Abbreviations	French	English
GGIC	Gdara Groupement d'Intérêt Collectif	Gdara Common Interest Group
CGIC	Cellule des Groupement d'Intérêt Collectif	Cell of Common Interest Group
GIC	Groupement d'Intérêt Collectif	Common Interest Group
GIH	Groupement d'Intêret Hydraulique	Hydraulic Interest Group
IBRD	-	International Bank for Reconstruction and Development
IGIC	Groupement d'Intêret Collectif d'Irrigation	Irrigated Groupement d'Intérêt Collectif
IRDP	Programme de développement Rural Intégré	Integrated Rural Development Programs
ISO	-	The International Standardisation Organisation
IWUAs	-	Irrigation Water Users Associations
JBIC	-	The Japan Bank for International Co-operation
KfW	-	Kreditanstalt für Wiederaufbau (German Foundation)
NGOs	Organisations Non Gouvernementales	Non Governmental Organisations
NSIWC	Stratégie Nationale pour le Conservation des Eaux	National Strategy for Irrigation Water Conservation
O&M	-	Operation and maintenance
PWM	-	Participatory Water management
RRF	Receveur Régional de Finance	Regional financial receivers
SAPROF	-	Special Assistance for Project Formation
SGIC	Saafet Groupement d'Intérêt Collectif	Saafet Common Interest Group
SONEDE	Société Nationale Exploitation et de Distribution des Eaux	National Society of Exploitation and Distribution of Water
SRHPE	Service Régional d'Hygiène et de Protection de l'Environnement	Regional Hygienic and environmental protection services
STEG	Société Tunisienne de l'Électricité et du Gaz	Tunisian Society for General Electricity
UNFT	Union Nationale pour le Femme Tunisienne	National Union for Tunisian Women
WFSD	-	Women For Sustainable Development
WUAs	-	Water Users' Associations
§	-	Paragraph

CHAPTER I
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CHAPTER I

INTRODUCTION TO THE RESEARCH AND THE CONCEPTUAL FRAMEWORK

1.1 General

The Participatory Water Management (PWM) refers to the involvement of water users in all aspects and all levels of irrigation management. "All aspects" includes the initial planning and design of new water projects or improvements, as well as the construction, supervision, and financing, decision rules, operation, maintenance, monitoring, and evaluation of the system (World Bank Institute, 1998). Stakeholders' participation in WUAs is fundamental in this process. The participation of all users at local level refers more to managing the organisation and the water system. In practice, not all water users are participating equally in the WUAs. Women's participation is distinctly limited and the reason is that there are two common assumptions made regarding men and women's main tasks in rural areas. According to these assumptions women's main task is thought to be confined to reproductive activities (cooking, fetching water, cleaning, washing) and rearing of small animals (feeding, watering), while farming and outside activities, such as attending WUAs meetings, are thought to be a predominantly male activity (Meizen-Dick and Zwarteveen, 1998). Furthermore, WUAs rules often exclude women through formal and informal membership rules and practices (Meizen-Dick and Zwarteveen 2000). Some studies carried out in Africa (Carney 1988; Jones 1986; Zwarteveen and Neupane 1997) and Asia (Hart 1992; Zwarteveen 1996) have tried to verify and challenge these assumptions and thus to help elucidate the issue. The outcome of these studies showed that women's involvement in agriculture activities was greater than ever due to the increasing numbers of male migrants from rural areas and thus, increasing agriculture workload on women (Mehta 1996). Despite this, women's participation in formal and informal forum of decision-making is still limited. Their non-participation in these forums is found to be not only the result of the fact that politics is largely closed to women's participation at the local level in rural areas (Mark Svendsen and Gladys Nott, 1998) but also the result of the lack of self-esteem within women and the spread of the illiteracy among them. Women's needs and interests remained aside because of the lack of women's voice in WUAs. Therefore, they are facing the threat of further marginalisation and of loosing their access to water which they are using to satisfy their and their families daily needs (drinking water and irrigation for cultivation).

Women's movements and their representatives have been active participants in diverse policy arenas and have pressed for political and legal reforms at the national level, including on issues that affect rural women directly. At the end of the seventies, empowerment and participatory approach, and women activists came in the forefront with the programs to protest in favour of the community based natural resource management and

particularly in favour of improving the situation of rural women in the society. National policies were adjusted to increase the role of the community in the management of the natural resources, particularly to involve women in the development scenario and to ensure their participation at local level in the management of the natural resources. In water sector (drinking water and irrigation), the involvement of all the users, including women, in the management of the water users' associations and the water system has been adopted to ensure an equal right to all the beneficiaries, including women. The formulation of policy tends to be perfect compared to the implementation. The institutional, legal and policy reforms, which ensure that all beneficiaries including women are part of the reforms, do not describe how all the beneficiaries will be effectively involved. Many of these policies claim to be "participatory " in their operations, allowing women to exercise voice and choice and to manage and solve problems for themselves. Efforts have been made to secure female representation on committees, to consult women as part of project formulation, and to evaluate projects according to the extent to which identified "women 's needs " are addressed. It is much more easier to observe changes in women's situation in urban areas than in rural areas. It seems more difficult to draw a clear picture on the role of rural women in their society where they are already bounded by social, and cultural constraints. There are only few chances for them to make their voice heard or to have a word in decision-making. Hence, there is a need to explore and analyse the policies in water management that has been formed in favour of beneficiaries including women. Further, it is also important to observe and analyse whether the field reality makes the gender lens more effective.

The study explores pathways of water policy (irrigation and drinking water supply) change in the Tunisian context through a gender perspective, drawing on the field research carried out between July and October 2002. It brings together two case studies and one chapter on policy reforms. This chapter gives a brief idea about the background of the country and the area where the research has been carried out. It is followed by an explanation of the research objectives and the conceptual framework. Then the research questions and sub questions. Finally, the chapter ends by describing the research methodology followed by an overview of the strengths and limitations of the study.

1.2 Background of the Research

Tunisia, a North African country, is demarcated by the Mediterranean to the north and east, Libya to the South-East and Algeria to the west (Map. 1). Irregular rainfall and a dry period characterise the Mediterranean climate, five to six months a year in the north and 7 to 9 months in the centre and south. The climatic and geomorphologic characteristics define three major agro-ecological zones:

- The North, constitutes a sylvo-agricultural region (mainly forests and annual crops); its average rainfall is between 400-600 mm and its main topographic features are mountain pasturelands in the north-west and fertile plains in the north-east.

- The Centre, constitutes an agro-pastoral region (pasturelands and crops); its rainfall is between 200-400 mm, and its morphology is composed of a low steppe to the east with fertile plains interrupted by depressions and a high steppe with mountain pasturelands and plains.
- The South, with irregular rainfall of 100 to 200 mm, is characterised by its aridity and vulnerability of its soils to desertification. This area is pastoral with oases around water points.

The total surface of the area is 16.4 million hectares, of which 42% is uncultivated land. Only 9 million hectares occupy the productive land. Agriculture makes an important contribution to the country's economy, accounting for about 18% of the GDP.

This study is carried out in the region of Mahdia. It is located on the eastern coast of the Mediterranean, 200-km south of Tunis, 60-km South-East of Sousse (Map. 2). In Mahdia there are 51 drinking water users' associations (2000) and 42 irrigation water users' associations (Ministry of Agriculture, 2000). There are no mixed drinking and irrigation water users' associations in the region (Annexe. 1). The research study dealt with two cases studies, the first case the drinking WUAs located in the Gdara village. The Gdara village lies twenty-five kilometres away from the district head quarter of Mahdia. The second case dealt with the irrigation WUAs, located in the Saafet village. The village lies eight kilometres away from the district head quarter of the Madia governorate.

- *Water*

The Water Sector (drinking water and irrigation) has been part of the Government's development agenda in Tunisia. The country makes use of a considerable hydraulic potential. This potential, estimated at 4,54 billion m^3 of water per year of which 85% are used thanks to the installations established within the national water strategy framework. The major part of the mobilised water is used for agriculture and the irrigated areas covered 350000 hectares in the year 2000. Water infrastructure and management have benefited from considerable public investments since independence (over $2 billion or 37% of the public investment budget for agriculture during the 9thth plan alone-1997-2001). These investments have been translated into major water mobilisation infrastructures (22 large dams, 100 hill dams, 500 hill lakes, 120,000 Tube wells etc) thereby, reducing the country's vulnerability to irregular rainfall and recurrent drought. Irrigated agriculture covers only about 7 percent of the agricultural land but it generates 35% of the agricultural output. There are about 125,000 farm households that practice irrigation of some type, with half of those relying on shallow dug wells, 30 percent on surface mobilisation, and 20 percent on tube wells. Recently, the Government of Tunisia with the support of major donors (IBRD, KfW, JBIC, AfDB, etc) has conducted a number of key studies Eau 2000 (Water 2000) and Eau 21 (Water 21). These studies culminated in a major comprehensive "Etude sur le secteur de l'eau" (Water Sector Study) destined to provide a new strategy for integrated water resource management in the country. The Integrated Water Resource Management (IWRM) is probably one of the greatest challenges for irrigated agriculture in Tunisia. The reform program, designed to stimulate

faster, yet sustainable economic growth, while conserving rare and fragile natural resources, gave new attention to the water sector and agriculture (Abdelkader Hamdane 2001). The new policies call for active participation of Groupements d'Intérêt Collectif (GICs) (Common Interest Groups) or WUAs in managing the water systems. The participatory approaches as a method to implement water projects have been take on by national agencies and governments. Participatory approach is used in water projects to get beneficiaries involved in every stage of the project cycle for the purpose of maximizing the effectiveness and the sustainability of the project benefit as its ultimate goal. When introducing beneficiaries' participation based on participatory approach, "beneficiaries" should include all users to bring them project benefit equitably. A gender consideration[1] in the project may enhance an active participation of all beneficiaries concerned if it is carefully introduced in a project. When women are relatively marginalized in a given situation due to social and cultural gender difference, it is necessary to pay more careful attention to women's participation.

- *Women in Tunisia*

Since the independence Tunisia advocates the improvement of the status of women and women's issues continue to be seen as a main concern for the policy of human resource promotion. The Personal Status Code promulgated in 1956 directed reform toward equality between men and women. It is regularly updated. Polygamy, forced marriage and unilateral divorce have been abolished; judiciary divorce has been introduced; the rights of divorced women to the custody of children have been reinforced. These legal acquisitions have been extended to the Tunisian Constitution, work code and the promotion of women's associations. The latest bylaw that confirm the women's participation in all the sectors of work at the various levels and in the implementation of the principle of equality in rights and duties among the Tunisians, concern the decision stipulating that as from the beginning of March 2003 women would be subject to a 12 months obligatory drafting into the army.

In 1980 Tunisia signed the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). The convention was ratified in 1985 with some reservations related to the article 16(c), (d), (f), (g) and (h). Paragraphs (g) and (h) of the article 16 stipulate that the convention "must not conflict with the provisions of the Personal Status Code concerning acquisition of property through inheritance". These provisions are that men and women have equal rights, except in the case of inheritance where women's inheritance is half of men's. In spite of the provision and showing great flexibility in interpreting the "Islamic Shariâa" rules, there is a common practice for parents to give gifts to their daughters to compensate for the inequalities in the written law and introduce private clauses on property into marriage contracts.

Women's rights to natural resources are recognised in the Tunisian legal context. But legislation protecting women is not always put into practice, due to a lack of information and deep-rooted traditions mainly in rural areas.

[1] Gender consideration is one of social considerations to be taken for equal access to resources and opportunities between men and women.

Till now it is difficult to draw a standard profile of the rural Tunisian women. Major regional differences exist between socio-cultural contexts and methods and systems of production. Statistical data furnished by the Ministry of Agriculture do not interpret these differences, but they highlight the place of women in the agricultural sector. If women only represent 5% of farming heads, they constitute 64.3% of agricultural family workers (unpaid labour).

1.3 Research Objectives

There is no research on specific roles, duties, tasks, and functions, which, women and men have in domestic water and in irrigated agriculture in Tunisia. Although the official and written rules invite all users to participate in WUAs, in reality all users are not represented and participating equally in the associations. This research will highlight the importance of gendered roles in the two categories of water users' associations. It will explore the 'gendered participation' in Drinking Water and Irrigation Goupement d'Intêret Collectif (DWIGICs) in the region of Mahdia.

1.3.1 Social Objectives

- To make understandable for the decision-makers and extension agents the importance of gender perspective in water projects' design.
- To find out the possibilities of reducing the gaps between policy formulation and concretisation.
- Suggest some recommendations to improve the intervention policies and to overcome the negatives aspect in the implementation of the policies.

1.3.2 Scientific Objective

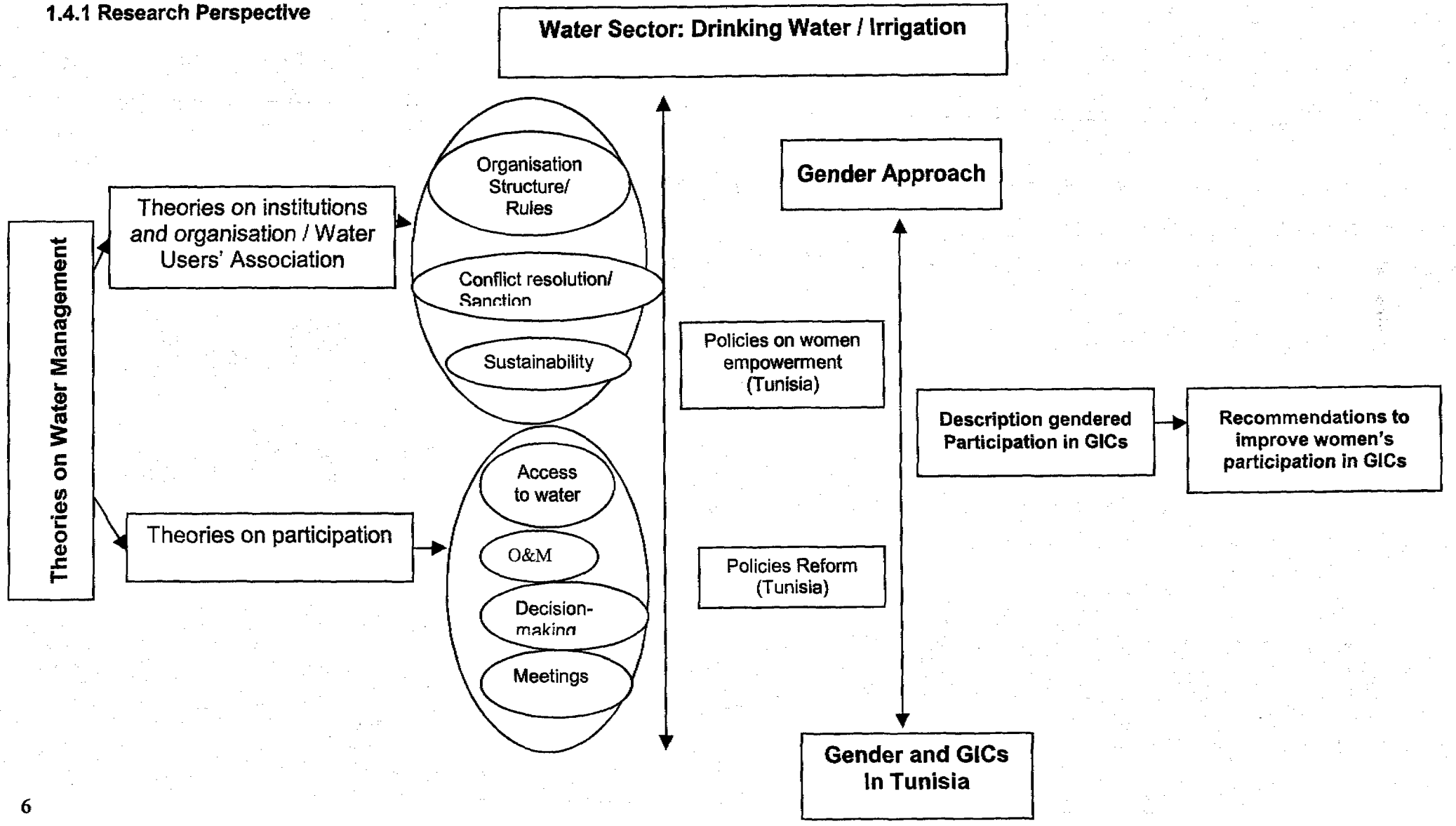
- The scientific objective lies on the production of a better knowledge of gender's role in the water users' associations system in Tunisia, by studying the gendered participation in drinking and irrigation WUAs.

1.3.3 Personal Objectives

- To contribute and to pay homage to the work of Rolf Edberg and its foundation. The Edberg foundation supports my studies at Wageningen University. It has a special interest in water management and gender in developing countries. Rolf Edberg was one of the most important authors, intellectual debaters and environmental activists of our age. He was Swedish's foremost and most eloquent promoter of an eco-philosophical attitude towards nature and the environment.
- To enhance the career in working on women's role in water management, particularly in WUAs.
- To gain skills in using and implementing a gender approach in rural development as well as expand and deepen the experience concerning women's role in natural resource management.
- To raise others field of interest that need more studies in developing countries. Since I had a law background, studying the legal aspects of the WUAs and their impact on gender equity need to be investigated.

1.4 Conceptual Framework

1.4.1 Research Perspective



1.4.2 Concepts

- *Policy*

In literature policies are perceived as bundles of linear actions that will be enforced through some authority to achieve its goals.
Beginning with the formulation of goals in order to make a change, to improve the actual situation, then, the formulation of the ways to achieve these goals. Policies are perceived as directories that are enforced by some authorities. These authorities prepare an action plan based on the human and natural resources available. Followed by an ex-post evaluation to find out how far the original objectives have been attained.

The notion of a policy cycle calls the 'common-sense' view of policy as the pursuit of goals through a logical succession of stages. In this view, the policy process is imagined as an endless cycle of policy decisions; implementation; and performance assessment (Colebatch, 1998). For example, by advocating and formulating policies in favour of community based on natural resources management and use of the participatory approach as a tool to implement this policy in a water management project, policy formulators might have thought that this method will involve all beneficiaries in the management of the project including women. The adoption of the participatory method would in itself lead to improve *gender equity* in decision-making and participation. But in practice how far the goals are achieved and the changes succeed, Colebatch (1988), suggests a specific institutional context that acts as a filter through which such affect changes.

In this report policy is perceived as a rational process where new policies emerge out of the process of decision-making. The process goes through different phases, where the policy-makers set out the goals to be achieved and gather the relevant information. In the light of these informations they select the best way to achieve these goals and prepare an action plan to enable the goals to be met. Then come the implementation and the evaluation of the process, where they review the progress and make the adaptations.

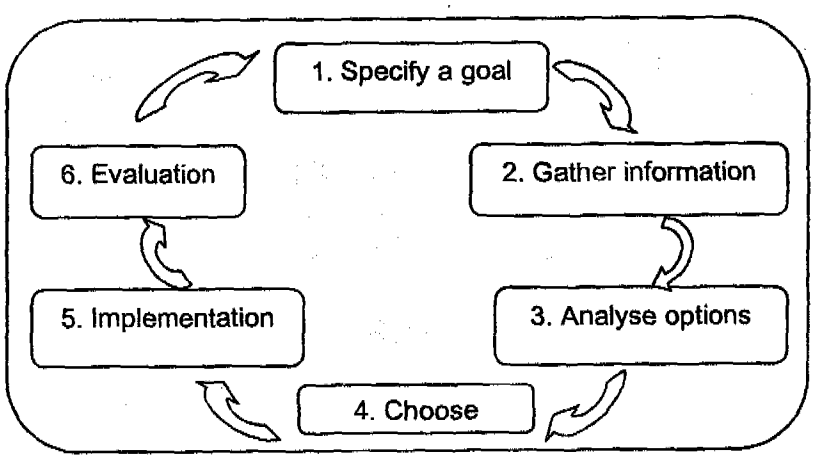


Figure 1. The Rational Decision Cycle
Source: adapted from Parsons, 1995, p77.

During the implementation alterations are made to adapt the policies to the realities, which makes it difficult to clearly distinguish policy steps (Colebatch 1998). Indeed "implement" is less straightforward then it seems (C.Davies 2000). In spite of this reality Hogwood and Gunn (1984) tempt to set out the conditions for "perfect implementation" (Annex3).

- *Gender*

Literature on gender concept is abundant, The International Women's Tribune Centre, in 1996, provided a definition of gender which refers to the socially constructed roles ascribed to males and females. These roles are learned, change over time, and vary widely within and across cultures. Whereas biological sex identity is determined by reference to genetic and anatomical characteristics, socially learned gender is an acquired identity. This definition is important to understand how gender is perceived and differs from one culture to another, but it does not show the unequally constructed roles of men and women in terms of power, opportunities, ownership, and decision-making.

My preference goes to Ellis' definition, because the author expresses quite well the unbalanced relation between women and men. Ellis defines the Gender relations as "social construction of roles and relationships between women and men. These socially constructed roles are usually unequal in terms of power, decision making, control over events, freedom of action and ownership of resources" (Ellis, 2000).

- Gender analysis: is a tool needed to identify the status, roles, and responsibilities of men and women in society, as well as their access to and control of resources, benefits, and opportunities. It is a framework by which to compare the relative advantages/disadvantages faced by men and women in various spheres of life, as in the family, the workplace, the community, and political system. It takes into account how factors of class, race, age, ethnicity or other factors interact with gender to produce discriminatory results. Ensuring gendered participation in WUAs is giving equal opportunity to have equal rights to water management and use as well as control over it. Ensuring women's participation in water management is essential for gender equity in terms of control over resources (Zwarteveen and Meinzen-dick, 2000) because the effective involvement of women in WUAs led to ensure and preserve their rights to water and to improve the water distribution among users. This also could balance the power between men and women in terms of decision –making with the organisation.

- Gender Equality means that both women and men enjoy the same status, and have equal conditions for realising their full potential to contribute to the political, economic, social and cultural development of their economies, and to benefit from the results. It means that one's rights or opportunities do not depend on being male or female. Gender equality can only be achieved through partnership between women and men (Framework for the Integration of Women in APEC).

- Gender Equity highlights the importance of equality of results; it calls for the differential treatment of groups in order to end inequality and foster autonomy. (Gender Training Forum Newsletter (International Women's Tribune Centre, 1996).

- Women Empowerment refers to providing women greater access to and control over resources and benefits in society. It is the most recent approach to low-income Third World women. Gender and Development: Making the Bureaucracy Gender-Responsive (NCRFW, 1994). Women empowerment in development parlance is considered as a tool and a framework in which development does not only allow women to be merely beneficiaries but also participants in programs and activities. More than these, women's level of participation will allow them to make decisions where their views and perspectives are seriously considered. Gender & Development Trainers' Manual (Inter-Agency Technical working Group on WID, March 1997).

- *Water management*

Water management is a vast term that could include irrigation, drinking water, flood protection, groundwater, surface water etc. Water management could include, water related activities, water related maintenance and operation and water related organisation. In this study water management is limited to drinking water and irrigation. According to Levine and Wickham the "Irrigation management refers to the routine allocation of water within a system and its distribution to and among farmers. It therefore includes scheduling of cropping seasons, of reservoirs releases where applicable and of water deliveries to the farming areas. It also includes repair and maintenance on canals and structures and administrative responsibilities" (Levine & Wickham: 1977).

Potable water (Drinking water) is Water that is intended primarily for direct human consumption, but which may have other domestic uses. In almost all rural communities in developing countries, it is primarily the women, and sometimes girl children, who collect water, protect the water source, maintain the water systems, and store the water (Shibesh Chandra Regmi and Ben Fawcett 1999). Drinking water management refers to the allocation of water to the users. It includes a schedule time of water distribution, operation and maintenance on water source (taps, wells, tube wells etc). It also includes structures and administrative responsibilities.

The organisation then is dealing with organisational structures and the organisation of people and activities in relation to water. Uphoff and al. related the organisation to people who manage the water and the structure like decision-making, resource mobilisation, communication and conflict management (Uphoff and al: 1985). Therefore, the water management did not only deal with the scheme level but also with the users level. Some aspects of water management have been pointed out where there is more attention on users' motivation and incentives, social relations and structures, differences in social and political power, social conflicts, difference in interests and different groups involved etc.

- Water Users' Associations The concept of organisation is described by the FAO (1982) as follows: "whenever a group of individuals have a goal in common, their arrangements to achieve that goal may be interpreted as an organisation". Depending on the degree of the government intervention two types could be distinguished. "Institutions" and "Association", the first with the Government involvement and the second without (Jurriens & de Jong, 1989:101).

Ostrom defines an "association" as an organisation of persons having a common interest. It is an institution, which corresponds to a collective effort formed at a certain point of time when a collective need arises. The institutions shape the patterns of human interactions and the results that individuals achieve (Ostrom, 1992: 24). Besides Hunt (1990) refers to the effective collective choice arrangements or "organizational control of water", which will normally have the following characteristics. An organizational autonomy, with clearly defined boundaries (area and membership), in which the users control the allocation of water, and officials derive their legitimacy and authority from users and are accountable to users ("internal charter of authority" in Robert Hunt's terms) (Hunt 1989, 1990; Garcés-Restrepo and Vermillion 1995).

In this research the term association will be used. A Water Users Association refers to the definition presented by the FAO (cited above) as "group of individuals having a goal in common" based on the water issue. Thus, WUAs could be defined as an association of water users responsible for water management, respecting certain rules for its functioning. The rules can be defined as generally agreed upon and enforced prescriptions that require, forbid or permit specific actions (Schlager and Ostrom 1992). Ostrom distinguished three categories of rules for the functioning of WUAs. First the *operational rules* which affect the day-to-day decisions made by users and suppliers. Secondly, the *collective choice rules* which indirectly affect the operational rules. Finally, the *constitutional choice rules* which determine who is eligible to participate in the system and what specific rules will be used to craft the set of collective choice rules, which in turn affect the set of operational rules (Ostrom, 1982).

Several principles have been identified through the most recent work that aims at improving the functioning of the WUAs and its sustainability. These principles are fundamental for the future productivity of a water system and the organisational and financial sustainability of the organisation. For example the need for a supportive policy, regulatory and legal environment, that recognizes the irrigation community's water rights (Ostrom 1992; Yoder 1994b; Vermillion and Johnson 1995).

For the financial sustainability certain authors refer to the capacity to mobilize resources adequate to meet the costs of O&M including emergency repairs (Yoder 1994b; Freeman 1989; Svendsen and Vermillion 1994). Others refer to the financial autonomy and a per capita investment that are necessary in order to allow the organization to rely on direct methods to raise most or all of the resources needed for O&M (Small and Carruthers 1991, 48-49). Yoder

(1994) considers that the maintenance of written accounts and records are important for the financial sustainability of the organisation. In this perspective the affordability to pay for different service-levels within the irrigation and drinking water sectors are studied. To look at affordability to pay an analysis of the willingness-to-pay and ability to pay is considered. Ostrom (1992) mention not only a need to establish a mechanism for conflict resolution, which is tightly connected to the allocation and distribution of water and the use of graduated sanctions (Ostrom 1990, 1992). Therefore, organizations can enforce rules among its users that lead to the transparent arrangements for monitoring performance, including financial transparency.

- *Participation*

The Farmer's participation thought emerged from the on-farm water management approach in the seventies. It dealt with improvement of water management performance by sharing responsibilities between scheme and water users. Participation is a term that is notoriously broadly interpreted. A considerable part of the literature on participation deals with participation in preparatory phases of planning and design of new schemes. It is felt that farmers' acceptance, involvement and performance will be better when they experience the scheme as their own, corresponding to their objectives. This study deals only with participation in established schemes.

The FAO talks about levels of people's participation: (1) participation limited to elites only (mostly elected representatives);(2) participation in which people are asked to legitimatise or ratify projects identified and formulated by the organisation, but do not participate in the detailed planning and management of the project; (3) participation in which people are consulted from the very start and also actively participate in planning and management of projects; (4) participation in which representatives from different strata of society/occupation groups find their places in all planning/co-ordination/evaluation mechanisms devised at the various levels including the highest policy-making level; and (5) participation in which representatives are actually controlling the decisions at all levels (FAO, 1985: 89-90).

Participation could be defined as a direct involvement of marginalized groups in a development process, which aims to build people's capabilities to have access to and to take control of resources, benefits, and opportunities towards self-reliance and an improved quality of life. Gender and Development: Making the Bureaucracy Gender-Responsive (NCRFW, 1994) Participation in water users' associations deals with involving users in various processes and activities and in decision-making, and with the collaboration and interaction with scheme officials. Jurriens & de Jong distinguished two levels of participation. The first level, between farmers mutually, within the tertiary unit and the second one between scheme and authority. Therefore for a better interaction between the tiers the different tiers of the WUAs are advocated (Jurriens & de Jong, 1989: 171).

Participation in WUAs aims at the development, improvement and operation of water systems. In literature the focus is on the farmer's role in the

scheme management. Rather a general enumeration about the different tasks, such as water distribution between users, maintenance and operation, solving disputes among farmers, fee and fine collection, taking a loan for improvement of the system, administration of water and finances, establishment of the regulations, involving farmers in the decision-making... the division of responsibilities and decision-making is not extensively discussed.

Participation could be measured by looking at the water distribution, the operation and the maintenance, duties, benefits and the Equity in resource mobilisation (Coward 1985).

- *Water distribution* had to be allocated equally. There are at least two considerations in water distribution, first the method of water distribution employed by the association over the seasons, and the second is the association's method of defining the water rights of its individual members.
- The *operation and the maintenance* of the irrigation system facilities are important opportunities to measure the participation. WUA conducts regular maintenance works (canal cleaning, grass cutting, bank rehabilitation, etc). Every member has to contribute in labour. The operation and the maintenance are one of the main tasks of any irrigation system
- *Equity in resource mobilisation*, resources contributed by each member should be in direct relation to the amount of water (s) he receives.

Women's participation in WUAs means providing women, equitable access to opportunities, benefits, and resources available in society. It is an essential ingredient of women's empowerment. Ensuring women participation is essential to achieve gender equity in access, control over resources (Zwarteveen and Meinzen-dick, 2000). Participation as discussed here does not mean simply sharing costs, receiving benefits or being incorporated in a government-controlled organisation, but it means farmers (men and women) have an active role in making important decisions about the system development and management.

1.5 Research Problem

- Main Research Question

What are the successive policies in Water management and in rural development regarding gender participation in GICs, and what are the effects of these policies on gendered participation in GICs?

- Sub Research Questions

The main research question is divided into two sub-research questions:

Policy formulation:
Water policies

1. What are the reforms in drinking and irrigation water management policies that have been made in favour of the involvement of women?
2. Why have these reforms been made?
3. What are the institutions involved?

4. What are the main tools used to implement these reforms and to involve women in the process?

Rural development policies

1. What are the focuses in rural development policies related to rural women?
2. Is the household concept as a leading concept in policies taking into consideration gender's needs?
3. Why and how was a National Plan for Rural Women established?
4. What are the institutions involved?

Policy implementation in practice

What are the gendered roles in drinking and irrigation GICs?

1. Whether the reforms in drinking water and irrigation are implemented or not?
2. Whether the participatory approach takes into consideration gender as one category in the change?
3. Whether women are represented in the board of DWIGICs?
4. What is the status of women's access to drinking water and irrigation?
5. What is the gender role in the sustainability of the DWIGICs?

1.6 Research Methodology and Techniques

1.6.1 Research Process

The research was carried out over three months. The first month was used to get permission from the Ministry of Agriculture. A submission of an application to the Ministry of Agriculture and the Ministry of Interior was needed to get the permission to carry out the research. In the meantime I was interviewing officials at the Research and Planning Section, drinking water and Section of GICs in the Ministry of Agriculture and in the Ministry of Women and Family Affairs. Also I was looking for a place to stay and to set up a site for research. Three weeks after and with the intervention of Rural Women Support Bureau, I got the authorisation. Actually the Rural Women Support Bureau was preparing a national Seminar on rural women and drinking water as well as presenting a paper in the Third World Congress of rural women. Therefore the context was favourable for me to get some support from the Bureau, which seems to have some interests in the data that I had to collect.

Months	July 02		Aug 02				Sep02				Oct 02	
Research site finalisation		x										
Setting up research site		x										
Policy documents collection		x										
Policy documents analysis			x	x								
Interview with dep. Official, policy makers, and different stakeholders...		x	x	x								
Drinking AICs					x	x	x					
Irrigation AICs								x	x	x		
Participation at III3rd World Congress of Rural Women, Madrid, Spain.											x	

Table 1. Research Schedule

1.6.2 Research Type and Selection of the Site

The research is an exploratory and descriptive research. The exploratory research in general has as major purpose the articulation of concepts and the development of hypotheses. The research considers more the research objects in their daily "natural" circumstances and not in artificial or experimental settings. (Triodi et al., 1969).

This study has been carried out in two levels: policy and practice level. The policy level explore the policies' change and formulation in drinking and irrigation water management and the involvement of rural women as well as their role in rural development. It studies the strategies to involve rural women in the management of WUAs. The practical pays a close attention to the reality and practises in drinking and irrigation WUAs. The policy part is considerable compared to the practical level, because it deals with the main changes in both the drinking water and the irrigation with a focus on the WUAs. However the two cases joined together could balance the volume of the chapters.

The selection of the area was definitely dependent on the representative of the Ministry of Agriculture in the region. The reason is that they wanted to provide a safe environment for the researcher (woman) and also they chose an area not far from the main road (8 to 24km) far from the town. Some criteria were provided to select the area such as the existence of an organisation where the members (men and women) are active, functioning of the organisation, the involvement of the users in its management.

1.6.3 Research Method and Techniques

This section gives an insight into the techniques and methods, which were used to collect empirical data.

- *Discussion with key informants*: by key informants we meant the officials who are extern from the CIGs. The discussion involves different officers at the Ministry of Agriculture and the Ministry of Women and Family Affairs. Agents working for the CREDIF[2], CRDA. It was held with the chosen informants individually or in a group of two. This technique was particularly helpful to clarify the first part of the research concerning the policy. Furthermore, it helps to pick out the site and to provide some historical background of the study area in particular and the country in general.
- *Individual Interviews with stakeholders*: The stakeholders are the people who are internally involved to the GICs. Most of data were collected from individual interviews and through discussion with different stakeholders in the offices outside of offices (informal interview) as well as in the study area using structured and semi-structured interviews, check lists to guide the interviewing. I also had informal talks with different actors. The purpose of the interviews was of course to better understand more specific points regarding the research question and sub questions.

[2] CREDIF: Center for Research, Studies, Documentation and Information about women.

- *Group discussion*: This method was used to interview the Ministry of Agriculture's officers because in the Ministry of Women and Family Affairs, there was only one person in charge of rural women.
It was easy to invite the administrators in one office for a discussion. At regional level informal group discussions were made with the president of the GICs and water users or merely with water users. Male discussion was not easy to organise, because it was inconvenient that women invite men for a discussion. But fortunately some mixed discussion was easy to get around the public tap or in the field. Also women's meetings were easy to organise.
Besides to formal and informal occasions I got the opportunity to follow some water users or non-users, as well as people working for the organisation (caretaker, water distributor) for two or three days. The objective was to understand their daily life, their problems and how they use to solve them.
- *Direct Observation*: observation is a crucial technique to any research. For this study observation was useful to observe officers and their reaction to my inquiries and also the importance of the issue in their own perspective. At field level observation was helpful to look at the behaviour of water users and WUAs' agents. Therefore, direct observation was made to complement the formal and informal interviews which provided the study with additional information, to check the interviews and their behaviour, to verify what stakeholders have said and what actually happened with some informants. Direct observation was carried out in formal and informal encounters with stakeholders, during the field tours and others.
- *Secondary data resource / literature review*: secondary data resources were helpful to get a better understanding about the study. This technique was used to look at policy change regarding water management and the gender perspective as well as the role of rural women in rural development in general. Some secondary data coming from written reports either from the ministry of Agriculture or from the GICs. For example, activities, financial and administrative reports. At national level, reports were important to understand the problematic and the change in policies. At regional and local level reports were meaningful to understand the functioning of GICs, their activities, the meetings' organisation and attendance.

1.6.4 Method of Recording

Different techniques were used for data recording such as a field diary, field notes, a tape recorder, camera and video camera. The video camera seems to be the ideal source of information but it is costly. Some part of the research was filmed thanks to the financial support of the Tunisian NGO WFSD[3]. The practical technique was the field diary, field notes as well as the tape recorder. I also tried to relay on memory some events, reaction or behaviour. I have to admit that the human memory is limited and it is not possible to remember every thing.

[3] Women For Sustainable Development.

1.6.5 Data Analysis

Most of data collected during the field work from the individual and group meetings, discussions, participant observation and report readings are qualitative data. Some quantitative data were furnished by the Ministry of Agriculture concerning the rate of the involvement of rural women in certain projects in the region. The data gathered on the gendered participation in GICs was used to have the overview of the political wishes and to have an understanding about the reality. In the light of certain significant events, the study could gain some notable insight into the struggle and control over water.

1.6.6 Strengths and Limitations of the Study

The strengths of the study could lie at different levels of research. At policy level, it is important to see the limitation of a country like Tunisia, which is famous among the Muslim and Arabic countries for its revolutionary changes regarding women status for more than forty-five years. Since Tunisia is the only Muslim country that interdicts repudiation and polygamy, that promulgated and enforced women legislation emancipation, contraception use and abortion services provision. It was an opportunity to see the limitation of these changes in the rural area in a given space and time frame. There is for sure no polygamy in rural areas, but in certain domains such health production, water resource management; rural women need more attention and empowerment. During the data collection informal and formal interviews opportunity was given to explore gender role in Drinking and Irrigation GICs and particularly to examine women's role in the whole system. It was also an occasion to assess rural women's awareness about themselves, their role, and opportunities in the management of water and the development of the region in general. Furthermore, the study was an opportunity to make the local community of Gdara and Saafet and the leader and manager of the GICs (Drinking and Irrigation) aware about the importance of the women's participation and role in managing the either the drinking or the irrigation water system. Moreover the importance of women's attendance to meetings and its implication on the production, the service, the organisation of the GICs particularly in water scarcity context, since the country, mainly these regions faces the fourth year of drought.

This study has also a certain number of limitations. There is a problem that has been mentioned at different levels in the local administration, which is the lack of documentation concerning gender perspective in policy, therefore the respondents were not enthusiastic to provide information on the subject. At regional and local level, the limitation consists of the suspicious opinions of the stakeholders regarding the study. In fact, they (agents of the ministry, presidents and members of the GICs) thought that the purpose of the study was to write a report to the Minister of Agriculture about their activities and their interventions. For that, the beginning was difficult, to face the issue, gaining the trust of the local communities was a good strategy to get information and collect data. Moreover, the fieldwork was done in the area where the drinking WUA has not that many activities and for the irrigation GICs it was a period of field preparation (displacing the green houses,

germination). Being a woman could have an impact on the data collection and research. Some difficulties arose when men's meetings have to be organised or men were not enthusiastic to discuss or even allow their wives to do so. This could have an impact on the study particularly that the focus was on "Gendered participation in GICs" and could be a factor that impedes to draw objective conclusions and might give the study a biased aspect. Finally, the specificity of water resources for irrigation in Saafet areas (deep well) varies completely from the north (surface resources) part of the country, thus preventing to generalise the research over all the country. Because in the North and the North West, with the management of the river and the surface water is much more complex.

CHAPTER II
POLICIES IN WATER MANAGEMENT AND GENDER IN RURAL DEVELOPMENT

2.1 Policies in Water Management

2.1.1 Drinking Water
2.1.2 Irrigation

2.2 Policy and Institutional Reforms

2.2.1 Rehabilitation and Rationalisation
2.2.2 Institutional change
2.2.3 Institutional Tool

- Legal framework of the GICs
- Organisational Structure

2.2.4 Implementation Tool

- Participatory Approach Adopted in the Sensitisation Program
- Participatory Method in Practice

2.3 Gender and Rural Development Policy

2.3.1 Rural Development Policy

- Women in rural development policies and Laws
- Household concept in policy

2.3.2 Rural Women in Rural Policy Reforms

- National Plan for Rural Women
- Institutional set up

2.4 Conclusions

CHAPTER II

POLICIES IN WATER MANAGEMENT AND GENDER IN RURAL DEVELOPMENT

The objective of this chapter is to give a general idea about the development of policies in Tunisia with focus on issues related to gender, drinking water, irrigation and rural development. The chapter tries to answer the first research question that deals with describing the reforms in drinking and irrigation water policies as well as the changes in rural development policies that have been made in favour of the involvement of women in the development process and particularly in managing drinking water and irrigation GICs. The first section of the chapter deals with a description of policies' reforms in the drinking and the irrigation water management. The second section focused on the description of the reforms in rural development policy through a gender perspective.

The first section related to water policy reforms focuses on the description of the importance of the drinking water and irrigation in Tunisia. Followed by an explanation about the policy and institutional reforms that the water sector undergoes in terms of change in approach and the emergence of the new institutions to cope with the new strategy with focus on the CIGs, their legal framework and their organisational structures. The last part of this section pays more attention to the participatory approach as a tool for implementation. The second section related to gender and rural development policy deals with first the policy in rural development with focus on rural women in rural development policies and laws and a description of the main leading concept of "Household" in rural development. Then, the main change in the current rural development policy related to the elaboration of the national plan for rural women and creation of the new institutions. Finally the chapter end with a concluding remarks and analysis concerning the water and rural development sectors.

2.1 Policies in Water Management

2.1.1 Drinking Water

The drinking water sector has always been a significant component of the economic and social development plans in Tunisia. A lot of efforts have been displayed during the last three decades to improve the conditions of water supply in terms of quality and quantity, either in urban or in rural areas. Whereas the urban population has been completely provided with safe drinking water, the rate of service in rural population did not reach the 75% in 1998[4]. The main constraints to provide drinking water in rural areas were the dispersion of the population and the lack of infrastructure, which make the implementation of drinking water projects and the construction of systems extensively costly. Two operators in the country conceive and implement the

[4] Etude du secteur de l'eau potable en milieu rural, SONEDE, Grouppement IGIP, SCET Tunisie, Ministry of Agriculture, April 2001

drinking water projects in rural areas. The first one is the Société Nationale de Distribution et d'Exploitation des Eaux (SONEDE) or the National Society of Distribution and Exploitation of Drinking Water and the second one is the Direction du Génie Rural (DGR) or the Rural Engineering District in the Ministry of Agriculture[5]

The SONEDE is a semi-private society. It intervenes especially in the urban area and it adapts its experience in urban areas to the rural zones in order to provide the rural families with drinking water. The DGR intervenes only in rural regions and dispersed zones. Its duty is to provide the population with collective water points in order to satisfy their needs for drinking water as well as the needs for the livestock and the subsistence irrigation. During 1987-1998, the SONEDE implemented 2.456 projects to serve 1.350.000 rural families. The total amount invested was 144 thousands TND[6] (110 thousands Euro). The DGR has implemented 1.015 drinking water projects serving more than 1,1 million rural households. The total amount invested is 252,7 million TND (210 thousands Euro) in 1998.

The difficulties to provide the rural areas, in the North East and the centre of the country, with the drinking water lie in the fact that these regions are not accessible and the two operators do not identify water sources yet. Therefore, the efforts have been concentrated on the Northern and the Central part of the country. The table below shows the total population served with drinking water by region.

Region	Water supply services	SONEDE	DGR
District of Tunis	87,9%	75,4%	12,5%
North-East	76,3%.	36,8%	39,5%
North-West	62,7%	37,0%	25,85
Western Centre	75,1%	51,2%	23,9%
Estern-Center	77,7%	50,8%	26,9%
South-western	90,3%.	60,8%	29,4%

Table 2. Water supply services by region (1998)

Source : Étude du Secteur de l'Eau Potable en milieu Rural, (2001), Ministry of Agriculture,

The criteria to define the water requirement vary from one actor to another. For the DGR the water requirement is 40 L/capita/day, while for the SONEDE it is 70L/ habitant/ day. In implementing their drinking water projects the DGR seeks for water resources that are at their origin fit for drinking and do not require any treatment. In fact, the few pilot projects of surface water treatment designed and implemented by the DGR have raised some problems with the use and exploitation within the GICs.

[5] Ministry of Agriculture has changed his nomination in January 2003. The actual name is the Ministry of Agriculture, Environment and Hydraulic resources.

[6] TND: Tunisian Dinar.

2.1.2 Irrigation

Tunisia is an arid country with limited water resources, it depends heavily on irrigated agriculture. Agriculture is considered the large-scale water consumer with more than 80% of the total water demand in Tunisia. Indeed, the sector is concerned with competition in the field of water use and exploitation as well as it is confronted with competitiveness vis à vis the national and international market. The managed irrigated areas for irrigation are divided into first the public irrigated areas (205.000ha), and the private irrigated areas (165.000ha). The public irrigated perimeters are collective areas created by the government and managed as of the dams, drillings and wastewater management stations. Actually, the government decides about their geographical location, farming vocation and their model of management the amount of investment necessary for their management along with the eventual subsidies for their operation. The private perimeters are based on small hydraulic systems. The farmers create these perimeters in order to exploit individually the underground water table of low and average depth. In the sixties the construction, the control, the exploitation and the management of the Public Irrigated Perimeters (PIP) have been taken over by on the one hand the Office de Mice en Valeur de la Basse Vallée de la Madjerda or the Madjerda Valley Development Office[7] and on the other hand by 13 offices that were in charge of developing the irrigated areas during the eighties.

The irrigation system is varied. It includes big dams, deep drilling, surface wells and treated wastewater. This variety has led to differences in the size and configurations of equipment and diversity in the management on individual irrigation schemes. As a result, production and productivity levels vary, depending on local and regional and socio-economic conditions (Abdelkader Hamdane 2001). The irrigation sector is covering only 7% of the arable lands, but it produces 35% of the total value of agricultural production, 95% of the horticulturist production and 70% of the arboricultural production. Furthermore, it represents 20% of agricultural exports (citrus fruits, dates, early products, etc.) and 20% of agricultural employment (Taoufik Brahem (2001). The Office de Mice en Valeur de la Basse Vallée de la Madjerda and the 13 offices have played a significant role in the development of the irrigated sector in helping the farmers to switch over from rainfed agriculture to irrigated agriculture. At that time the objective was to develop an intensive production of high value crops in order to meet the needs of the country (vegetable, fruits, dairy productions..). In the long term irrigated agriculture is expected to account for 50% of the total agricultural output. In addition the aim was to complement rainfed agriculture, whose production is more uncertain, by ensuring an irrigated supply of basic foods such as cereals in times of drought. Unfortunately the irrigated agriculture has not achieved anything like its production potential, large irrigation did not often use up their water allocations while irrigation efficiency at plot level is often highly inefficient-with levels of only 50-60%. In traditional irrigation areas there are high water loses

[7] Office de Mise en Valeur de la Basse Vallée de la Madjerda is a public establishment with commercial vocation; it was functional starting from 1958 till 1970.

in the transfer and management of irrigation at the field level (Abdelkader Hamdane 2001).

2.2 Policy and Institutional Reforms

At the end of the eighties Tunisia has worked out a structural adjustment strategy having for objectives to increase the cost-effectiveness of the production. The components of this strategy consist primarily in developing new approaches for better appreciating water through the adoption of new techniques to manage water and creating new institutions to deal with the new situations. Most of water reforms have for target the agriculture and irrigation sector rather than the drinking water, because the State made important investments in the irrigation sector (See 2.1.2 Irrigation). The reforms have the aims to adopt the best alternative of the crop that consumes less water, "more crop per drop", and the effective participation of the irrigators in the management of the irrigated perimeters. This strategy emerged in the context where Tunisia had decided to open up its trade and markets to globalisation. Globalisation, among other things, requires rapid modernisation and increasing interaction with international partners in all economic sectors, including irrigated agriculture, which is expected to improve efficiency and quality while reducing production costs (Abdelkader Hamdane 2001). The strategy also was an answer to the increasing demand for water in agriculture and the increasing demand for water in two economically more competitive sectors (tourism and industry). This section tries to outline the most important aspect of the new National Strategy for Irrigation Water Conservation (NSIWC). It consists of the rehabilitation of the old systems and the creation of the new ones as well as the rationalisation of the irrigation water price. Secondly, the NSIWC calls for the decentralisation and the promotion of the participation of the irrigators is the in the management of the systems. Such changes have widespread institutional and organisational implications. Finally, the NSIWC give up the "top down" approach and introduce the beneficiaries' participation based on participatory approach in the implementation of the water projects.

2.2.1 Rehabilitation and Rationalisation

Old irrigation systems were rehabilitated in order to ensure maintenance of the systems by transferring ownership and responsibility for maintenance to the beneficiaries. Farmers will be encouraged to organize themselves into water user associations (Figure. 2). New irrigation systems were created in order to increase ease of management, especially of water demand, allowing for flexibility of water allocation among sectors within the system. Water is managed less at the system, and more at the farm or field level. Flexibility is further encouraged by promoting conjunctive use of surface and underground water, and by building of storage reservoirs in the heart of the systems. Wherever possible, each irrigator can control and measure his/her own water use. Although the introduction of this new technology is

expensive, it is farmer-friendly and can have a positive effect on overall productivity (Abdelkader Hamdane, 2001).

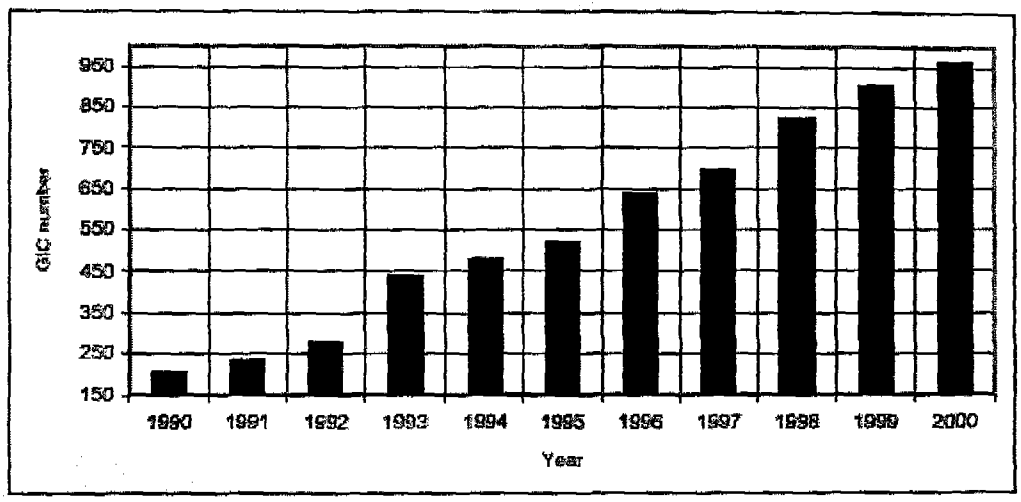


Figure 2. Increase in number of the GICs
Source: Reform of irrigation and policy and water conservation, Ministry of Agriculture.

Since 1990 the Strategy attempted to rationalize the pricing of irrigation water in terms of costs, variations among systems, and national priorities, notably food security. The price of water has increased from about 22 millims/m³ (.0 16 Euro) to about 100 millims/m³ (0.07 Euro), an increase of about 9% per year, in real terms. This increase covers the major part -some 90%- of the increased operation and maintenance costs of the irrigation systems compared with only 57% at the start of the program, as shown in figure 3.

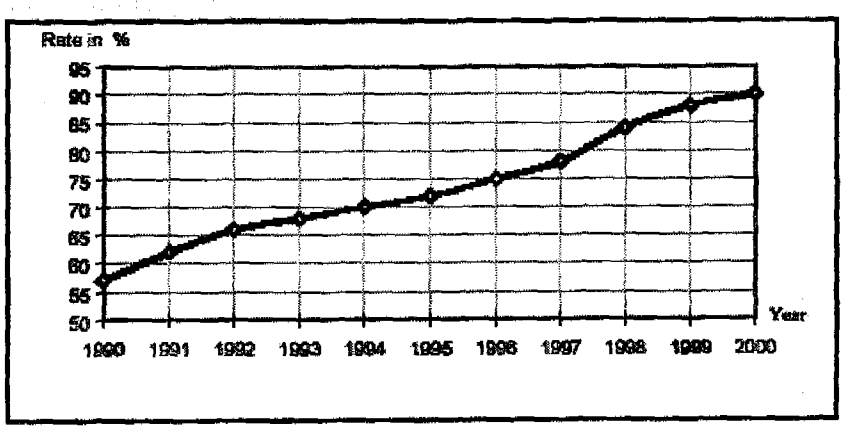


Figure 3. Increase in cost recovery %
Source: Reform of irrigation and policy and water conservation, Ministry of Agriculture.

In order to improve the coverage rates in the larger irrigation systems in the north of the country, the NSIWC calls for the progressive introduction of biannual water billing. Initially irrigators vigorously resisted the continual increases in water prices. But accompanying pro-farmer measures, such as

price liberalization for irrigated crops, and the awareness campaigns demonstrating to farmers the value of water economy in their fields has, over time, tempered their reactions.

2.2.2 Institutional Change

The strategy calls for the decentralization and the involvement of the water users in managing the drinking water and irrigation systems. The progressive disengagement of the State and the call for an active participation of users in the design, operation and maintenance of water systems engendered the creation of water users' as called "Groupement d'Intérêt Collectif" (GICs) or Common Interest Groups. As a matter of fact, the Tunisian government decided to reduce the direct and indirect water subsidies aimed at getting the GICs to pay for the cost of water, and therefore managing the irrigation in a more economically rational manner. This decision was a reaction to the international tendency that decided to cut off subsidies for agricultural water management. The government was not in a position to provide a heavy financial support to the national agriculture. Indeed, the perspective to approach the international agencies required a change in the internal policies. The international funding requires certain conditions to pay for the projects. The foremost of these conditions nowadays is the involvement of the local communities in the management of the natural resources, privatisation... Therefore, to cope with the international trend and to improve the management and the exploitation of the irrigated areas, the government launched several programs. These programs are based on elaborating and improving the institutional arrangements and legal framework to promote and develop the GICs. It was conceived to develop the Participatory capacity of the water users' associations in the field of drinking water supply and small and medium irrigated areas. These programs were financed by international donors (KfW, IBRD, JBIC) that aimed at considering a more suitable approach in the rural water supply and irrigation projects in Tunisia.

In 1989 it was decided to dissolve the 13 regional offices, that had previously managed the public irrigation systems and to integrate them in the Commissariats Regional au Devloppement Agricole (CRDA)[8] or Commissions for the Development of Agriculture. The CRDA are ruled by the Law n° 89-44 that gives them the responsibility to manage the hydraulic infrastructure at the governorate level (Figure. 4). One of their roles is to promote the WUAs and assist them in the management, the exploitation and maintenance of the water systems. The objective is to transfer the day-to-day responsibility to WUAs; the Government retains responsibility for servicing and/or replacing larger structures.

[8] CRDA: The CRDAs are public institutions with administrative vocations; they represent the Ministry of Agriculture at regional level. There are 24 CRDAs in the country.

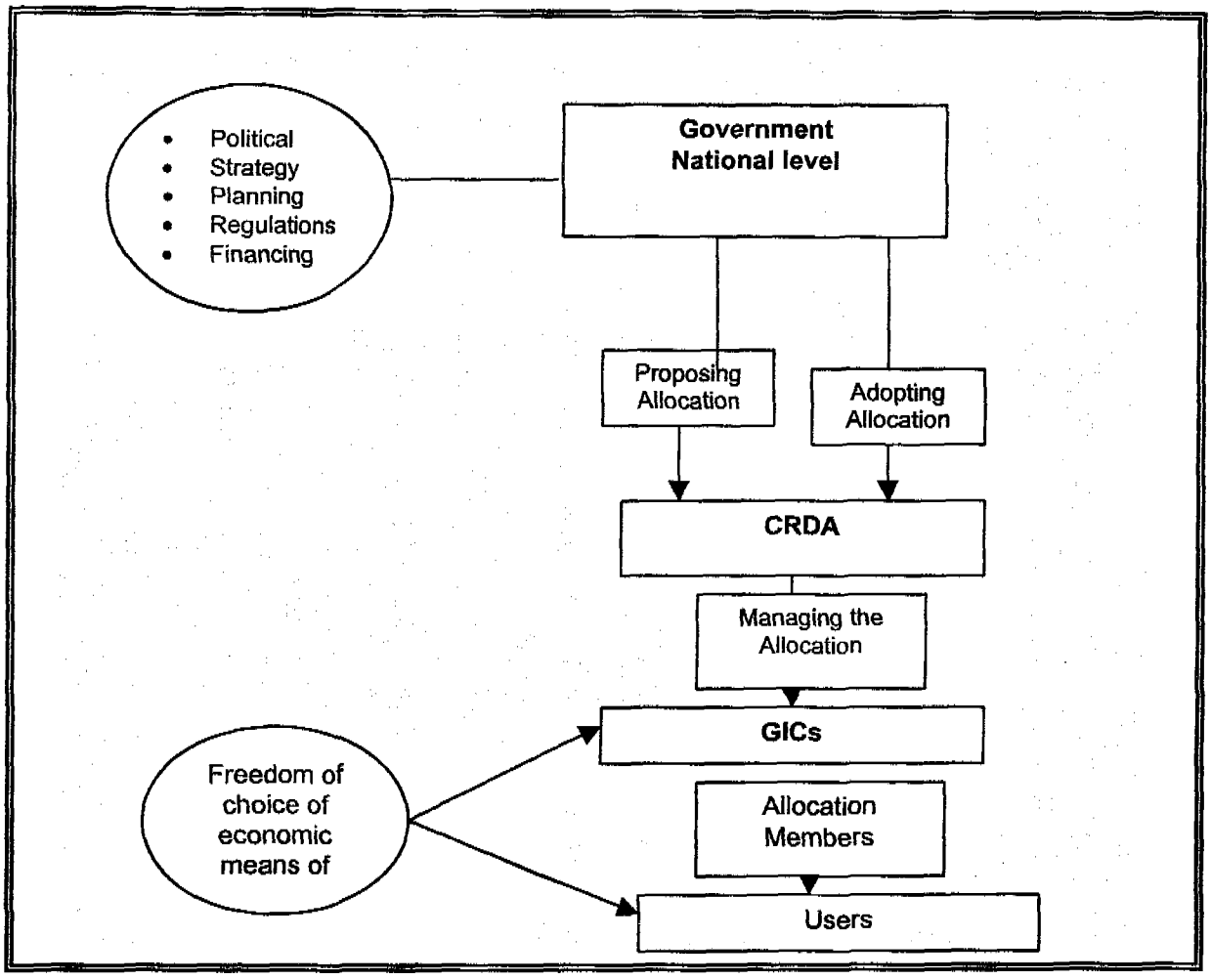


Figure 4. Role of participants in management of water

Source: Reform of irrigation policy and water conservation, Ministry of Agriculture.

For the implementation of the national strategy of creation and follow-up of the GIC, new institutional organisations have been adopted at national and regional level (Figure. 5):

National level: the Direction Générale du Génie Rural et d'Exploitation d'Eaux (General Directory of Rural Engineering and Water Exploitation), within the Ministry of Agriculture, was in charge of the coordination of the activities and the promotion of the GIC, the training and the refreshing course of the trainers of the GIC and the follow-up and the evaluation of the performances of the GIC in all the country.

Regional level: a Cellule de GIG (CGICs) for the promotion of GICs has been created within the Direction du Génie Rural of each CRDA in order to take charge exclusively of the creation, the support and the follow-up of the drinking water and irrigation. The former employees of the CRDA compose these CGICs, and they are trained for this purpose.

Other interveners at regional level have to play a role in the program of promotion of the GIC, such as:

- The Direction du Génie Rural, which, is in charge of studies, and implementation of drinking water and irrigation projects.

- The Direction d'Exploitation des Périmètres Irrigués within the CRDA, which is responsible for the supervision of water production and distribution to the private farmers and the GICs as well as supporting the GIC with a technical assistance (water turn, water requirements in irrigated perimeters, irrigation techniques...)

- The Direction de Maintenance des Équipement Hydrauliques: in charge of the operation and maintenance of the hydraulic infrastructure managed by the CRDA or the GICs. Besides they will assist the organisation in any maintenance work from the private sector.

- The Groupement d'Intérêt Hydraulique, which is a consultative body. There is one in each governorate and under the presidency of the governor and it is composed of the representatives of the administration and the users. Its mission is to (a) suggest programs concerning the good uses for the general interest of the water public domain. (b) To voice notifications concerning the water management, repartition in the region of intervention and (c) to control the operation and functioning of the GICs

- The regional financial receivers, who control the financial management of the GICs.

- The Service Regional d'Hygiène et de Protection de l'Environnement responsible for the control of drinking water quality and the sanitary education in the GICs.

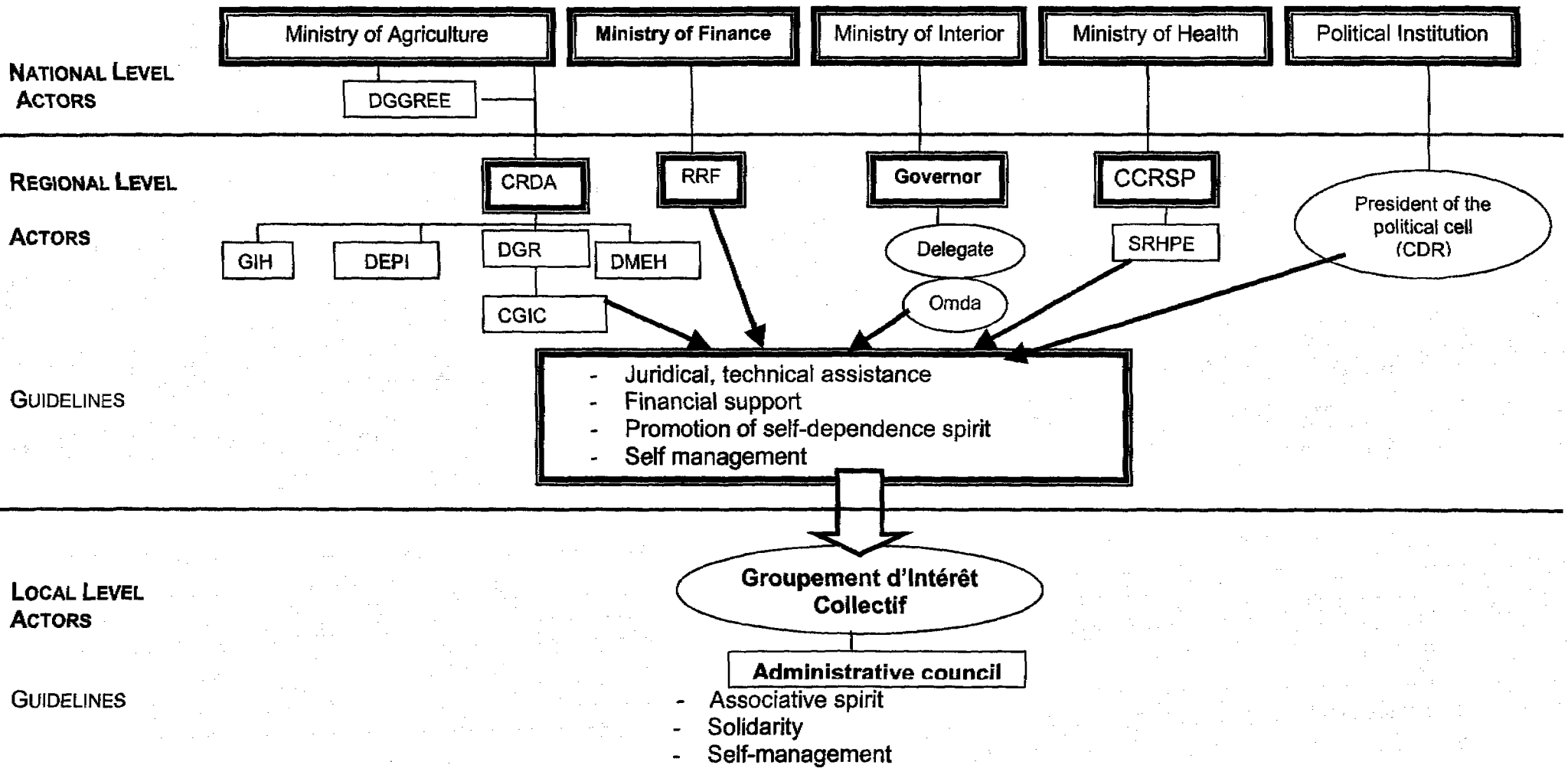


Figure 5. Social Actors, Roles, and Guidelines

2.2.3 Institutional Tool

The active participation of irrigator organisations in managing the irrigation systems is not a new phenomenon in Tunisia. The management and exploitation of water resources by the community is an ancient tradition. The phenomenon has been initiated in the oasis, in the southern part of the country, particularly in the region of Djerid (Taoufik Brahem 2001). In this area, the management and the exploitation of water resources are performed at community level. Hence, a local representative chosen by the beneficiaries and assisted by the "olders", the "Kbars", manages the water distribution in the oasis. This model has not been exposed to an alteration since its evolution in the 13th century, except the changes related to the progressive substitution of wells to the other sources and the extensions of irrigated areas. In 1885, the colonial protectorate established the water public domain and promulgated several legal documents related to agricultural associations in order to exploit the river in the centre of the country. Later on, in the 1920s, the government created the syndic association of the oasis property, an arbiter tribunal in charge of the management of the irrigators' interest, including the construction and the maintenance of the fundamental equipment, the water distribution and conflict resolution. In 1933, other community management models were instituted legally, such as the decree of August the 5th, 1933, which restored the Special Associations for Hydraulic Interest (SAHI). These organisations had as objectives the conservation and exploitation of the public water domain. In 1936, the administration proclaimed a decree organising Association d'Intêret Collectif (AIC) and the Groupement d'Intérêt Hydraulique (GIH). The decree made the situation easygoing by unifying the AICs and setting the GIH as a top administrative body. Those AICs were the customary users of public water. However, they have never been active, the government still manages the public water domain.

The AICs were not active since their creation in the thirties. The AICs were not active since their creation in the thirties. Before the SAP, irrigation water sector was managed by the Office de Mise en Valeur de la Basse Vallée de la Madjerda and the 13 offices (see 2.1.2 irrigation). Within the SAP and to cope with the international tendency that calls for community base natural resource management and the irrigation water management transfer, the occasion was given to reactivate them. The Tunisian government has undertaken an important program, in order to develop water users' capacities in the water supply and irrigation field. The initial focal point of the program was to develop the Water Users' Associations capacities in the field of drinking water supply and small and medium irrigated areas within the participatory perspective.

- Legal framework of the GICs

In 1987 and 1988 the first legal texts were promulgated which regulated the management of the public water domain by the AICs. It is matter of one law and three decrees. The law n° 87-35 concerns the modification of the water code in order to emerge the official nomination of the AICs and

stipulate that the organisation and the operating model of the Hydraulic Interest Group as well as the constitution, the organisation and the operation of the AICs will be defined by decree. The three decrees concern respectively, the organisation and constitution model and operation of the AICs[9], the organisation and operating model of the Hydraulic Interest Group[10] and the approval of the standard statute of the AICs[11]. These regulations established rigid and complicated procedures to create and operate the AICs, for that reason years later, the government undertook some reforms to give more flexibility to the creation and operation's procedures of the AICs. Indeed, in 1990, the AIC is created by simple order of the Governor and not of the Minister of agriculture[12]. Starting in 1992, the procedures of financial management have been modified to give the total financial autonomy to the AICs[13]. In 1999 the new law has substituted the appellation of the " Association d'Intérêt Collectif" by the "Groupement d'Intérêt Collectif" and established the possibility for these groups to extend their activities to other domains to achieve any actions aiming at the reinforcement of collective interest. But still the procedures were considered inflexible which induced the legislator in 2001 to simplify them. In fact, with this modification, the GICs are considered to be constituted after the file has been deposed within the seat of the governorate or the provincial delegation building. The file should contain:

i. Declaration mentioning the names of the group, its zone of intervention, its social seat, its object and a list of the names of the members of the provisional committee;

ii. Two specimens of the statutes (the declaration and the two specimens of the statutes should be signed by two members of the provisional committee) and the reception of receipt including the dates and the registration number.

[9] Decree n° 87-1261, October 27, 1987 relative to the organisation, the constitution and the functioning of the CIAs.

[10] Decree n° 87-1262, October 27, 1987 relative to organisation and functioning of the HIG.

[11] Decree n° 88-150, October 27, 1987 relative to the approval of the standard statute of the CIA.

[12] Decree n° 90-1069, June 18, 1990 relative to delegate some prerogatives of the members of the government to the governors.

[13] Decree n° 92- 2160, December 14, 1992 modifying the decree n 87-1261, October 27, 1987 relative to the organisation, the constitution and the functioning of the CIAs.

According to these legal texts, the GICs have for objective to deal with one or several irrigation activities, the reorganization of the arable lands, and the exploitation of the drinking water system. The GICs are equipped with the juridical *status and financial autonomy*.

They could be created either by the initiative of the farmers or by one of the administration when it is a question of hydraulic projects implemented by the state and the management has been entrusted to the users.

The legislation is neutral toward the gender aspect in the process of the creating, organising and functioning of the GICs. In the eyes of the law women and men are equal. The issue of women participating in GICs has never been tackled by law. Actually it is more interesting to see gender issues in rural development policy and how women have been considered in *the Tunisian national policy*.

Nevertheless it is worth to point out that water strategy did not undertake gender issues and the importance of the role of users, men and women in the management of the GICs.

Box 1

"What do you want to write on Water and Gender?"

The head section of GICs in the General Directory of Rural Engineering, in the Ministry of Agriculture, an engineer in hydrology was astonished when I explained to him the purpose of my visit and the subject that I would ask him about, "Gender and GICs" he seemed to be surprised that I would write a thesis on gender and water users' associations "what do you want to write on water and gender?" In what is it interesting he told me! Apparently he was quiet surprised and may be asking himself how he would help me in that. Actually he did not find the subject interesting, he was not enthusiastic to talk about gender but he was very helpful in giving me technical information about the GICs. At the end of the interview, he just added, "the most important thing is that GICs are functioning, who is doing what, men or women this is not the most important thing for us".

- Organisational Structure

The Common Interest Group is a non-governmental organisation founded and set up by volunteers or initiated by the government, oriented towards water projects in rural areas to fulfil the beneficiaries' needs for drinking water and irrigation. The organisation advocates developing actions in favour of rural inhabitants, by conducting and maintaining the stores and the equipment supplied for the purpose.

In Tunisia most of the GICs have been created by the initiative of the State, since there is no traditional or existing organisation at community level. The organisation of the GICs is also regulated by law, for each group an Administrative Council (AC) runs the GIC, it is composed of 3, 6 or 9 members among the users elected by the General Assembly (GA). The AC is established with full power to run all the activities of the GIC and to fulfil all its interests. Among the members of CA, is the president who is responsible for the good functioning of the organisation and who represents it beside the administration and legal corps (Figure. 6). The CA has to organise meetings at least four times a year. But the law did not say anything about the GA, which should meet once every three years to elect the AC board. But in practice, the GA should meet at least once a year. The GIC can also be equipped with a technical direction to ensure the current management of the organisation and to exert its functions within the limits of the capacities, which are given to him by the AC. Each GIC elaborates its interior rules and enforces them for the good functioning of the organisation. Since the GIC is equipped with a juridical status and financial autonomy, it has to respect certain rules for financial matters, such as laying out a specific budget annually and submitting it for approval to the governor. A treasurer is appointed among the members of the GIC, after the agreement of the AC and the governor, he ensures the financial countable management of the GIC. The treasurer exerts his functions under the authority of the president of the AC. He is in charge of covering the on coming receipts, payment of the expenditures allowed by the AC, and the collection of the royalties from the users. He has to record countable operations within a specific book that has classification and serial numbers and to keep all necessary documents of the receipts and expenditures. Each GIC must have a banking or postal current account for their payment and benefit for the management of the fund. The management of the fund is object to control by representatives of the Ministry of Finances.

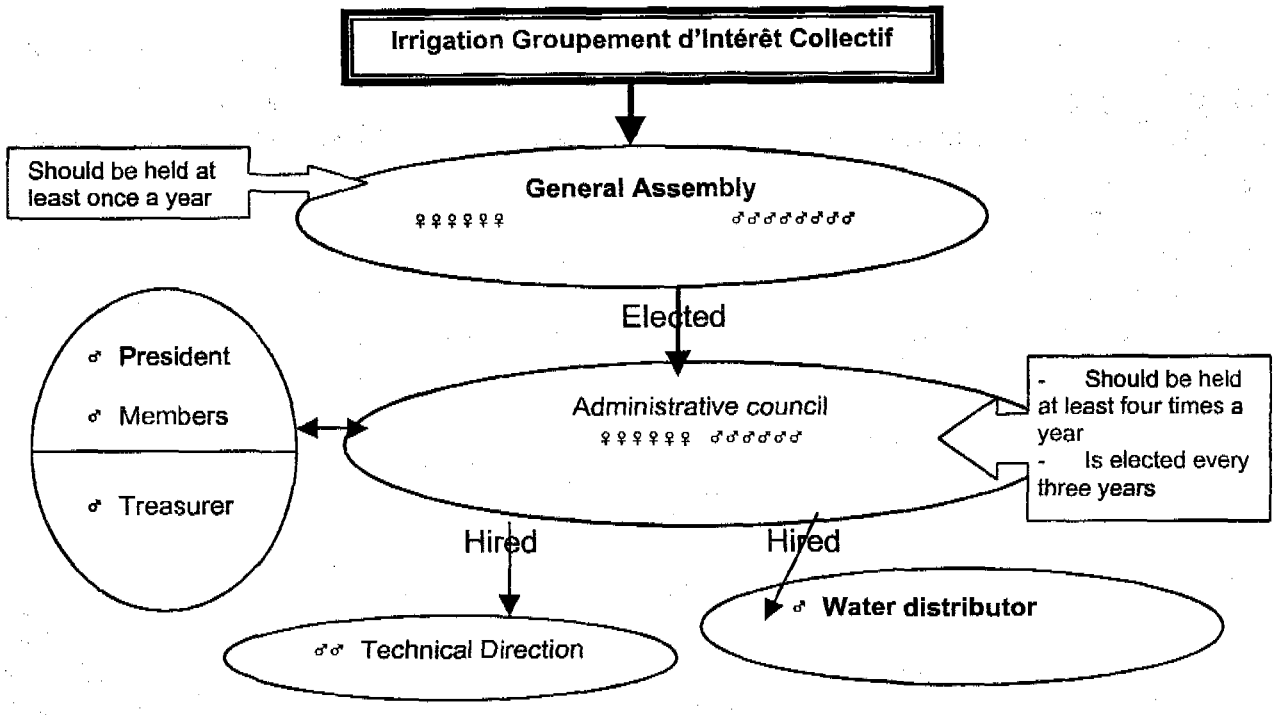


Figure 6. Organisational Structure of the Irrigation GIC

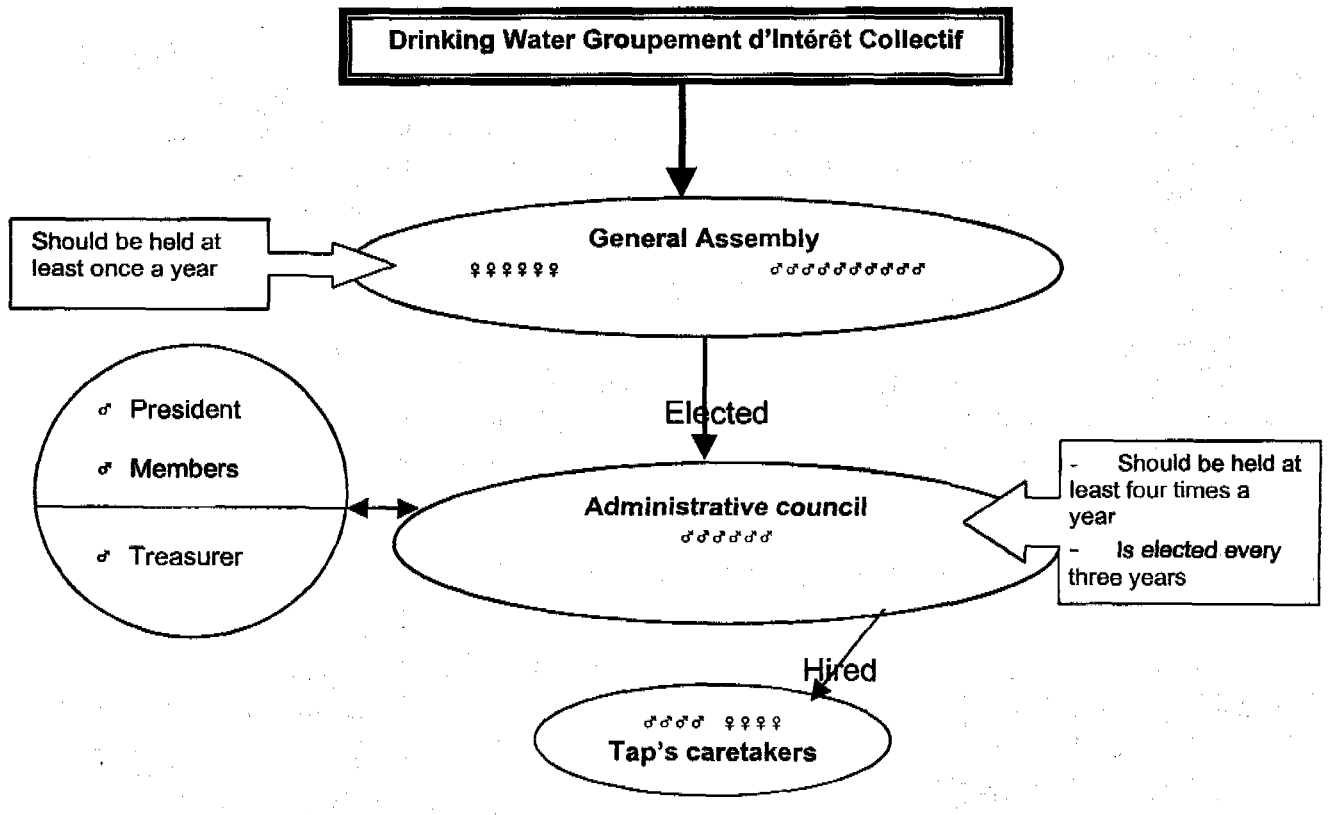


Figure 7. Organisational Structure of the Drinking water GIC

2.2.4 Implementation Tool

- Participatory Approach Adopted in the Sensitisation Program

The major method used at regional and field level is the participatory approach. Participatory approach is used in water management projects to get beneficiaries involved in every stage of the project cycle for the purpose of maximizing the effectiveness and the sustainability of the project benefit as its ultimate goal. The introduction of the beneficiaries or users' participation based on participatory approach, "users" should include all beneficiries including women in order to benefit equally from the project. In other words, the participatory approach cannot exclude a certain category of groups in the locality. Although a wide range of different methods and techniques like PRA[14] are used, this approach always aims at sustainable community management of water supply and irrigation system constructed through developing capacities of parties concerned[15] and ensuring the ownership of the target population and their managing responsibility for drinking water supply and irrigation system. The projects, which adopt a participatory approach, imply that, during the successive steps of the project, all stakeholders involved are equal partners with the providers of funds and the bodies that carry out the project. This type of project has different advantages compared to the "top down" projects. It is much better integrated in the daily life of the community where it evolves; it is more "viable" and probably able to survive after the withdrawal of the external support, since the local community has been active in the design, implementation and management of the project[16].

Since the seventies significant efforts have been deployed to promote modern field irrigation techniques, traditional gravity irrigation persevered throughout the irrigation schemes, with enormous water loss. Starting from 1993 the Ministry of Agriculture set up a new coordinated program. The program consist on a major awareness program for farmers, specific training for advisory technicians and irrigation engineers, support for research and development into new irrigation techniques, establishment of new national and regional organizations and encouragement for the involvement of the private sector. The CRDA, particularly the Cellule du Grouppement d'Intérêt Collectif, the effective body is in charge of the creation and the support of the drinking water and irrigation GICs were equipped with different tools to fulfil their mission. In fact, training guides have been formulated for the president of the GICs, for the treasurer, for the public water tap caretaker, pump attendant, for water distributors, for the users and training guide for sanitary education. To that are added memorandums to help the GICs staffs to estimate the water requirements and evaluation in irrigated areas, establish water turns and to set up the tariff methods for the irrigated water.
The elaboration of raising the awareness guide that has been made, maps out the methodology to follow during the different stages of the project cycle to

[14] Participatory Rapid Appraisal, one of participatory methods using different visual tools
[15] In this respect, capability building does not concern only beneficiaries themselves, but also staff of administration, private sector involved in management and operation of Water Supply System.
[16] Principal Report, SAPROF pour le project d'approvisonnement en eau des zones rurales en Tunisie, 1995.

involve the future users in the design, the implementation of monitoring and evaluation of the project. Also other actors have been involved in the project design, which are the private consultancy bureaus that have been in charge of the preliminary study of the project. Participatory approach has been effectively used starting from 1997. It was implemented in drinking water (See Annex 4) and irrigation water systems.

Box 2

Awareness Raising in Practice

I was invited by the director of a Consulting Bureau's bureau and the person in charge of the Rural Women's Bureau Support to participate in a awareness raising session in Chorbane and Soudane, two villages in Mahdia. We were with six persons, four persons from the Ministry of Agriculture and two persons from the CRDA. The Consulting Bureau's director was in charge of the awareness raising session. We visited two sites. The first one was a preliminary contact with the population. It was a women's meeting who were invited to participate in the awareness raising session concerning a drinking water project in their village. We were gathered in a primary school classroom. Men were attending, but they were outside the room. Although, they were kindly asked not to intervene in the discussion to allow women to elucidate their opinions about the project and their participation in the GIC, men's intervention seems to be always straightforward whenever we asked about anything.

Women were shy to talk, but they became progressively involved in the discussion after the explanation of the visit and its target. The session was brief (about 1h) and most of the time was given to the explanation, rather than listening to women's requirements and their reflections about the project. The Consulting Bureau's director was aware about that, but she confirmed that there would be at least three other coming sessions. Nevertheless, what is sorrowful is that in that awareness session, and to avoid the lack of target women's attendance who preferred shopping in the local market, many other women from other rural communities were present only to satisfy the Omda's order who represent the local authority.

It is important to mention that donors have made efforts to promote gender's participation to a certain extent aiming at maximizing beneficiaries' participation. A study[17] that has been made by the JBIC in (December 2002) reveals that donors like JBIC, JICA and KfW put more emphasis on gender consideration (i.e. reinforcement of women's participation in the preliminary sensitisation). The Study Team confirmed that in most of rural water supply projects implemented since the last half of 1997, the sensitisation program was conducted as the methodology of participatory approach. An evaluation of such a study reveals that women's participation was found to be limited in drinking water projects for example. Furthermore the study noted that participatory approach has not reached fully to all beneficiaries concerned.

[17] JBIC report, December 2002, Special Assistance for Project Formation (SAPROF), Tunisia.

There still exists a difference between men and women in access to the project information. There is a difference between men and women in giving their opinions directly through participation in sensitisation meetings. Furthermore, the access to participate in the project concept design is gender unbalanced. Both men and women do not give their opinions in the provisional decisions of the location and the number of water distribution points. Finally there is an obvious difference in access to participate in GIC activities (see figure 5). Such accesses tend to be prioritised for men due to current division of gender role. Such gender difference tends to affect beneficiaries' understanding, acceptance and satisfaction toward the project between men and women to a certain degree (Figure 8).

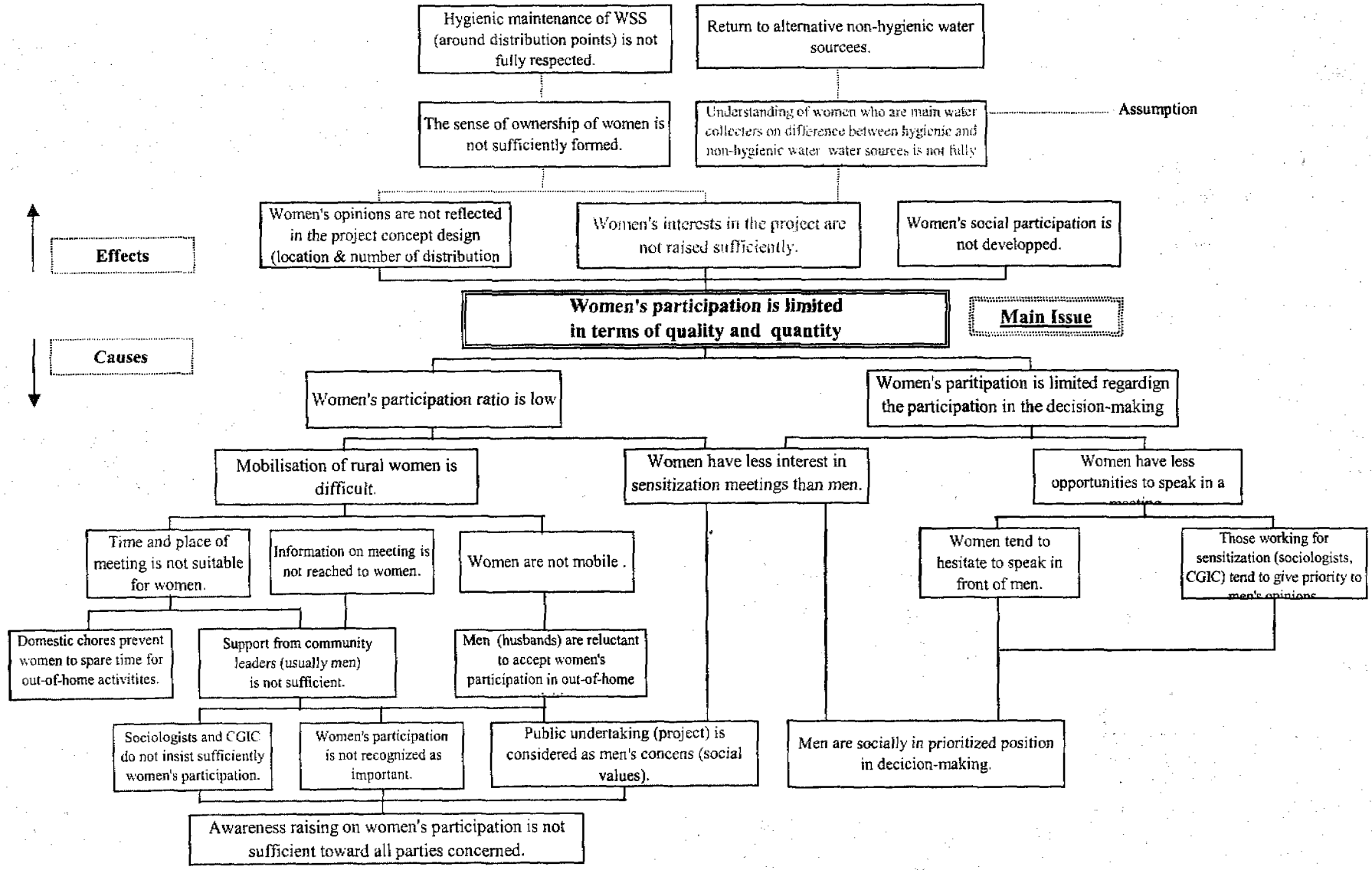


Figure 8, Problem Analysis on Women's Participation in the Sensitisation Program

Source SAPROF Study, JIBIC, 2002

- Participatory Method in Practice

In a drinking water project, the participation consists of two parallel approaches. The first approach *focuses on the construction, maintenance and exploitation* of the system. The second approach focuses on human resources development and the capacity to organise and manage the target community to solve progressively the problems raised.

1) *Construction, maintenance and exploitation*: This approach of participation is fundamental to install drinking water systems and in practice the process goes through the identification and confirmation of the requirements of the community, the agreement with the community about the project and their engagement to join it and share the costs. Following the discussion with the community about the choice of the technology, the level of the services and the location in order to agree upon the exploitation and the maintenance, finally the development of the project will be implemented. This approach ensured the raising of the awareness program.

2) *Human resources development*: This approach deals with the total management of the project, data collection and local community requirements and priorities. Then, come next the suggestions for the decisions to be made in order to develop the activities and actions at community level and to define tasks of different stakeholder. After that comes the control the implementation of the project and the solution of the problems if there are any. Finally the process will be evaluated so that the community will get the feeling that the project is their property.

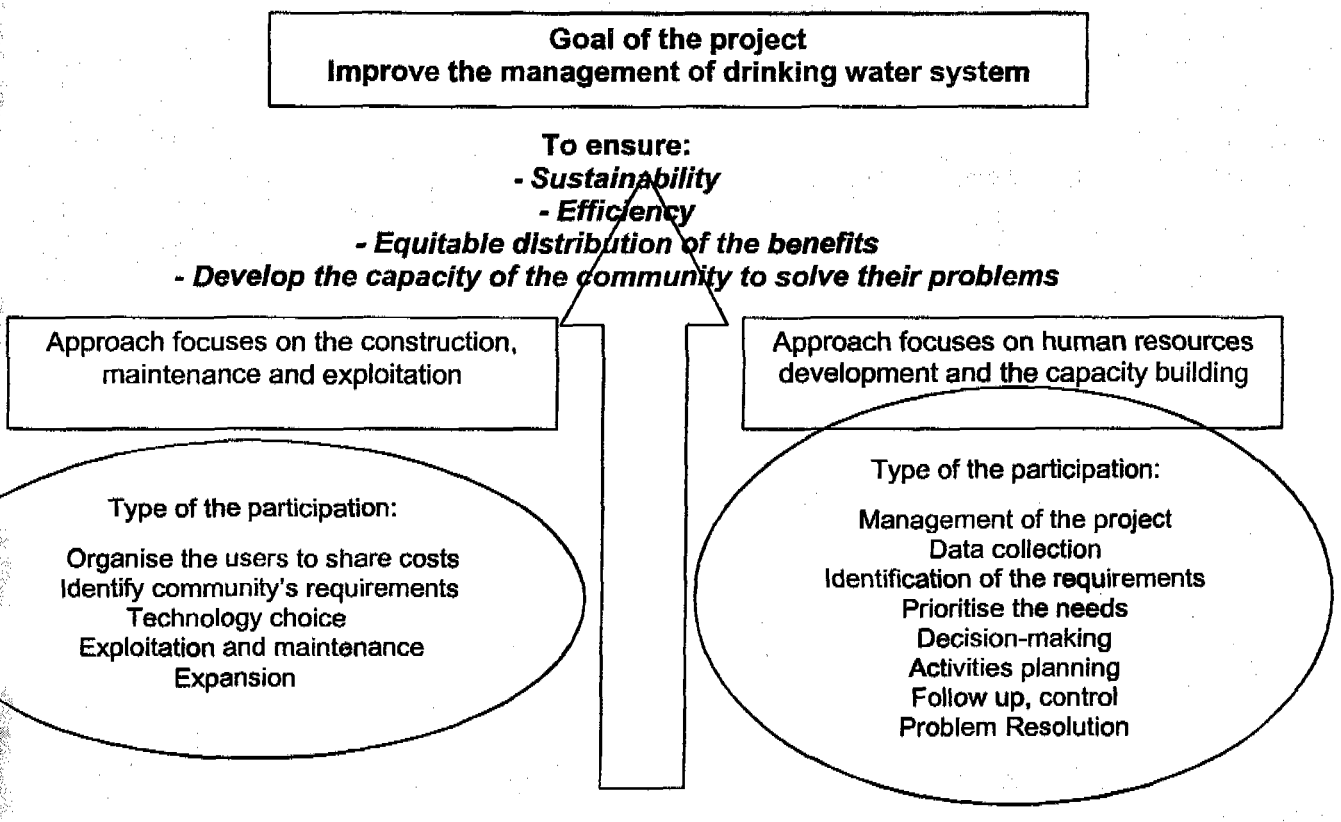


Figure 9. The two approaches of the participation of the community

Source: Ministry of Agriculture (SAPROF), 1995.

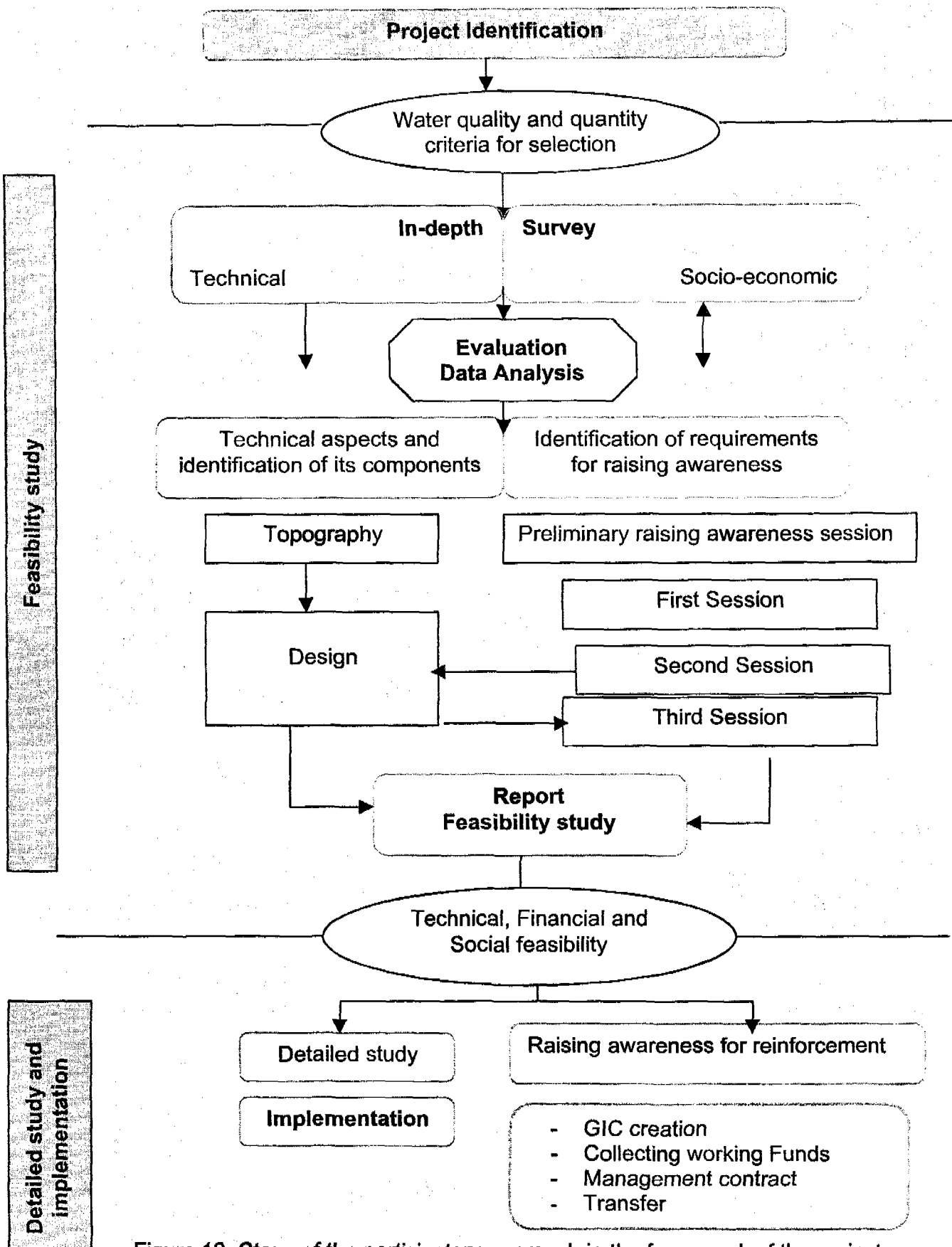


Figure 10. Steps of the participatory approach in the framework of the project

Source: Ministry of Agriculture, Direction Général du Génie Rural, 1999

2.3 Gender and Rural Development Policy

2.3.1 Rural Development Policy

After the independence in 1956, the country saw the birth of a nation-State, symbol of the country's identity. Traditional groupings such as clans and tribes saw their prerogatives and influence dwindle to the advantage of the new state. Institutions and political and administrative structures became a "compulsory transit" for the citizen to the detriment of civil society (Abderrahmane Ben Boubaker, 1997). In the seventies, the Tunisian government has fixed five-year economic and social development plans. Orientations for rural development were established. In the course of the 1970s, the important strategic lines were the promotion of employment and income improvement for the deprived population as part of these plans.
In the end of the seventies the government developed the Integrated Rural Development Programs (IRDPs) in which a link was established between improvement of living conditions and promotion of productive activities. Despite this new concept and the decentralization of development efforts to regional level, the participation of the local population in the development projects was lacking. One problem was that there were no traditional or existing organisations at community level. The government thus engaged in attempts to organise communities. The rural council (at sector level), the local development council (at delegation level) and reinforcement of the regional council (at governorate level) constitute the links in a chain that connects the population to regional power centres (Annex 4). The rural council aims to ensure co-ordination and coherence between projects. It reinforces the process of decentralisation by offering a framework for the participation of communities in local and regional development. Legislation gives local administrations a consultative role in "communicating the concerns of citizens and proposing solutions".

With the economic crisis of the 1980s and an opening up toward greater democratisation, the State began an attempt to mobilize civil society, thus coming into line with an international tendency towards participatory development, supported by governmental and non-governmental organisations increased.
The political changes of 7 November 1987 and the taking up of a structural adjustment program coincided with the 7th Development Plan (1987-1991). The privatisation, the progressive withdrawal of the State from several sectors (agriculture, economy, Tourism...) and the promotion of people's organizations became the principal orientations of development. Decentralization of decision-making and management bodies transferred full power for the design and implementation of development plans to the regions and local communities. As a result, starting with the 8th Development Plan (1992-1996), the central decision-making was limited to important decisions.
All social forces moved toward an input to the definition and elaboration of development strategy. The integration of women and promotion of their economic and social role became central to this process. The first part of this

section focuses on the place of women in the rural development policy and laws. The second part explores the position of the rural women in the rural policy with focus on the National Plan for Rural Women and the institutional reforms for its implementation. The chapter ends with exploring the role of donors in water policy reforms and the national awareness about the importance of the role of rural women in the development process.

- Women in rural development policies and Laws

From time immemorial, rural women have participated in agricultural activities, including the agricultural activity itself (work in the field and taking care of the cattle, farming) or the activities coming after the agricultural production (transformation and conservation of the products for family consumption or for the market). Added to these women are in charge of other varied activities, depending on the local production system, the local traditions and women's age, such as the housework, wood collection for heating and cooking, carrying drinking water. The more men work outside of their exploitations the more women's role, is expanding. This expansion could go till the effective management of the exploitation, except the important decisions related to the property (sale, purchase, plot exchange) and with the means of production (livestock, large cattle...etc).

Cultural and social traditions, more than the religious precepts, on one hand, and the absence of the socio-educative infrastructure on the other hand have been responsible for the situation of the rural woman up to the independence. At the same time, earlier, and into full colonial period, the national liberation movement has shaped the militant political speech, particularly after the book of Tahar El Haddad " Notre femme, dans la législation et la société" (Our Women, Islamic Law and Society) published in 1930. The book boldly challenged the concept that the Koran prescribed an inferior status for women and it called for freeing women from all of their traditional bonds. In this book the author advocated formal education for women and maintained that over many years Islam had been distorted and misinterpreted to such an extent that women no longer were "aware of their duties in life and the legitimate advantages they could expect" (Haddad 1930). In the name of Islam, Tahar Haddad denounced such abuses against women as "repudiation," whereby a husband could divorce his wife without grounds or explanation, sending her back to her family or leaving her for another wife. Refuting assertions that such conduct is permissible for Muslims, the reformer declared: "Islam is innocent of the made accusations that it is an obstacle in the way of progress. Rather it is the religion of progress par excellence, an endless source of progress. Our decadence is the consequence of the chimera with which we have filled our minds and the scandalous, paralysing customs within which we have locked ourselves" (Haddad 1930). The real breakthrough occurred in 1956, when Tunisia gained independence from France. The first president, Habib Bourguiba understood that a small nation with limited natural resources could not prosper with half of its population relegated to ignorance and subservience (Esther Coopersmith, 1999). The

new republic's first major social reform, the Code of Personal Status, banned polygamy and established basic equality.

- Household concept in policy

The statistics in Tunisia, even if they do not always take into account gender, especially in the economic sector, the sociological observation and analysis, make it possible to note several objective developments such as access to education, access to the health services, life conditions amelioration because of the development of the infrastructures and the improvement of the agriculture incomes in the small-scale farming. However, taking into account the situation starting just after the independence, these progressive developments had reached neither the entire territory, nor the whole rural population. Several zones called the " pockets of poverty" or the "zone in the shade" stand by and income is below the minimal average, without drinking water, electricity, without socio-educative infrastructure, roads.
Many assistance programs and strong subsidies for the basic foodstuffs have avoided the misery and the hunger to these communities. It is obvious that with all the development plans, which had generated some progress, they have not as a specific target group the feminine population, but all members of the rural families, the "household" conception beyond each program was the main leading concept. Indeed, except the personal statute Code and some other legislative measurements which clearly had as a target women, the economic and social development policies since the independence until the 9th Plan (1999-2001), have always been policy that hardly takes into consideration gender even within some development programs and actions that have been reserved for women, such as providing women with professional skills on carpet weaving, small credits, professional centres. If an important program such as the family planning had as an exclusive target group the women, the main objective was to control the demographic growth in the country. Nevertheless, that does not mean in any way that the Tunisian policy of the economic and social development gives preference to men or that it was deliberately ignoring the specific problems of rural women. It merely means that the Tunisian development project and programs design, those concerning the education, professional training, employment, income generating, have as target group the families or the households whose beneficiaries are the members, men and women equally in the eyes of the new legislations[18]. Therefore, it is rather with the household concept of the development projects than a purposely indifference toward rural women.
In addition, for a long time, the dominant thoughts were that women are only involved in housework, because on one hand, certain statistical concepts and criteria relative to "employment" and some statistical methods, which are not able to show clearly the female agricultural employment, which is variable in time and rural space. And on the other hand women and men seldom spoke about these facts, for social, psychological and financial reasons. As a result the female agricultural activities have been for a long time and largely

[18] Notoriously, with the exception of the right to the inheritance where women inherit half of men's share. Because of the ancestral predominance right and especially of the heavily rooted cultural and social traditions.

quantitatively and qualitatively under-estimated. Nonetheless some sociological studies and analyses, (Delai Brijit (1985), Doggi Inji (1987), Alia Gana (1995), even if it is about some limited case studies in space and time, it makes visible the importance of women's involvement in agricultural activities as well as the effective input and role in decision making. Also these sociological studies describe women's difficulties and needs, not only as a simple housewife but also as a productive "agent" fully involved in rural development.

Management programs and agricultural development have been conceived since years ago for populations or households but not for the individuals which has as specific target group women. Except, the projects that have as objective to train young rural women in handicrafting.
The "Productive Family Program", "Rural development Program" and Integrated Rural Development Program ' (IRDP) without targeting rural women, they have been "in favour" of rural women as farmers or as artisans. In general these programs have a positive impact on the situation of rural women (FAO 1995). In addition to the improvement of the houses and basic infrastructures (Water, Electricity, Health), they were an improvement of women's technical skills and income even if it makes their burden heavier.
The transition from the extensive agriculture (cereals and ovine breeding) to a certain form of small-scale agriculture (truck farming, arboriculture, small dairy cattle breeding), have brought rural women in the commercial, economical spheres. The success of these programs has brought the government along to initiate a new IRDP second generation (IRDPG2) endowed with a significant financial support. Within the IRDPG2, an adequate agricultural women training and the agricultural advisory service targeting the women have enhanced in these new programs.
Project of Promotion of "Monoparentales" families, this project has drawn a positive impact from the "Productive Family" program and the "National Assistance Program for poor families". This project has been carried out in 1991, by the Ministry of Social Affairs in collaboration with other departments. The project targets 223 women heads of household and owning small plots of 2 to 5 hectares in order to ameliorate their exploitation and agricultural production. Most of these programs or actions in favour of rural women have the merit to point out the engagement of women in the improvement of their situation and the importance of their role as a household head in the development.

2.3.2 Rural Women in Rural Policy Reforms

- National Plan for Rural Women

The majority of the small actions targeting agricultural women's activities did not take into account neither the burdensome nor the weak productivity of women's job, such as hoeing and weeding. In this respect, program developers did not consider the fact that, often being head of the household and farmer de facto, woman needs certain technical training relating to the choice of the cultures, the rotations periods, the using of seeds,

cropping, also skills related to the animal diseases and vegetables (products of disease, prevention and treatment, with the amounts and the periods of application...). Added to this, women have never been considered as a farmer who needs small credits, since the different existing credit systems are often denied to them due to their illiteracy, the traditions that made it difficult to have access to public places, and the complexity of the procedures. Within this analytical context the National Plan for Rural Women has seen the light. The national commission on "Women and Development" pointed out the inequality between man and women in rural areas as well as between women in rural areas and women in urban areas. The objective of the plan is to define a written strategy and a plan of action for the full integration of rural women into the 10th five-year plan (2002-2006) for the economic and social development of the agricultural and rural sector. The main ideas beyond the plan are to ensure that the "gender" dimension is included in the orientations, programmes and activities of the agricultural sector, where women must be considered as fully-fledged socio-economic agents and taken into account in decisions related to the priorities of rural development. In the preparation of the NPRW[19] different stakeholders have been involved such as the Ministry of Women and family affairs, Ministry of agriculture, Ministry of professional training, Ministry of employment, Ministry of health, Ministry of education, some private consultancy bureaus, NGOs, The Center for Studies, Research, Documentation and Information on Women. Some activities have been carried out to facilitate the process. Indeed, the General Directory of Planning and Investment in the Ministry of Agriculture has been supported for the formulation of gender-sensitive orientations in the 9th Plan regarding the agricultural and rural sector. A survey has been designed to measure the economic contribution of women in the agricultural sector and a statistical database on rural women in agriculture has been created. And an identification of support projects for women through analyses and participatory diagnosis in three specific directions recognized the importance women play in their implementation. These three sectors are related to natural resources where women play an important role like the agro-forestry, the irrigated agriculture and clam fishing. In order to acquire more accurate knowledge on the role of women in natural resource management in the forest setting, and to develop techniques for the collection and analysis of data with the local community, a participatory survey has been elaborated.

The agreed methodology is the Méthode Accélérée de Recherche Participative (MARP) or the Participatory Rural Appraisal method that aimed to identify development activities with women contributing their know-how, knowledge and experience. For the collection and analysis of data, the participatory diagnosis calls largely on tools selected from MARP, such as the semi-structured interviews, diagrams, matrices of priorities, focal groups, etc.

[19] One has to recognise that this section will not deal directly with the National Plan for Rural Women (NPRW) but mostly with the preliminary documents that helped the preparation of the NPRW, for the simple reason that the plan was considered, at the time of the research, as an official and "confident" document not yet public.

Besides to this, information has been collected apart from of the NGOs, from the CREDIF, related to rural women as well as a workshop has been organised to reflect on the issue.

Various institutions have been created to deal with women's issues, starting by the Ministry for Women and Family Affairs[20], linked with the Prime Minister's office (1992), it designs national policy for the promotion of women and families, and oversees that it is respected and that laws in this field are improved. Its mission is to develop government policy in the field of women and the family, and to coordinate the action of the different parties concerned by women's and family affairs.

- Institutional change

The Center for Studies, Research, Documentation and Information on Women (CREDIF) set up in 1991, acts as an observer of the condition of Tunisian women. Under the authority of the Ministry of Women's and Family and Children's Affairs, the CREDIF is responsible for promoting studies and carrying out research and surveys on women and their status in Tunisian society. As well as gathering documentation pertaining to the dissemination of information that highlights women's rights and preparing reports on the condition of women. The activities of the CREDIF were recently reinforced and expanded by the creation of an observatory to monitor developments in the condition of women and by the launching of a training program on gender and development for Tunisian and African women, as an element in South/South cooperation.

The National Commission on "Women and Development" was created in June 1991 as an element in the preparation of the 9th National Plan for Economic and Social Development (1992-96). Its mission was to devise both an overall strategy and multi-sectoral programs and practical measures to benefit women. Assisted in this by representatives of all governmental structures and institutions concerned with women's affairs and by representatives of all the parties and national organizations individuals and associations working in this sector. This commission also prepared the "Women" strategy for the 9th Plan (1997-2001) and the National Plan for Rural Women for the 10th plan.

Already one year after the development of the NPRW, two institutional reforms have been introduced. The first one is the creation of the Rural Women Support Bureau within the Ministry of Agriculture, the Environment and the Hydraulic resources and the second one is the creation of the position of the Regional Coordinator for the Rural Women Program within the local governorates. The new Rural Women's Bureau Support has a role to implement the NPRW with other institutions in charge of the promotion of rural women. The Regional Coordinator has for objective to fill the gap between the different governmental departments and the possibility of complementary rural

[20] In September 2002, Ministry for Women and Family Affairs became Ministry of Women, Family and Children's Affairs.

women's projects. Women in each Governorate hold the position of the Regional co-ordinator.

2.4 Conclusions

This chapter has given a description of gender-related water plans (drinking and irrigation) as well as gender-related rural development policy. The chapter tried to focus on what has been done to implement the policies. To figure out gender-related water policy the chapter begun by describing the different reforms that have been made in the designing of a drinking water and irrigation policy at national level pursued by a description of the tools and the new institutions needed to implement the policy reforms. The chapter focused on the institutions and organization by describing their objectives tasks and role in the reforms. After describing the conceived participatory method used in the implementation of the water policies, the first part of the chapter, related to the narrow water sector, failed to give idea of gender integration in drinking and irrigation water policy. The second part of the chapter, related to rural development, has traced the attempts made to integrate gender in rural development in general with a focus on rural women.

The introduction of the integrated water resource management (IWRM) in the drinking water and the irrigation aimed at addressing the growing water shortages and at introducing reforms applicable to both modern large-scale and traditional smaller-scale irrigation systems. Several specific measures have been introduced, such as the rehabilitation of old water systems and the modernisation of new ones. For that, legislative reforms are made and new institutions are created. Besides a process of decentralisation has been adopted and the strategy to encourage the users in the management of the water systems was set up through the participatory approach. The participatory approach aims to enhance capacity building of the users and their empowerment. These projects have been initiated with financial and technical assistance from foreign agencies. The major agencies in water sectors are (AfDB, BIRD, EU, KFW, JBIC, AFD, FIDA, FADES). This makes the government accountable to donors more than to water users for the implementation of the projects and their development activities. Donors' assistance is not limited to providing funds but they are also involved in the designing, reviewing of a master plan for the water sector, monitoring and evaluation. Therefore participatory water management and community-based natural resource management was influenced by the donors. When introducing participatory water management, donors assumed that all groups, classes of users are involved. Because the donors are not involved in the designing of the action plans for implementation gender was not taken into consideration in water policies. A lot of effort has been made in the promotion of GICs and strengthening their capacity (supervision, training, raising farmers' awareness..). Nonetheless, the participatory method as a tool to implement drinking and irrigation water projects did not fully reach all beneficiaries. It does not give a lot of attention to the gender role in water management. Although participatory approach aimed at the involvement of all beneficiaries, including women, the policy designed did not really pay

attention to the fact that women, who are relatively marginalized in rural areas due to social and cultural gender difference, need more and careful attention to their involvement and participation.

Despite the fact that a strong interest of donors has been observed to increase women implication in the water sector, loopholes have been detected in perception of gender and the participatory approach in the projects implementation. For example there is a gap about gender including women as a category of beneficiaries of the project between the donors and the ministry of agriculture. The donors conceive that women's participation is important in GICs where as at national level there is a gap to grasp overall gender approach and its adaptation in the sensitisation program in the water project. This was reflected in the design of the manual that remained silent about the gender issue. Although, there is no fundamental difference in approach among donors, in practice such tool and technique depend on those who organize sensitization meetings such as private consultancy bureaus or members of CGIC. Although the use of such techniques and tools differs from one to another, efforts to develop and introduce them were confirmed (SAPROF, 2002). Positive impacts are observed such as the enhancement of the preliminary acceptance and the motivation to participate in GIC activity. Nevertheless, issues and problems rose such as the insufficient communication and dialogue with beneficiaries and the insufficient number of visits, or the lack of preliminary organization that might result in insufficient mobilization of target participants. Such insufficient application of methodology might have led to insufficient participation of the target population and then to insufficient understanding of beneficiaries' obligations.

Besides to donors' interest in women's issues in the water sector, national department, NGOs played a role in the development of the National Plan for Rural Women. The NPRW was the outcome of national observations and initiatives to make visible the role of rural women in the development. The national commission on women and development played a significant role to devise an overall strategy and multi-sectoral programs and practical measures to the benefit of the rural women. In the governmental development process, no rupture or breakdown between governmental bodies and ministries is supposed to come about. All the governmental departments collaborate and communicate together for the sake of the country's growth and well-being. Nevertheless, this ministerial adherence stands to be only theoretic. For example there is a different body that deals with rural women (Ministry of Women, Family and Childhood Affairs, Ministry of Agriculture, Ministry of Social Affairs and Solidarity, Ministry of Education...). In the field, however, every governmental department is working in isolation according to its schedule, budget and its staff's endowment. Besides, the development of the national plan for rural women and the creation of the new institutions should involve different stakeholders, however, the other administrative departments such as the Direction du Génie Rural, the CRDA and GIC section do still not know the assignment of the bureau and its role. More surprisingly, the split and rupture is within the ministry's departments themselves, office holders have no idea about what's going on outside their

offices. The hope is that with the creation of the new administrative position of the regional coordinator there will at least be coordination between the different projects of different departments at regional and local level.

CHAPTER III
GENDER ISSUES IN DRINKING GROUPEMENT D'INTÉRÊT COLLECTIF
A Case Study From Gdara Drinking Water GIC

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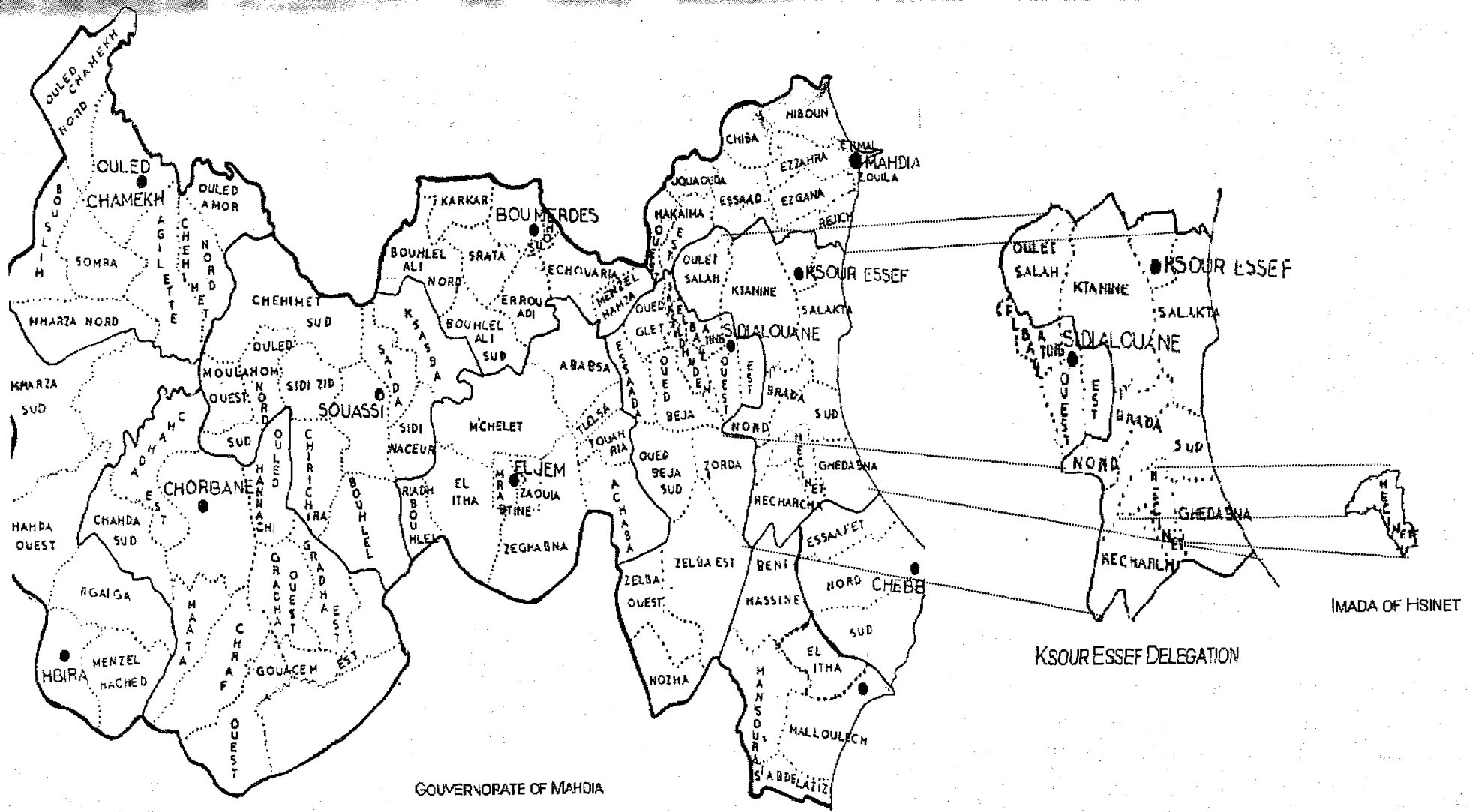
The previous chapter provides background information on the formulation and implementation of policies and strategies of water management and rural development. This chapter tries to answer the second research sub question related to the gendered role in the drinking water GIC. It contributes to understand the gendered role in drinking WUA with a specific focus on the role of women on drinking water management. The chapter starts with a brief description of the Gdara drinking water system. It goes through gender socio-economic background information. It is followed by a description of the creation of the Gdara WUAS and its activities. The third section analyses the gendered performance of drinking water management. Followed by an analysis of the financial sustainability of the WUAs and the gender role to maintain it. The chapter concludes with an attempt to figure out whether it matters that women did not participate in the GICs.

3.1 Geographical Location and Local Administration

3.1.1 Geographical Location

The Gdara drinking water system is located in the Imada of Hsinet which, is located in the South East of the delegation of Ksour Essaf, in the Governorat of Mahdia. Hsinet is demarcated by Bradaa in the North, Essaafet in the South, Rcharcha in the west and Gh'dabna in the east. The Gdara village lies 25 kilometres away from the district head quarter of Madia, and 14 Km from the nearest municipality of Braadaa. The main road connecting Kssour-Essef with Boussmir makes the village accessible. The village is composed of 257 Families gathered into nine groupings or *douars* (*Ouled Baya, Hmamda, Mchara, Grasna, Bir Dirwa, Nirat, Drawich, Hnaina and Ouled Moussa*). The complex of Gdara, constitutes a subset of the Hsinet sector. The sector as a whole is led by the local authority, the "*omda*", which comes under the authority of the delegation of Ksour-Essef who is himself under the authority of the Governor of *Mahdia*. There are no institutions, neither administration, nor socio-political nor cultural institutions in the village. For all their administrative or legal businesses the citizens of *Gdara* have to move to the delegation of *Ksour-Essef* located at 14 km distance. For trade activities or agricultural production exchange the inhabitants have to go to the town of *Mahdia* 24 km away.



Map 3. Map of Mahdia Gouvernorate, Delegation of Ksour Essef and Imada of Hcinet

3.1.2 Socio-economic and Gender information

The origin of the Gdara community is diverse. According to the chief of the community, Ouled Baya, Gdara, Hmamda and Mchara have emigrated from Libya about five hundred years ago[21]. The inhabitants of the other groupings form a heterogeneous assembly of various origins. Nowadays, the Gdara Complex is composed of 1285 inhabitants (See 4.1.1).

Gdara village is a rural zone characterised by a small farming community. The agricultural property of a household varies from 1 to 2ha. The main activities of the population in the region are the agriculture and the extensive breeding activities based on the sheep. The proceeds of the agriculture are primarily aimed to satisfy the needs of the household.
The improvement of the infrastructure, the transport and the communication in the last 15 years had an impact on both men and women. Both of them get the opportunities to improve their conditions. Yet traditionally men could move outside of the village in urban areas or abroad looking for a job. While, women remained in the village looking after the children and the houses. This led to the situation where women head most of the rural households. The emigration abroad is more significant as source of income; almost 80% of the men have emigrated to Europe. The men's migration causes other kinds of problems, either they don't sent money to their families. Thus, on one side men tried to survive abroad because most of them are unskilled and on the other side women tried to survive with their families in village. For young men who went abroad or succeeded to find a job in urban areas, they refuse to marry young women from the village. Therefore, in the village there are an important number of single women, like else where in rural areas in Tunisia.

In Gdara village, women are the product of the traditional system, where men have a predominant presence in the public sphere. Growing in illiterate families, poor and with few skills not adapted to any economic activity, their daughters though are not necessarily better equipped than their mothers. Young girls have to leave school to help their mother at home. They were usually married young, between 16 and 18, to poor, unskilled and uneducated men, often their blood relations. Women in general are shy, often still wear their safsari (the rather elegant Tunisian version of the veil), have no experience outside their family and community, lack self-confidence, not daring to question their husband, their in-laws. They spend all their time raising their families, looking after the home, and in agriculture activities and gossips. Moreover, they usually lack access to information about their rights and duties and the opportunities that some rural development programs afford to them. Some women face family conflicts related to land ownership, men's unemployment. Some women have been abandoned by their husbands who simply disappear without divorcing or paying alimony. They faced difficulties in registering children at school because

[21] This information is based on an interview with the Omda, the local authority in the village and the president of the water users' association

It was used for drinking, cattle, cleaning and washing ...at least for three villages, Bradaa, Hsinnet and Recharcha. "Lamas' well" is composed of two wells. One well was used for drinking water and the other for the cattle.
Traditionally women were in charge of carrying water for the need of the family and the housework. This was part of their daily tasks. Women used to walk 3 km twice a day to carry water to their house. They used to spend about 4 hours walking, waiting and coming back home daily. Women used to gather themselves to carry water on their back. It was a moment for women to meet and chat.
To store the rainfall water or water carried by the conveyors each family has built a small underground reservoir in their houses. There are two types of reservoirs: The *Majel*[22] *and* The *Fouskia*[23]. There is a difference between the *Majel* and the well. The well should reach the groundwater, whereas the *Majel* is not so deep (Annexe 5).
Before the implementation of the Gadra Project, the population filled their *Majel* and *Fouskia* with rainwater or SONEDE's water. They used to ask a water conveyor to carry water in big tanks containing 3000L pulled by a tractor that costs 15 DNT (12 Euro) or by tanks of 500L carried by animal that costs 2 DT (1,5 Euro). The water transported mechanically or by animal came from:
1. A distant water point distribution of SONEDE such as Bradaa, Rcharcha that lie away 6 to 9 km.
2. Drinking Common Interest Group system from a public tap in other villages located 4 to 10 km away from the Gdara village.

For safe drinking water the community had to wait between 6 hours to 3 days at water points distribution of the SONEDE and about 3 to 8 hours at the public tap of the water distribution in the GIC.
For the cattle, watering gardens and housework the water was carried from a public surface well outside of the village. This water was sold freely because of its bad quality. It contained dry residues of about 4g/L. The water supply was done in a traditional way.

3.1.4 Gdara drinking water project

The drinking water project was designed and financed within the framework of the National Programme of "Fight against Thirst" in order to supply the Gdara conglomerate complex with drinking water in 1995.

The project is part of the Integrated Rural Development Programs; it was designed and implemented by the CRDA and the national water supply society (SONEDE[24]). It was a "top down" project (the participatory approach started later in 1997 see §2.3), where the population was neither involved in the designing nor in the implementation. The persons who were involved after the design of the project are those who should host the public taps in their properties.

[22] The *Majelis a* well has the advantage of keeping rain water cold in summer time and hot in winter time
[23] The Fouskia is an underground reservoir, built with cement and bricks. It can store more water than the Majel, because the size depends on the families' needs.
[24] SONEDE: Société Nationale Exploitation et de Distribution des Eaux

Within the framework of the national program of the "Fight against Thirst", the *Gdara* project provides the localities of *Gdara* composite complex with drinking water from the network of SONEDE. The network connected the *Garda* conglomerate region to the reservoir located at *Sidi Alouane* and feeding the *Racharcha* region (Study of feasibility, *Gdara* project: 1995)[25]. The distribution of water is made from a reservoir in *Sidi Alouane* with a static pressure of 79,61 m at the lowest point. The distribution network is conceived in only one stage of distribution forms by the conduits out of polyethylene high density PN 10 (ISO Standard and NFT 54063) and out of cement asbestos density PN 10. The connection of pipes out of polyethylene is done by plastic electro-welding type (Study of feasibility, *Gdara* project: 1995). The *Gdara* drinking water system is a small system consisting of 11 public taps distributed over the village. The location of the public taps is designed in such a way that the maximum distance from a public tap to another is 500m and the distance from the *douar* and the public tap is less than or equal to 500m. The water disinfecting based on bleaching (Javel) is done by the SONEDE in the semi-buried reservoir of *Sidi Alouane*, because the existing water treatment system of the Rcharcha village is too far away from the Gdara complex. The water management system does not require the intervention of a paid guardian since it works with pressure.
The price of one cubic meter of water consumed has been calculated at 0,5 DNT (0,40 Euro). The investment and renewals costs are not considered in this calculation.

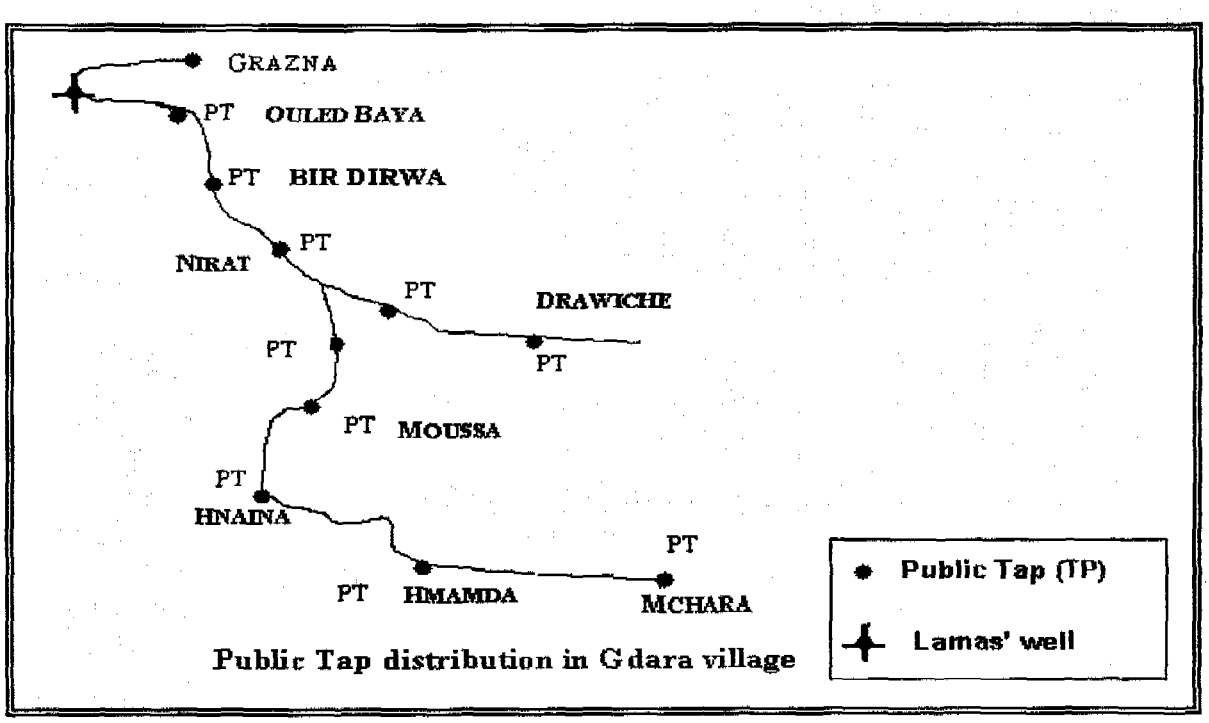


Figure 11. Distribution of Public taps in Gdara Village

[25] Alimenation en eau potable des zones rurales, projet de Gdara, 1995, Ministry of Agriculture, CRDA, Mahdia.

3.2 The emergence of the Water Users' Association

3.2.1 Creation

The drinking water project is conceived within the framework of the national IRDP that aims at alleviating poverty and improving the living conditions of rural households in general and to provide the village with safe drinking water in particular (Water supply in rural zones, Gdara project, Ministry of Agriculture, CRDA, Mahdia, 1995). Since there is no community organization in the Gdara village, the CRDA initiated the process of the creation of the GIC. The CRDA informed the local authority about the drinking water project in 1995. The local authority selected the administrative council of the GIC, among the persons who are ally to the only political party in the region. The persons who constitute the organization are from the Gdara village and very well connected to the local representative of the political party, the Constitutional Democratic Rally in the region. Only after that the legal procedures started, in fact the selected persons presented a request for the creation of the organization to HIG asking for an approval. In 1997 the HIG approved the creation of the GGIC. Another request was formulated to the governor of Mahdia, who promulgated an administrative decree on March 1997, pronouncing the legal constitution of the GIC in the Gdara village.

Box 3

"I did not even know that I was proposed as a president of the GGIC"

I was discussing with the president of the Gdara GIC, a young man aged 33 years old. He is teacher in the primary school in the Gdara village and at the same time the general secretary of the Constitutional Democratic Rally (CDR). I was asking him about the procedures of the creation of the GGIC. He laughed and said: "I did not know even that I was proposed as a president of the GGIC". I was surprised then that he explained to me that the Omda and the president of the CDR just suggested him as a president in a meeting he was not attending.
"It is only after the creation of the Administrative Council of the GIC that I was told that I am the president of the GGIC. At that time I did not know what it means a GIC and what would be its role".

The design of the project was done after contacting the persons who would host the public taps on their land and take care of them. Only men participated in this step of the consultation because they were the landowners and they were considered as heads of households. Actually, the villagers including women were not informed about the creation of the organization and had not been involved in the project design and implementation. In August 1997 the transfer of the drinking water system had been done to the GIC. For the transfer a "contract of transfer" had been signed between the GGIC and CRDA.

The contract described the system (the well, number of the taps, tubes....) as well as the responsibilities of the GIC in the operation, maintaining, management and distribution of drinking water to the local community.
A president, a treasurer and four members officially composed the Administrative Council (AC). The constitution of the organization defined the role of each member composing the AC and the water users. According to the constitution the president's role consisted of identifying and planning the activities of the organisation; drafting the budget with the treasure; as well as informing the users about their rights and duties. Furthermore he had to manage, control and evaluate the activities of the organisation (Annex 6). Concerning the role of the treasurer, it consisted of preparing the annual budget, collecting fees, and payment of the organisation charges (Annex 7). The members' role consisted of electing the AC members, proposing suggestions in order to ameliorate the activities of the organisation and participating in the meetings.
The organization of the GIC as explained in the chapter 2 §2.2 shows that the General Assembly (GA) should take place one time each three years. Only users who have membership cards are allowed to vote in the GA meetings.
The AC is elected by ballot for three-year terms by voting members. Each member represents himself and has one voice without taking into consideration the gender. Each year one-third of the members of the AC has to be renewed.
So far, only men have been elected to the AC, and since its creation in 1997, the AC members have remained the same. The last GA took place on April 25, 2002.
Actually, the organisation seems to exist only on paper, because the actual functioning of the organisation is a real chaos. The only active member of the organisation is the president; the treasurer and the members are only "names on paper".

Box 4

"I am the president, the treasurer and the members"

In the introductory meeting, I asked the president if he could arrange a meeting with the others members of the AC. Then at my surprise he told me: "I am the only "active" member in GIC. I am the president, the treasurer and members." The treasurer works as surgeon during the night, and it is impossible to meet him during the day, the members are working in an urban area.

Different reasons could explain why the AC members are not involved into the management of the organisation. In fact the president, the treasurer and the members were not elected since the omda had nominated them and they accepted the positions just to please him. However, the CRDA, would argue that the members are busy with their own job and not motivated to run the organisation because they lack experience and skills on management.

3.2.2 Activities of the organisation

The main activities are very limited. The activities consisted of the training of the keepers and the construction of the path that connects the public taps to each other. The choice of the keepers according to the CRDA officers is determined by certain characteristics. Some of these criteria are the level of education (at least to know how to read and how to write), good reputation in the community, poor or at least having no regular income. Unfortunately the persons who signed the Keeper's contract have been chosen for the only reason that technically the taps are situated in their lands. The training of the keepers consists of accounting, keeping records, maintenance and water distribution. The contract of the chichma's keepers defined the chichma's caretaker tasks and rights. It stipulates that the chichma keepers have to serve and maintain the public tap, insure the service and the effective use of water as well as collect the fees from users. Besides they have to check the accounts with the treasurer when he asks for it on the basis of the water counter and water tariffs. They have also to pay for the quantity of water consumed by users and inform the AC about any technical problems. In the standard contract the keepers have the status of worker in the GIC with a fixed salary of 90 TND (60 Euro) monthly. It is important to mention that most of the keepers who have been trained are not actually keeping the public taps. Most of them found a job in urban areas or abroad. As a result their wives, daughters or sisters took over the management of the system without being trained. In order to facilitate the movement around the public taps, the organisation with the help of the local population and the local authority organised a meeting to discuss the possibility of the construction of the path.

3.3 Gendered Performance of Water Management

This section offers illustrative information about the gendered performance of drinking water management systems with a specific focus on gender access to water and operation. Furthermore, this section explores an insight into the role of women in meetings and decision-making within the organisation.

3.3.1 Access to water

The Gdara drinking water system is a small system. Access to water has become much more easier for men, women and children after the implementation of the project. It turned out to be less time consuming and less tiring compared to the situation before the project. In fact the project was designed in such a way that the distance from the far-off houses to the public tap is less than or equal to 500m. Within the project the means of water transport have not changed. The water users carry water either on their back or they use animals or tractors. The new mean of transport is the use of hoses that are

connected to the tap to fill the *Majel* or *Fouskia*. Women assisted by their children, are largely responsible for water collection.

Picture 1. Drinking Water Public Tap

Women transported about 90% of all water for domestic consumption. The adult women frequently transport heavier loads than children. It is predominantly the older girls who assist their mothers in the domestic transport of water. Older boys are reluctant to carry water as this is considered as women's tasks. Moreover, back loading, which is the predominant means of transport, is perceived to be women's work. Men seldom carried water to satisfy the need of their families. They did it only when women are sick or at night. Women carry "fresh" water every day for drinking. They use the *Majel* or the *Fouskia* for other activities (washing, cleaning,..). The quantity of water used depends on the size and the economic situation of the families. For example, according to the information collected a family composed of 6 persons fills the *Majel* with $6m^3$ every two months and they use to carry on their back three to four tanks (60L to 80L) every day.

There are nevertheless also male "water conveyors". They carried water to satisfy the needs of other families living far away of the public taps. These water conveyors are making money out of water transport. They do have their own

clients who ask for water each ten days, they work almost seven days per week mainly in summer time.

Box 5

Men are served first

I was in Hmamda public tap where a young women aged 24 years old was taking care of the tap. I was there just to observe the activity around the tap and for a chat with water users. As everyday, a number of women were waiting for the keepers to come and open the tap. While women were filling their tanks (20L) a man came with two tanks, he was served immediately and he paid the keepers and was on his way to move. Then I asked him if he used to carry water he said that his wife was sick, and they have got six boys. Before he left he added, "It is pity that we have no daughter that could be a big help to her mother". Then I asked the woman why he was served first although the man had the last turn, she laughed (for my ignorance probably) and told me that it is not convenient for him to stay with women.

The use of hoses is a source of worry for women who could not pay for them. In fact the daily women's struggle consists of waiting for their water turns to use hoses, particularly in summer time. The reason is that the water pressure is so low that it takes long hours (8 to 10hours a day) to fill reservoirs, which is why they are obliged to fill them during the night. Besides to that women spent some times looking for and after the hoses.

The women who have no hoses or who lived far from the public taps (about 400 m) are obliged to borrow several hoses to connect them in such a way that they can connect the public tap to the *Majel*. Some families are inhibited to borrow their hoses due to the vandalism and the overuse that damages them. In order to avoid any embarrassment with their borrowers, women buried the hoses along 400 m and watched them the whole time.

Box 6

Water as a business

Salem a man aged 40 years old works as water conveyor. He was not willing to talk about his job or the money he is making out of it. Since I gathered some information I just asked him general questions such as to whom he delivered the water, how many times a day, how many times a week and so on. He informed me that he worked as a water conveyor only in summer time, because in wintertime people fill their reservoirs from the rainfall. Actually he sold water to families that live about 8 to 15 km from the nearest public tap. He bought ($1m^3$) of water from the public tap for 2.500 TND (2 Euro) and sold it for 10, 000 to 15,000 TND (7.5 Euro to 11.5 Euro) depending on the distance. He has his own clients and he used to sell two to three tanks a day.

To satisfy their needs, the local community has to *pay cash*, or *buy water on credit*. In fact, some families that have no cash money, buy water and pay two to three weeks later. Therefore, the keepers should record the consumption and the names of the persons who buy on credit, but none of the eleven keepers is recording any of these credits.

Water stealing is a common problem in the whole drinking water system in the *Gdara* project and all the keepers are complaining about it. In fact some users fill some extra plastic tanks without paying it, or just open the tap and fill tanks whenever the keeper forgot to close it. They took water without paying. Water stealing was never mentioned by the users. They just said that they forgot to pay or forgot how much they had to pay, because they don't know. Some users suspected the keepers to over charge them because they are not keeping any records on the consumption of users. This led to a lot of quarrels and social tension in the village. The other way to get water is to carry water from *the well outside the village.* Actually those who cannot afford to buy water from the public are obliged to do so. For these poor families, they used the water of the well for their daily activities (washing, cleaning....). However, for drinking they *borrow* water from their neighbours who allow them to fill tanks from the *Majel or Fouskia.*

Usually tariffs are set at equal levels for all the user households, without considering either the number of water users in the family or the number of income earners in the family or gender relations within the households. In many households in Gdara village, men considered paying the water tariff as women's responsibility because women deal with water. However, some women reported difficulty in paying the fee, since they do not have control over the income. So the problem is raised when women are working as keepers who are in charge of the water bill or as users who have to pay for water service. The issue of paying water tariffs is particularly significant among female-headed households, where women have control over the income, but with limited resources.

Picture 2. Young woman carrying water

Box 7

Filling water during the night

Safia is a young woman aged 29 years (but she looks older). She has five children. Her husband works in Italy, he is back only for one month a year. I met her at the public tap; she is friendly and laughs. She told me her story when she had to fill the *Fouskia* during the night. First she had to look for hoses for at least three days. Once she succeeded to gather 7 hoses with about 300 m lengths, she asked the keeper for her turn. He told her that the only way to do is to fill the *Fouskia* in the evening. Since she had no choice (she had been without water for cleaning and washing for more than one week) she accepted, that meant that she had to look after the hoses and also after the tap all night. The keeper refused to do it. Therefore, she asked her brother-in-law who accepted. She started filling the *Fouskia* at 7 p.m, buried the hoses and connected them to the tap. She had to watch the tap because she was afraid that children or other users would disconnect the hoses (as this happens usually). Therefore, she went with her brother in law near the tap and stayed there. They spent the night there, she was afraid because sometimes her brother-in-law left her alone to verify if the hose was still reaching the *Fouskia*. During these few minutes she was terrified mainly when she heard some dogs or drunk men voices approaching. At four o'clock in the morning she closed the tap, disconnected the hoses and carried them home with her brother in law. She was wondering about the next turn because her brother in law warned her that next time he would not be able to go with her.

Box 8

Struggling with water bill

Saida is a *chichma* keeper for more than two years. Her husband is in jail because he tried to cross the borders with other persons to Italy illegally. Her story is sad, her son died in this attempt and her husband went into jail. She explained to me that sometimes she had problems to pay the water bill. Last time she had to borrow money from her neighbor because she could not gather the money. She said the problem is that the users are not paying in time and she has to pay on behalf of them, because Zouhair (the president) is not responsible for that and all what he asks for is the right sum to pay the water bill, otherwise the SONEDE will cut off water. She found herself struggling with people and with the president who explained to her that it is not his business if people don't pay, or steal water or whatever.

3.3.2 Operation

As was explained earlier, the drinking water project includes eleven public taps, which are spread over the community. The management of the public tap is entrusted to the local population; more precisely to men who accepted to host the public taps on their lands, they signed the "keeper-contracts" and have been trained as public tap keepers. Information collected from the field shows that 8 women from 11 keepers are effectively taking care of the *chichmas*. And even among the 3 male keepers, women do help them in performing their job. The activities around the *chichmas* are not easy to handle daily, between sustaining the service and the effective use of water and organising the local community.

Different factors explain why women are responsible for the management of the *chichmas*. The first is that traditionally, men should not stay in the same public place with women. In most rural areas in Tunisia, women are in charge of different activities including carrying drinking water. Being a man with a task to provide women daily with drinking water was not a comfortable job for men in the region. For that reason they gave the job to their wives, daughters or sisters.
The second factor is related to the financial matter. The keeper's job is a source of revenue for the families that did not have enough income. It seems that men are not able to keep the money that has been gathered from the users. In fact the system is built in such a way that every time the users fill tanks, they have to pay for it directly, so the amount of money individually is irrelevant and easy to spend. This creates a problem of cost recovery when the keeper has to pay the water bill. It seems that women are much more trusted by the organisation. The fieldwork information showed that both men and women recognised the fact that women are better managers than men. Moreover, the payment of water bills has been improved after women took over the management of the *Chichmas*[1]. The third factor is that some men did not find the job financially interesting. They did not earn

[1] This information was confirmed by the president of the Gdara GIC.

a lot of money out of the work as keepers. Therefore, when they get the opportunity to work in urban areas or abroad, they just left, leaving the responsibility of the tap to women who take care of it as part of their daily life. The fourth factor is that the job of the public tap keeper requires some physical condition and endurance. Some men, mostly old men could not bear the daily hard walk, particularly in summer time. Therefore, their wives or daughters helped them.

Box 9

Who is doing what!

Am Mohammed, an old man of 65 years old, used to be in charge of the *Chichma*. When I visited him he was talking with a group of men and drinking tea. The president of the GIC introduced me to him, we started to talk about his job as a public tap caretaker. He knows everything about the management of the system, the problems... Actually he participated in the training course four years ago. While discussing, about 7 female water users came to fill their tanks, (married women, young girls), they went to call *Am Mohammed*'s wife. Few minutes later *Am Mohammed*'s wife, a woman of about 50 years old, came to open the tap. I asked him if his wife used to help him, he said "actually she is running the tap, I don't like to be surrounded by women all the day". Then I asked his wife what she thinks about that, she smiled and said: I prefer to deal with the *Chichma* because when he did it, he was in a bad mood all the day, and he was not patient with users".

Box 10

Mounira's brother

Mounira, a single woman aged 32 years, she is an orphan girl and lives with her two brothers. Although she is physically disabled, she is running a small enterprise (buying old clothes), at the same time taking care of the house and keeping the *chichma*. She has two brothers; the oldest one is working in Italy and the youngest has succeeded to find a job in the town. I met one of her brothers, the oldest who was in the village for holidays. He is a young man in a good shape aged 36 years. He used to take care of the *chichma* before he left to Italy. I asked him about the public tap and his job as a keeper years ago. He said that there is not a lot of money coming out of this job, right now taking care and managing the *chichma*. According to him it is not a hard job. Then I said it is harder for a person who is physically disabled. He just said she is used to, she is not like me, women, coming from an urban area, are spoiled and used to easy life. I carried on asking him what he is doing now during his holiday in the village. He just stated that he is working as water conveyor. It is much more convenient because he has the *chichma*. He could fill tanks faster and even during the night.

Finally, being a *chichma* keeper meant also being patient, tolerant and equipped with social skills and having a good relation with the local community. It seems that women have these characteristics.

3.3.3 Decision-making

After five years from its foundation, none of the women had heard about the Common Interest Group in the village. The female keepers and water users could recognise the president as a member of the Political party (DCR) but not as a president of the GIC. However, some men have heard about the GIC from the public taps' keepers and because they go to the public places (coffee-shop, local grocer's shop), they exchange information about what is going on in the village. Nevertheless, the local population, men and women are confusing the water users' organisation with the CDR. This is probably because the president of the organisation is well known as the general secretary of the CDR. Since its constitution in 1995 and its legal creation in 1997, the GGIC has only organised few meetings. Actually the AC has met twice and organised only one general assembly in 2000. The first meeting was organised to gather and train the public tap keepers and the second meeting was organised to discuss about the path that has been constructed along the public water taps to facilitate water transport and to connect the most remote region in the village to the main road. The last GA was for the occasion to elect a new AC, which did not renew its members. Since the members of the organisation are the head of a family (men), none of the women was present in the meetings or represented neither in the AC nor as a simple member. Women's participation was limited to providing some house's furniture (chairs, tables) to the attendants as well as food.

The GA in principle provides the opportunity for all water users to express their opinions, and to exchange their ideas about effective management of the organisation and it is a forum where all users could agree upon decisions. To analyse gender inputs in the decision-making and particularly to evaluate women's input in Gdara GIC is not an easy task, due to the actual state of the organisation and the limited numbers of meetings. As it was mentioned earlier in this section, women have not attended any meetings. The decisions that have been taken concerning the public taker's training and the construction of the path have involved only men. These meetings have taken place in the garage of the president's house himself, because the organisation has no place to meet. This is one of the reasons that the president mentioned to justify why the meetings are rare. Besides he stressed that there are no real problems within the organisation that require meetings. The daily decisions are not made in meetings but at public tap level. In fact, the president contacts the keepers in their houses and chat with them about their activities. And effectively during these informal chats women are involved in the decision since they are the actual tap's keepers. The president visited every public tap once every two months, sometimes once a month to collect fees. During these visits the tap keepers informed him about their problems in performing their job. It's in that way that the president kept himself informed about the work of the keepers, the need of the users and he intervenes in case of any problems. Therefore any decision taken within these visits involves women. These decisions concern the maintenance and operation or modalities

of payment, which have been taken during these visits. For instance the modality of the payment depends on the keeper men or women. At the beginning the agreement was that the keepers should contact the treasurer for payment. But after women took over the system, the agreement changed. Women agreed that the president would contact them every two months. In case of any technical problem (leakage, broken tap) the decision is taken by the keepers. The men informed directly the president while women sent one of their relative (son, husband, son-in-law, father-in-law) to inform the president about the technical problems. For reparation men agreed to repair the break down and sent the bill to the organisation, however women hired someone or they wait till the president himself repairs the broken tap. This has an impact on the water services because sometimes the community has no water for more than one week.

In case of serious problems that cannot be handled by the keepers, such as the cut-off of water or an underground leakage, the president is in charge of informing the SONEDE about it. According to the SONEDE regulation the breakdown should not exceed 48 hours. In some cases in Gdara village the reparation could be done quickly, when the president is informed as soon as the break happened. However, the reparation could be longer when the president is not informed in time or when he was absent. In case the break necessitated the intervention of the SONEDE. The male keepers or the president informed their neighbour who works at the SONEDE. This neighbour got the responsibility to inform the SONEDE. Sometimes the process took more than 48 hours, because of the bureaucracy within the SONEDE. The affectivity of the system depends on the reaction of the keepers and their concern to repair the break. If the president is informed in short time the break is repaired, if not the reparation could take a long time.

Box 11

The leak

The president took me to Hanainia county to visit the caretaker, he is a man of about 40 years old, he is in charge to serve about 20 families, actually, he is on holiday for two months, he works in Europe, in his absence his wife is taking care of the tap. But now since he is home he is taking care of the tap.

His is happy to see the president, because he has to talk to him about the leak in the tap. In fact, the public tap seems to be in bad condition with a big puddle around it. The access to the tap is difficult because of the stagnant water. According to the caretaker the leak started three days ago, it is probably caused by the destruction of the pipes. He asked his wife to sent their son to the president to inform him of about the leak, but apparently his son did not go. He was wondering who is going to pay the wastewater. According to the president, the decision will be taken within the SONEDE. The SONEDE will decide whether the break is caused accidentally or on purpose. On the base of that the decision of the payment will be taken.

3.3.4 Financial Sustainability

After discussing gender participation in the GIC in terms of labour, decision-making, water allocation, this section focuses on the financial sustainability of the organisation. The sustainability is related to the sustainability of the service being offered to the water users, the cost recovery through user's fees and the problems related to them.

Cost of drinking water is an important issue in water resources planning and management. It plays a major role in examining the feasibility of drinking water investments, allocation of water among various users, and in establishing a pricing policy for drinking water. Although much work has been done on water pricing, little rigorous work has been made on the cost of drinking water delivery and collection. This section will focus on the water price and fees collection and on the record keeping in the Gdara GIC. Within the *Gdara* project subsequent to the formation of the drinking GIC and the election of the AC, technical, financial and administrative support was required to empower and strengthen the members of the organisation to take on their new roles. Even though the CRDA and the CGIC prepared different guides and *aide-memoirs* for financial management of the WUAs and a special guide for the treasurer to build gradually and enhance the capacities of the GIC, none of these activities has been executed in the Gdara project and none of the training courses has ever been offered the treasurer. The financial matters within the organisation are trusted to the treasurer who should hold his tasks under the supervision of the president. It has been mentioned earlier that the treasurer, working as a night surgeon, is not a big help for the organisation. Therefore, the president is taking over this responsibility. The SONEDE fixes the water price. One cubic meter costs 135 millimes (0.105 Euro) and is sold at 500 millimes (0.385 Euro) to the users. In the GIC the recovery of costs is done directly from the users. In the *Gdara* drinking water system, the water service and cost recovery is handed over in two layers. The first level is related to the tap keepers who are responsible for the collection of cash directly from the water users. The second level is correlated to the treasurer who should collect fees from the keepers. Therefore the collection of fees in practice is trusted to the keepers. In other GICs all around the country, the keepers are hired as workers and paid by the organisation with a fix salary. But in the *Gdara* project the community developed their own system. It means in fact that the keepers are paid from the fees they collected. They get 40% from the money collected, for example they collect 100 Euro, the water cost is 60 Euro, the keepers get 40 Euro. This is quite a good method, because it motivated the keepers to perform their job and ensure the water services to the local population. According to the CRDA this method is much better then hiring a keeper with a fix salary. What happened in other GICs is that the keepers are not motivated to perform their work, since they will receive their salary from the organisation anyway. In the Gdara system the keepers would not receive anything unless they insure the payment of water by users. It is by insuring the users payment that they insure their own salaries.

This has led to discuss the affordability of men and women users to pay for water service. In order to analyse the affordability to pay we have to make a difference between willingness-to-pay and ability-to-pay. The ability-to-pay focuses not on whether users will pay for water service, but whether users can pay for water service. It is primarily a function of income related to the cost of living, which in turn is primarily a function of employment. Generally, the ability-to-pay is determined at the household level. In *Gdara* village the decision to pay for water depends on the cash available within the households. Fieldwork information shows that female heads of households face some difficulties to pay cash for drinking water. The situation could be explained by the fact that either they did not receive regularly cash income from their husbands or they do not have any income at all. This also explained why most of the families bought water on credit and why there are delays in payments. The willingness-to-pay reflects user's preference about purchasing a quantity of water or services relative to the prices. As the price is considered high, the users may demonstrate a reluctance or unwillingness to pay. For example, in the Gdara village some keepers are over-charging the water users for the water service. Therefore, some women refuse to pay more and they do not have access to the nearest water service. This situation created a lot of tension within the community and leads in some cases to quarrels.

In principle, all keepers must maintain proper records of all credits and non-payment and keep the treasurer informed. These data are needed for internal purposes and also to maintain the audibility of the GIC operations, essential in demonstrating responsible and neutral operations. The keepers who have been trained and are officially responsible for the public taps have a certain level of education (at least they know how to read and how to write). They have been trained in reading the water meter, keeping records (credits, name of the users, water quantity, amount of credits...). But from the field observation it appears that when women have taken over the management of the taps most of them are illiterate. They never recorded the water consumption. Men who are still keeping the public tap are able to read the water meter, but none of them records the credits and non-payment. They declare that they are able to keep in mind the names of the persons as well as the numbers of tanks carried. However, they admitted that sometimes mistakes could occur which would lead to a disagreement and a quarrel. The non-recording of the water consumption and the illiteracy of the keepers created an atmosphere of suspicion among users. According to the information gathered from the field work, neither the keepers nor the users could say exactly how much water each individual is consuming and how much money they are paying for it, particularly when the families use hoses to fill their reservoirs, where the uncertainty is much more accentuated.

Box 12

Rough Evaluation

A female keeper tried to explain me how she proceeds in her work and explained to me how she opens and closes the door of the tap, so she showed me the water meter, and then I asked her if she could read it, she told that she could not and she never recorded any data concerning the water consumption. She explained that it is easier for her when people buy water in a tank, because the quantity of water is known, but the problem rose when people filled their reservoirs through hoses, sometimes she could not know how many cubic meters they filled, so she trusted them and tried to evaluate the quantity approximately.

In order to clarify the situation to the keepers and the users some measures could help the keepers to perform their jobs and the users to know their rights and duties. Unfortunately the organisation did not developed any internal measures or any meeting to explain to the users the right price of water and to the keepers the importance of keeping records. Besides, the organisation did not set any gradual measures of sanction in order to punish the users who did not pay and the keepers who overcharge the users. The situation is that on one hand the keepers are facing sometimes some difficulties to pay water bills and on the other hand the users have the feeling that the keepers are cheating them. According to the fieldwork information, the keepers are paying for the non-paid water consumption. They could not punish the users, who are their relatives in most of the case, because socially and morally they could not say no when they came asking for drinking water. The issue is much more accurate among women keepers, who find themselves struggling with water bills without having control over resources or income

Box 13

Cutting off water...

I have been told that in other GIC some women had to sell her goat in order to pay the water consumption. I met some women keepers who are facing problems of payment and increased amounts of credits, I asked them what they do when users refuse to pay, one of them told me *"I cannot cut water off the person who did not pay, because thus he can create an conflict, here in the village we are relatives. Some times people behave verbally violently, if I cut off water or refuse to sell them water they can break the tap, or damage it".*

Cost recovery through any means is not an end by itself but a way of achieving specific efficiency. Insuring the cost recovery is insuring the sustainability of the water service and at the same time the sustainability of the organisation. It is for

sure that the charging system has improved the drinking water service and facilities. Nevertheless, still raising the awareness of the local community is needed otherwise, the system could fail and the organisation has to close like in some GICs in the country where the SONEDE just cut off water and the organisation disappeared.

Box 14

Am Abdallah's Story

Am Abdallah, a man aged 65 years, is working as tap keeper since 1997. I was introduced to him by the president of the GIC. The first meeting with *Am Abdallah* was not very pleasant. He is this kind of person who complained about everything, he is also a person trapped into the traditional way of thinking. When I asked him about his job as keeper, he was not willing to answer me. In a few words he said that everything is ok and he has not a lot to say. After that he totally ignored me and started discussing with the president. I did not intervene, I was just listening to the discussion. He was complaining about his work, the fact that the people in his county are not organised, he has to wake up at 4 o'clock in the morning, people would not pay for water and the increased amount of credits. Then he came to the point that being an old man the job is tiring. I jumped in and asked whether his wife is helping him sometimes. Then the answer came roughly *"my wife doesn't go out from her house when I am at home or not at home, she has to take care of the house"*. My feeling was that he did not appreciate my question. I just added whether I could talk to his wife. Then his reaction surprised me because he energetically refused and textually answered me: *"I am here, what do you wan to discuss about with my wife. I am everything here. My wife has never been in school and she does not know how to read or write. She does not know how to talk to you. About what would you talk with her! You can discuss it with me"*. I was embarrassed because of his reaction and unfriendly tone. Then I decided to follow the hose and go around and discuss with people. There I met *Najet* a young women aged 28 years old. She used to work in the craft factory four years ago, now she was not even able to buy wool to make carpets. *Najet* was in a hurry on the top of her donkey cart, with a big tank behind her. She explained to me that she has to hurry because she would go to a distant tap and she did not want to wait for a long queue. I asked her why she didn't fill the tank from the public tap in the county just few meters far from her house. Then she came closer to me and said that *Am Abdallah* sold water more expensive than other keepers. If she bought it from *Am Abdallah* she has to pay 250 millimes (0.195 Euro) and if she went to another keeper she had to pay only 150 millimes (0.115 Euro) for the same quantity. And she went off leaving me with a lot of questions. The next day early in the morning I went to visit her and we discussed about a lot of things, her daily life, the fact that she is 28 yeas old and she did not get married. That means that she probably will stay single or may be she has to marry a man from another county who is old or divorced in order to take care of him or his children. We also discussed about the water price and why people did not report the fact to the president of the GIC, she said that the public tap is *Am Abdallah's* property, and he is selling water for more than four years, and herself she won't create problems or quarrels, without saying anything the keeper is not easy to deal with. Then I understood why *Am Abdallah* did not accepted that I talked to his wife, probably his was afraid that I would discover that he is over charging users. But I did comeback to *Am Abdallah's* house looking for his wife, she was not home but I met two of *Am Abdallah's* brothers, who roughly told me "she is not at home" while her young daughter, a young girl aged 10 years old, came to inform me that her mother is not at home. Then I just asked her whether her mother used to help her father in managing the tap. The child explained to us that sometimes she helps him mainly when he is in the town or sick. Mainly when her father came back home tired and angry because of people coming at any time asking for water. He swore to stop the job or break the tap. Then her mother took the key and served water users.

3.4 Conclusions

Based on the significant information provided by this chapter, this section drew some conclusions about gendered participation in GIC meetings and whether it matters that women don't participate in these meetings.

3.4.1 Gendered Participation in Meetings

Women do not participate in the few organised meetings. In low-income households women's triple roles in production, reproduction (the childbearing and rearing responsibilities) and community management (Moser 1989)[27] leave them with very limited time to participate in any other activities. The increasing pressures on women's time have significant consequences for non-attending the meetings or non-participation in the activities of the organization.

In *Gdara* village there is a traditional division of responsibilities within the households: Men are responsible primarily for productive activities that require travelling to urban areas or outside of the country while women are in charge of the housework, child bearing. Women's tasks are more and more expanding in the village particularly when they are de facto head of households. In that case, they are in charge besides to the housework, the agricultural activities which consist in the region of arboriculture that requires a lot of time and energy in certain times of the year, mainly for harvesting and yielding thin bunches of olive trees. Women's daily life in *Gdara* village is very busy. Usually women wake up at 5 o'clock in the morning to collect wood, prepare bread in the traditional oven, and take care of the animals and this all added to the housework. For those who are in charge of the public tap it is much more difficult to cope with all these activities. These demanding activities kept women back from attending meetings even though they would be invited. The project was designed to improve the conditions of poor rural women and ameliorate water facilities, with the objective to lessen women's workload and gaining time, but as it was explained earlier the project has being increasing their daily tasks.

As it was mentioned in the beginning of the chapter (See § 3.1.2) customs and traditions in the village are part of the lives of women. These traditions expected that women do not participate in public meetings. Therefore, some women who would like to participate in the meetings stated that their husbands, fathers or brothers did not allow them to go. One of the major factors that affected gender participation is education. In case of Gdara GIC, uneducated women felt themselves ignorant and unskilled compared to educated men. Nevertheless uneducated men did not see their illiteracy as a barrier to attend meetings or discuss with the AC. According to fieldwork information, men did not consider the discussion about the problems related to the public tap needs any level of education, since it is part of their lives.

[27] CarolineO.N.Moser, Gender planning in the third world: Meeting practical and strategic gender needs, London school of Economics and Political sciences. World development vol.17, pp.1799-1825

The age also has an impact on gendered participation in meetings. The old women found the idea of women's participating in the meetings strange and not socially acceptable. The young women are much more open to the idea of participating in the activities of the organisation. All women keepers found it interesting that the GIC organize meetings and allow them to exchange experience, to discuss about their problems and solutions.
The daily informal meetings with either the users or the keepers took place in the café shop of the village. Where informal meetings are arranged at a café shop, respectable women would not venture there for the sake of their reputation.

3.4.2 Does it matter that women don't participate?

In the GGIC women and men participation is not that relevant. Since the president met each month with the keepers and almost daily with the users. There is no incentive for meeting attendance for both men and women. Nevertheless, there is a potential for activating the organisation and ameliorating the water service. For example women keepers feel that the meeting with other keepers from the same village as well as from the other communities is relevant for them to discuss their role as keepers and learn from the experience of the others. Furthermore, women are the main managers of the drinking water system either in the public tap (water distribution, water fees collection...) or as simple water users (daily management of water). For that women feel that they have not enough skills to run the system, to read the water meter and collecting fees.

Moreover, there are a lot of problems that could be solved when meetings started to be organised and both women and men participated. These problems are related to cost recovery, the increasing of credits, water stealing issues, over charging the users...Another point was that women keepers need to be trained in accounting and in reading the water meter, the organisation could help them with the coordination of the CGIC to reorganise other sessions to reinforce the system and also put an end to the users' suspicions about records keeping. For users it is also important to attend meetings and understand better how the system works, what are their duties and rights. In the Gdara village, some persons think that the keepers and the president are themselves at the cost of the users. Therefore the meetings are a good opportunity to think clear and answer the questions of the users. Finally, to discuss the opportunity to develop the activities of the organisation and identify the needs of the community. The organisation has already succeeded to construct a path to facilitate the movement around the public taps. The villagers felt proud about this achievement because they have been consulted and they participated in cash and labour. The GIC has several objectives. Its role is not only to manage the drinking water system, but also to lead actions and optimise the use of the local resources. For example in Gdara village there are a lot of young women who have been trained in handcraft and used to work in the handicraft factory. This group of women are motivated and would like to do something with these skills. The GIC could help them to obtain loans and coordinate the work with other regional institutions to carry out a handicraft project and create small enterprises.

CHAPTER IV
GENDER ISSUES IN AN IRRIGATION GROUPEMENT D'INTÉRÊT COLLECTIF
A Case Study From Saafet Irrigation System

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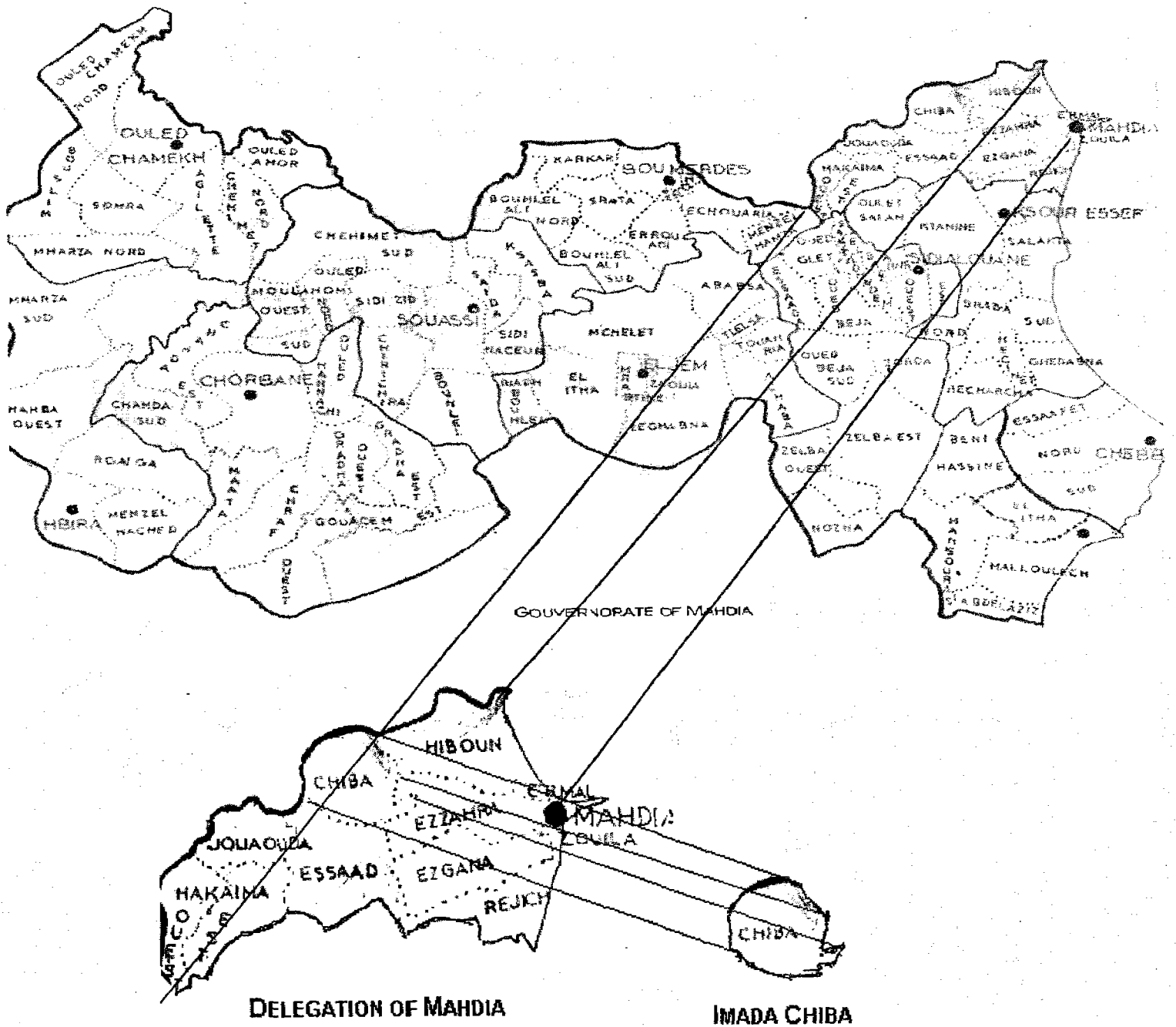
A Case Study From Saafet Irrigation System

During the last decades, although much work has been done on the important role played by women in water management, little rigorous work has been made on the specific roles, tasks, and functions of women in irrigated agriculture in Tunisia. This chapter seeks to answer the third sub research question related to the gendered roles in irrigation GICs. After describing the study area and the irrigation system the chapter sheds more light on the gender division of time and labour from which we could understand the economical and social contribution of both man and women in the improvement of their life, but also to understand the women's non-participation into the activities of the organisation. The next section deals with the emergence of the Saafet CIG and its activities, followed by a description of the gender performance in irrigation and the CIG in terms of access to water, the O&M, the decision-making and the financial issues. At the end, the chapter focuses on the gender participation in GICs and tries to investigate whether there is a need for female participation in CIGs.

4.1 Geographical Location and Socio-Economic Information

4.1.1 Geographical Location

The Saafet irrigated area is located in the West of Mahdia city on the left bank of the Rjel Chiba River. It is bordered by the road connecting Chiba to Mahdia in the North and by the Melah riverbed in the South. The Saafet village lies eight kilometres away from the district head quarter of the Madia governorate. Saafet is a semi-arid area, with an average annual rainfall of 230 mm, of which 40% are recorded during wintertime. The average of the maximum temperature is 31.7° C and the average of the minimum temperature is 6.9° C. The annual potential evaporation is estimated at 870mm. Before the project, the main crop was adapted to the arid climate: the olive tree.



Map 4. Gouvernorate of Mahdia, Delegation of Mahdia and Imada Chiba

The Saafet irrigated area project was designed and financed within the framework of the Integrated Rural Development Project. It was conceived within the framework of Poverty Alleviation and improving life's conditions of the rural communities. Small plots characterised the *Saafet* village. 61% of the farmers owned less than 0.5ha and 88% of the farmers owned less than 1ha. The *Saafet* irrigated project has involved only farmers who own more than 0.5ha. Its objectives were to optimise the use of the soil and the underground water resources. The project (first generation) covered an irrigated area of 56ha involving 85 farmers in 1988. It has undergone an extension in 2000 (second generation) covering 35ha and involving 15 farmers.
In the first generation, every household owning more than 0.5ha within the irrigated area was provided with first one plastic greenhouse of 480m² that should be set up between the olive trees, secondly with 5 thousand TND (3.85 thousands Euro) to build a water reservoir and finally with one dairy cow for breeding. However, in the second generation, farmers did not benefit from the budget of the project to build their reservoirs. The capacity of the reservoirs depends on the land size and the financial situation of the farmers. Most of the farmers have built reservoirs of between 40 m³ and 50m³.

The *Saafet* irrigation project extracted water from a borehole (deep well) of 367m deep to a big reservoir of 600m³ with a debit of 40l/s[1]. There is 4.7g/l of residue in irrigation water. From the big reservoir, water is conducted to collective secondary underground water pipes. Then to the private secondary underground water pipes and after that to the small reservoirs for those who stock water in the reservoirs or directly to the private pipes for irrigation. According to the study project, the time of water pumping is 12h/day with a mean of 360h/month. But in practice the average is about 8h/day, the difference is due to the reduction of water consumption by the irrigators. This could be an indicator that the irrigators are watching their consumption of water or that they are using crops that are not consuming a lot of water or may be simply this is the result of the over design of the project. Fieldwork showed that since the increase of the price of water (see chap. 2, § 2.1.3), the farmers have decreased their water consumption. The purchasing power of the farmers is low which has an impact on their water consumption. Most irrigators use traditional techniques to irrigate (furrow). Only two farmers use drip irrigation. The main crops within the plastic greenhouses are vegetables (pepper, potatoes, cucumbers...) and outside of the greenhouses there are fodder plants, in order to feed their cows.

4.1.2 Socio-Economic and Gender Information

In the *Saafet* village most of the population is classified as rich, middleclass and poor households. There is actually, only one farmer who is

[1] Technico-Economic study, Irrigated area of Saafet, 1988, Commissariats Régional au Développement Agricole, Mahdia.

exploiting three hectares within the irrigated area, and he is considered as a rich farmer among the villagers. This farmer is in *Echelamna*, *Saafet* (first generation). Nevertheless, this rich farmer does not own the land, he is renting it from his father. The farmer's father has five sons of which four work abroad. The farmer is the only son who lives in the village. Therefore, the father decided to trust the land to him. The farmer's family consists of 8 members. He is taking care of his parents. The farmer's wife is working as a nurse in the local hospital in the town of Mahdia.

In combination with access to irrigation farming is more than enough to meet the yearly food requirements of the family. Actually the farmer is hiring a male manager and five female workers to work on the farm. The basic strategy of the farmer is to grow enough food for the family and to sell the surplus production in the market to finance the following years' agricultural investments. The non-agricultural income earned by the wife is used for some regular cash expenditures (clothes, school fees, etc.). The olive trees, vegetables (peppers, potatoes, cucumbers...) and watermelon are the major crops the farmer cultivates. Production from the farm is enough for the family consumption, and the income earned by selling the surplus almost covers the expenses of next years' agricultural investments. The farm is well equipped with three big reservoirs and drip irrigation and three green houses. The head of the household aims to buy the land from his brothers if they accept to sell it.

Among the middle-class households there are families who depend entirely on farming for their livelihoods and those who don't. The families who depend on the irrigated land own between 0.5ha and 1ha. The farm is considered as a family business. All members are involved in agricultural activities, usually the men are considered as head of the households and women are simply helpers. Female heads of household in this category are widows. The daughters who have never been to school or stopped at an earlier age are more involved in agriculture activities than sons who work in off-farm activities. Moreover within this category there are some females who succeeded to be involved in the centre for professional training. They are working in the nearest clothing or milk factories. Those females are helping in expenditures related to clothes and food. The majority of the family in the village is composed of this category of people. For these households, their extra income and landholdings are enough to meet the family's yearly food demand, and the families produce a surplus, which is sold on the market. However, for most middle-class households that sell surpluses, the income gained from agriculture is not sufficient to meet their cash needs, and sometimes it is not even enough to purchase agricultural inputs. This explains why more than half of the middle-class households need regular access to off-farm incomes, most often through full- or part-time employment of male and female members. Most of the young men work as builder's mate, daily worker or in tourism, while young girls are working in the clothing or milk factories. The cash income is used for purchases to supplement the households' food requirements and to cover other necessities such as

clothes, electricity and water bills. The income is also used to pay for agricultural inputs and to hire labourers and sometimes to cover the expenses of next years' agricultural investments in cattle breeding. The middle-class households who do not depend on agricultural income, are active in off-farm activities. Men formerly were working abroad, while women were working in the milk and clothing factories. Land, family labour, and irrigation water are not the most important productive resources of these households.

The category of households labeled as poor consists of families who own only a small area of land. They own either less than 0.5ha or they have no land at all or they do not have a stable off-farm income. Landholdings are too small to be part of the project and to produce enough to meet the family's food requirements. For their livelihoods, the poor depend on a combination of hiring out their labour and off-farm employment. Most often, the female household members work as agricultural wage labourers and the males as builder's mate or any non-professional activity.

4.2 Gender Division of Time and Labour

The gendered division of time and labour gives a clear view about the occupation of both men and women at different stages of their lives as well as their contribution in terms of income and work. The everyday tasks of the rural wives, needs and responsibilities for the rural household in the Saafet village are influencing the cultural determinants. Following the Triple Roles Framework presented by Moser (1989), male and female roles are categorised as productive, reproductive, and community management, although the boundaries between productive and reproductive spheres are sometimes overlapping.
Married women have the busiest daily timetable among the rural females (young girls old women). They spend about 10 hours in performing their daily activities. In the Saafet village, al lot of time is devoted to the agricultural activities, about 54% of their daily time, without taking into consideration the cattle breeding, where women spent about 22% of their time to take care of the animals and to milk the cows. After that it is about the reproductive roles that time is allocated, such as the daily domestic activities related to child bearing and rearing responsibilities (cooking, cleaning, washing etc). The reproductive role includes also transformation of goods and services for household use and welfare. To all these activities we add the burden to collect wood, and water. Even though in the Saafet village each family is connected individually to the water network of the SONEDE, water is not conducted in the kitchen, toilet or shower. The taps are installed outside of their houses and they need to carry it to satisfy their needs.

The daily schedule work of men, head of a household, who are not active in agricultural activities is really short. Their work is oriented more towards wage-remunerated activities, in the *Saafet* region men work as officers in the town of Mahdia. They spent about 50% of their time in non-agricultural activities. However, those who work as daily labourer in construction works, they spent more time looking for a job than working.

Box 15

When men don't find job...

A young women, aged 34 years, talking about her husband, she affirmed that sometimes it happens that he did not work for months, so I have to manage to satisfy the need of my family. Usually I keep an eye on the food storage. When there is money I stock some food because I know that the hardest days are coming, mainly in wintertime, where it is very hard for him to find a job.

However, male heads of households who are involved in agricultural activities spend around 30% of their time on their own plots and mainly in the ruminant breeding. They contributed a little in the activities related to wood collection or water carrying.

Women heads of households are married women whose husbands are abroad or have abandoned the family, the widows and the divorced women. The working day of rural female heads of a household is as long as for the wives. They spent between 9 to 10 hours daily. The activities of these women are carried out on their small-irrigated land that was inherited from their husband or fathers. But also they spent more time in some handicraft domestic production for the local market.

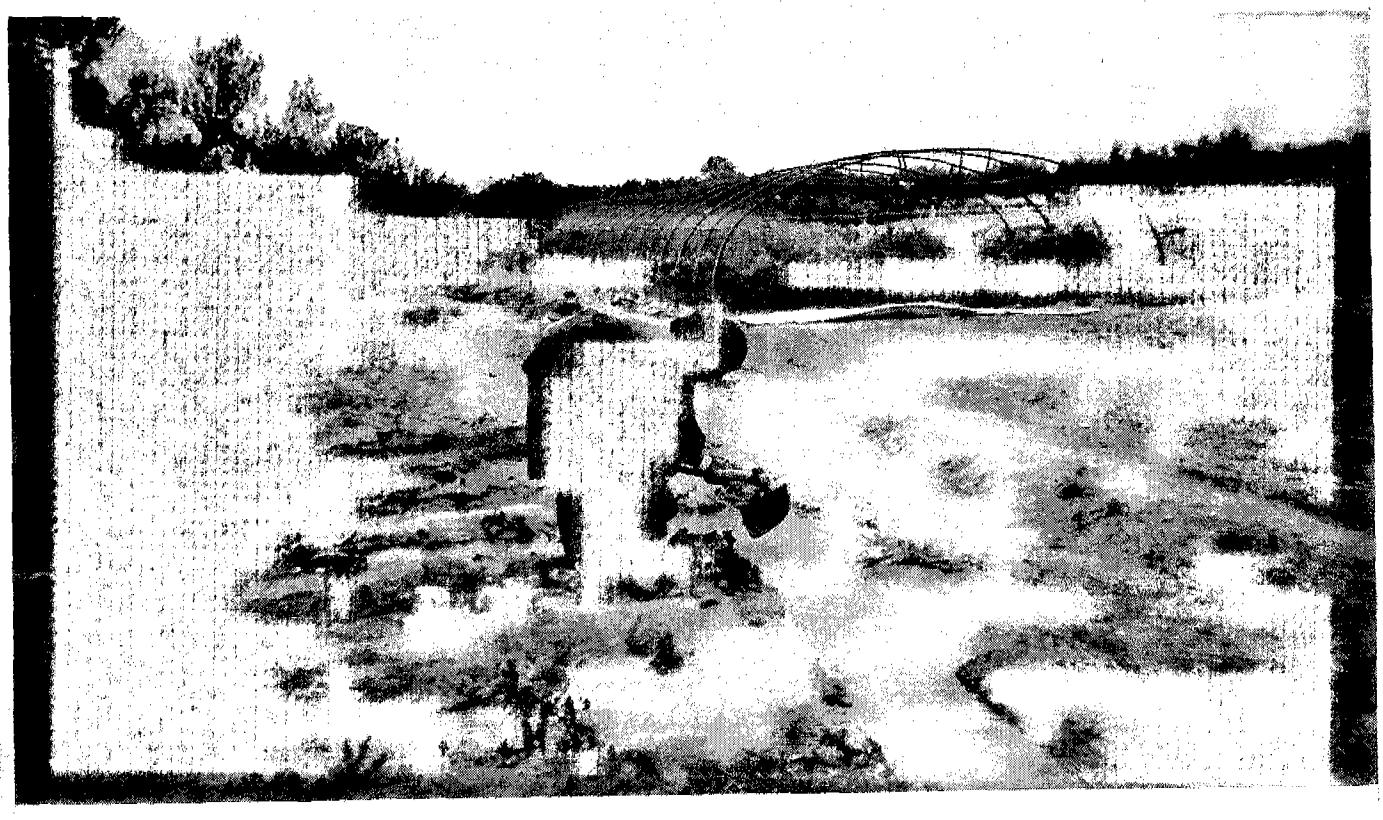
In addition to the domestic activities, the preparation of the bread and meals occupy almost half days. For women who do not have any agricultural land, in addition to the domestic activities, they do work on the land of the other owners or in the non-agriculture sector to ensure certain cash income for the household. They devote an average of one-third of their time daily. Furthermore, the women head of households have also to play the role of men related to transport, clothing and other needs to face the requirements of their families.

Box 16

Working for others

A woman who's husband works abroad, but who never showed up for more than three years, she has been told by other immigrants that he is in jail. Because she has a very small plot (less than 0.4ha), she was not part of the irrigation project although her land is inside of the irrigated area, she has to provide cash for her three daughters and two sons, she used to work with her two daughters in the greenhouses of the other farmers mainly in harvest time or they collected gravel (stones) and sold them to the local company.

The young girls have rather a diversified timetable. They spent their time in different activities related to the housework with an obvious effort on the agricultural activities and the cattle breeding. If we compare the division of labour between the mothers and the daughters, we observe that the mothers allocated more on the preparation of the meals, and the daughters spent their time in the housework. However they do much more in handicraft for the local market or for themselves as part of their dowry. For young girls who have a certain level of education, they work in the nearest factory of milk or of the factory of weaving. They do help during the weekends in the agriculture and domestic activities. Their work outside the agriculture sector is a source of income for their families.



Picture 3. Woman irrigating her field

Box 17

Khalthoum's dream

Khalthoum, a young girl aged 18 years old, she studied at the private secondary school in the town of Mahdia. Her three bothers are studying in the public secondary school. In this summer her mother asked her to stop her studies because her oldest sister got married in the summer. In fact her sister used to help her mother in daily housework and in the agricultural activities. The mother, talking about her oldest daughter said, "she was my eyes and my hands in everything". But Khalthoum would not stop her studies. She is very upset, because there remained only one year before she got the diploma on computing. She dreams to work in the private company in the town of Mahdia and earn enough money to help her family and earn respect in the village. Nevertheless, she is loosing hope day after day. She is still struggling with her father who is paying her expensive studies. According to her she will be forced to quit the school once her father decided not to pay for her studies any more. This is the way to force her to leave the school and to stay at home helping her mother like her sister used to do.

The boys have a rather reduced timetable compared to their sisters. Indeed, they have more opportunities to continue their studies, when their sisters have stopped their studies at an earlier age. Young boys do help in agricultural activities, for example before the beginning of the season they displace and set the greenhouses, or at the end of the season for harvesting. If they are not in school they spent sometimes in the paid and non-professional and non-agricultural activities. These young people participate very little in the other domestic activities. The other male members are the father, the brothers of the head of the household, his father or father-in-law and brothers-in-law. Their activities are oriented more toward the non-agricultural activities and towards the remunerating jobs. However they help in the familial agriculture, mainly in the harvest time when there is a lot of work to do. The other female members, we meant the mother, and mother-in-law, who are old women, have a rather busy day with the domestic work and taking care of the children. They contribute a little in the agricultural activities.

4.3 The Emergence of the Groupement d' Intérêt Collectif

4.3.1 Creation

The *Saafet*-irrigated project could not exist if the farmers did not intervene and push the Ministry of Agriculture to design and implement the project. In fact when the Ministry of Agriculture discovered the underground water in the region in the beginning of the eighties, a borehole was dug with the objective to transfer

the water to an irrigated area situated a Sidi Alouane to optimise its use. Since in the Saafet region at that time, the main crop was the olive tree that is resistant to the dry climate and there were no crops that needed to be irrigated. When the farmers had heard about the intention of the CRDA to allocate water to another region, they reacted violently refusing that "their water" would be transferred out of their lands. They even threatened to throw out any "stranger", even if he represented the government, who would come to take their water away. This situation created a lot of tension between the farmers and the CRDA. Some conflict has risen in the region and the farmers have threatened to attack the officers of the CRDA. In order to avoid any social conflict, the *Saafet* irrigated project has seen the light under the pressure of the local community.

The preparations for the organization of farmers went on in the CRDA, the Cell of GIC from 1988 to 1991. The procedures of the creation are almost the same as those of the Gdara drinking water project. In fact, the president of the *Saafet* irrigation GIC is also the president of the CDR. The Saafet GIC was constituted in September 1988, the organisation got the approval of the GIH in August 1989 and finally after the CRDA has finished implementation of the irrigation system, the transfer has been done on October 1991. The role of the GIC in an irrigation area consists of insuring the sustainability of the irrigated area, selling water for irrigation within the irrigated area and collecting fees from the irrigators. Maintenance and operation also are part of their responsibilities. Furthermore the GIC is in charge of all the expenditures that are related to the management of the irrigation system (energy consumption, water distributor payment, reparations...). The organisation remained under the supervision of the CRDA. The GIC has not the right to change the irrigation system or the infrastructures without the approval of the CRDA.

4.3.2 Activities of the organisation

The organisational structure of the GIC is the same as the Gdara GIC. An Administrative Council has been formed and a general assembly should meet one time every year in the beginning of the cropping season. The AC is represented by six male members (a president, a treasurer and four members). The AC should meet at least four times a year. The AC is in charge of the M&O, training, raising of the farmers' awareness, networking with other agencies such as the CRDA, the Seeds and Milk companies, CDRA... Since its creation on the 5th of September 1988 until September 2002, three general assemblies were held. The first one was held in 1995, the second one in 1998 and the third one in 2001. The AC that was formed in 1995 remained the same even though the constitution specified a working period of three years and one of the AC members has to be replaced every year. According to the fieldwork information the CRDA officers are pushing the AC members to organise the general assembly meetings. The reason is that they would like to be informed about the activities of the organisation and its financial situation, also it's a way to advice the active members and enhance their organisational capacities. The activities of

the organisation are not limited to distribute water and collect fees but it also offers and co-ordinates training with the help of the CRDA. Most of the training that the farmers get is related to improve their skills and agricultural practices. Unfortunately only men participated in the training that are related to the greenhouse management, use of pesticides, cropping, taking care of animals, even though women are more involved in these activities. In addition, the AC also distributes the seeds and fodder that they received from the CRDA mainly in the hard season of drought that the farmers are enduring since 1998.

Box 18

Training for whom...

Enma is a young single girl aged 24 years who wanted to participate in training to know how to milk a cow. Her father prevented her to go. Since he is the head of household, he got the invitation and participated in this training. The training was organised in an other county for a period of one week. After the training, he never shared with his daughter what he learned and experienced during the session. Enma cynically said I am not sure if he learned something he never tried to touch a cow and after the training he did not tell me about what he learnt.

Moreover the organisation is helping the farmers by connecting them to different agencies and companies to buy seeds for example or to sell their product of milk, tomatoes and peppers. The role of the GIC is limited to networking, without any fellow-up. This creates a situation where some farmers in the Saafet project, became just milk and vegetable producers without any cash benefits. It is for sure that they succeeded to satisfy the need of their families from the outcome of their activities. However, they have the feeling that they are trapped into a vicious circle of the market.

Their role is limited to provide milk to the local company that in return gives them fodder (milk-fodder-milk), and the same thing applies for the use of seeds and pesticides in return for their agriculture (seeds-pesticides-product-seeds-pesticides). Sometimes the SGIC intervene and help individual farmers who have special problems. For instance a widow whose plot was salinated, the organization intervened besides a farmer who has a big plot and persuaded him to rent her 0.5 ha.

The AC members use to meet almost every day and discuss the issues related to the irrigation and the activities of the organisation in general, since they are relatives and live in the same county. These daily encounters are very important to keep the members of the AC informed about the needs of the farmers and the daily activities of the organisation but it gives a familial aspect to the organisation and somehow excludes or gives the feeling to the farmers that they are excluded from this kind of private discussions.

4.4 Gendered Performance of Water Management

Different criteria are required to benefit from the irrigation water in the Saafet irrigation area. The first criterion is to own a piece of land of more than 0.5ha. The land should be inside of the defined irrigated area that covers 97ha. The irrigator should be at least 18 years old. Each irrigator who meets these criteria without taking into consideration gender differentiation is also member of the GIC. However to have the right to vote in the GA of the GIC the irrigators should buy a membership card. Therefore, there are no legal rules that prohibit women to be member of the GIC neither any mention that requires their membership in the constitution of the organisation. Rules are neutral and applicable to all irrigators including women who answered the conditions mentioned above. In practice, things are different. In the *Saafet* region most land is under men's ownership. Therefore, most of the beneficiaries of the project are men. Only few women benefit from the *Saafet* irrigation project. In fact, among the one hundred farmers inside the irrigated area there are only five women. One of the criteria to be part of the irrigated area is owning a legal entitlement to administer and manage the land.

Women get access to the land through inheritance, purchase and renting. In the *Saafet* irrigated area, only two women have inherited land either from their father or their husband, one young women purchased the land with her brother and two others have rented the land from their husbands. Renting the land to the wives was the only way to benefit from the project and to get an additional income for the family. Men are obliged to rent the land because they are unable themselves to work since they work abroad or they do have an official job.

Box 19

Man loves a woman ....who works

Mabrouka a woman aged 48 years and her husband who works abroad *is* 65 years old. He is an immigrant and he rented a piece of land to his wife, he has in total 3ha in the irrigated area but he hired out to his wife only 0.5ha the necessary size to be part of the project. *Maabrouka* smiles ironically and commented, "He just signed the contract of land renting in order that I work. It is not because he loves me! You know a man loves only a woman who works!"

4.4.1 Access to water

Rights to water are related to the size and the right of the land within the irrigated area. The farmers who have less then 0.5ha within the irrigated land are not allowed to irrigate. Those who have more than 0.5ha outside of the irrigated land are also not allowed to irrigate. Besides, right to water is open to water conveyors who bought water from the SGIC and sold it to farmers outside of the irrigated areas.

Within the *Saafet* irrigation area all farmers who answered the conditions mentioned above have their own reservoir; except in the extended irrigated area (34ha) where irrigators use pipes to irrigate their lands. These farmers have some troubles to irrigate during the day because the water flow is slow. The swollenness of the water flow is caused by the location of their plots up in the hill and also by the fact that in down hill, there is a water point, set up by the SGIC, from where water conveyors fill big tanks ($1m^3$). This water is sold either to farmers outside of the irrigated areas or carried for the reforestation project in the nearest forest implemented by the CRDA. Within the old irrigated area farmers use pipes to irrigate when the greenhouse is settled in a distant place from the reservoir or the reservoir is damaged. The water is distributed in terms of water turns according to a rotation schedule, which was established when the association was first formed in the beginning of the eighties. The GIC hire an *aguadier* to distribute water among farmers and to establish water turns within the irrigated areas with the help of the irrigators. The *aquadier* splits the whole irrigated area into parts. Each part belongs to 5 to 7 farmers (about 3ha). He prepared a schedule according to the water demands and time to distribute water. Each group of farmers belonging to the same area filled the reservoirs or irrigated their land alternatively. Water distribution is based on a schedule and water turns. The role of the *aquadier* is to pay attention that the schedule is respected and that the farmers are getting enough water. He also has a list of farmers who did not pay the water bill, so he has to keep a close watch on those who did not pay the water bill and be sure that they would not steal water.

In practice several other factors govern water allocation. A lot of problems rose when the irrigators had not paid the water's bill, then the *aguadier* refused to open the gate to them. Both women and men are facing problems of the non-payment and lack of cash, but the issue is more accentuated among women who are *de jure* or *de facto* head of a household. The women who have not any off-farm income struggle with the payment of the water bill. When women's water turns arrive and they did not pay the water bill, they often appeal to the chairman or the treasurer in order to get water during their turns. They have to negotiate in order to get an agreement to spread the total amount over the season or to be paid within the next bill. Some women did not succeed to get this agreement, so they had to wait till they collected money to pay the water bill. And later, they have to bargain with the *aquadier* to irrigate. The *aquadier* usually asks them to wait for the next turn or till he could reschedule them again, which is very hard mainly in summer. However, if the *aquadier* succeeded, they have to fill their reservoirs or irrigate during the night, which is very difficult for them. This is a common problem for both men and women. Nonetheless, male who did not pay can negotiate the issue during the meeting with the AC and they can arrange the question before their water turn. They ask the AC during the meeting for a

delay or to spread out the amount over the season. Then they can get water in time.

4.4.2 Operation and maintenance

The water resource in the Saafet project is an underground water reservoir, the CRDA have implemented the project and given the management of the infrastructure to the GIC. The GIC is responsible for the pumping of the underground water, through the underground pipes to the big reservoir. From the big reservoir water is conducted through a second underground pipe to the small reservoirs or to the irrigated land. The operation and maintenance (O&M.) of the big reservoirs as well as the primary and secondary underground pipe is the responsibility of the GIC. The GIC hired a technician for the O&M. In practice, the *aquadier* is doing the job.

At tertiary level, from the small reservoirs to the fields, farmers are responsible for the O&M. In the field there are more women than men. The majority of women (wives, daughters, sisters..) irrigated the land for the men (husband, father, brother ..). In the Saafet village women do most of the agricultural activities, when the man has off-farm activities. When men are involved in agricultural activities, women do contribute in large part and in the majority of the cases, the agricultural activities are considered as a family enterprise. The O&M at this level consists of connecting the reservoir to the field through pipes. The farmers are also responsible for the cleaning and maintenance of their own reservoirs and pipes. Usually women are in charge of the operation, cleaning and maintenance of the reservoirs. But when an important work is needed to be done, for example expanding or rehabilitating the reservoirs, women, mostly hire someone (man) to do it or their husband or son who are responsible for it.

4.4.3 Decision making

The ultimate authority for decisions concerning the *Saafet* irrigation scheme is vested in the general assembly, in which, in principle, the irrigators participate and only those who hold a membership card, have the right to vote.
Before dealing with the decision-making, a few words about the membership card. The organisation sold the membership card to the irrigators. The membership cards are a witness that the users are involved in the organisation and willing to be active as well as they give the right to the members to vote during the GA. Almost all male irrigators have bought the membership cards and they renewed them each year. For women, they have bought the membership card many years ago, because they have asked to, but they have never renewed it. The reason is that none explained to them its value and importance, contrary to men who could recognise the significance of the membership card. Women considered the membership card as extra spending without any income and it is a way that the GIC raises funding from the poor farmers.

Box 20

Membership card

Mbarka, a female head of a household, she is a widow. She has one son who works abroad. Her daughter-in-law lives with her. She participated in the meetings of the organisation, when I asked her if she used to buy the membership card to be able to vote in the GA, she did not understand what I was talking about. I explained her the membership card's meaning. She went looking for something, because I think she did not get my point. Therefore she went looking for something and she came back with an envelope and shows different cards, the identity card, and a lot of cards used for national legislative and presidential elections. But she does have an old GIC membership card dated 1992. I asked her why she did not renew it. She told me that she has no idea what to do with it. She bought this card because she has been told to do so, she never asked why. She added that she heard the president talk about it, but she considered that the card is an unnecessary expenditure for the family.

In the Saafet GIC regulations, there are no official or written rules preventing women from participating in GIC, however, only few women attended the meetings. According to the fieldwork information, women who own, rent or inherited land have been presented in the first meeting of the GIC. This meeting has been held in the organisation place, this meeting hosted different officials who have been involved directly or indirectly in the creation of the organisation, such as, the delegate, the Omda , the officers of the CRDA and the CGIC, and the female and male farmers. Women have been invited by the *aquadier* who stressed on their presence. After this first important meeting, women have participated only in two more meetings. They have participated in the first election of the AC on the GIC, but have never been a member of the AC or representing any of the women in the AC. Women who attended the first meeting are those who have rights over the land (inheritance, renting, or owning). During their meeting's attendance women have taken place together at the end of the room. Some of them remained silent and inactive. The more active are the widows. They dared to voice their own needs such as the lack of cash, seeds.

Unfortunately the fieldwork information did not give a lot of information about the formal meeting because there was no meeting arranged during the time of the research. However, in-depth interviews and a meeting arranged by other GIC could help to analyse the course of the formal meetings and how decisions are made. The rules stipulated that the AC should sent a written invitation to the users and to the officers of the CGIC 15 days before the AG took place. The CGIC still control the work of the GIC and support them in maintaining the holding of the meeting and the organisation of the meeting themselves.
Nonetheless, field investigation shows that the invitations to the users are done verbally, through relatives or personally or through the *aquadier* and only the CGIC's officers are noticed through a written notice. Unfortunately, not all users

get the invitation to the meeting because the *aquadier* could not reach them due to the expanded irrigated area, or relatives forgot to inform them.

In order to describe the course of a meeting, this section will illustrate a meeting held in the Wadi Beja GIC in the governorate of Mahdia. It will give an idea how the meeting is run and the decisions are made. The meeting was held outside nearby the pumping room. Only twenty men were present in the meeting. The officers of the CGIC (the responsible for the CGIC, an engineer) started to verify if there is a secretary and a chairperson for the meeting. Secondly they checked if the legal numbers of persons present were allowed to attend the meeting. A lot of time has been spent to verify the legal number, because the farmers present were relatives and not all of them own land within the irrigated area. The officers of the CGIC have to verify if each person present in the meeting is exploiting the land within the irrigated area, whereas the farmers are giving their names hotchpotch without respecting any criteria. After that the president of the AC recited the activity and the financial report of the organisation.

Picture 4. Meeting

Afterwards, the officer of the CGIC asked the users whether they had any comments on the reports or any questions. None of the users intervened. Then the president asked if there is any suggestion to add. One of the users suggested to expand the irrigated area, the treasurer asked for the help of the GIC in putting pressure on the farmers to pay for water because the amount of credits is significant.
After that, the president asked if the CGIC have any comment, then the person who represented the CGIC made a lot of comments concerning the way to write the financial report, the errors of calculation and the ambiguity of the financial report. In fact the financial report was badly written because it dealt with uncertain expenses. Moreover, when it came to the budget it did not include the expenses and credits of the last year. These credits are very important; they have been estimated at 3 thousand TND (2.3 thousand Euro), which is huge for a small-irrigated area of 40ha. Subsequently the suggestion concerning the extension was rejected based on the mismanagement of the actual irrigated area. Then, the discussion started about the payment of the credits, and the suggestion was made that the credits will be expanded over the next years and the users have to pay a portion each month to the GIC. The users and the GIC were warned that in case of non-payment the CRD reserve the right to do away with the organisation, take away the infrastructure and prevent people from using the underground water in the region. Finally the users after consulting each other agreed by raising their finger to pay each month a part of their debts.

Box 21

CIG and power

After we left the meeting, I asked the officer of the CGIC why the users elected the board who is not competent and is not working for their interest, then he explained to me that the president of the GIC is paying for them the water consumption and at last GA meeting, they have been informed that he sold his land to pay the water bill. Then I asked why he is doing that what is his interest, he just informed me that the president of the GIC is at the same time a president of the CDR (Constitutional Democratic Rally), and if he gave up his function as a president of the GIC he would loose his credibility as a politician and president of the CDR.

The next point in the agenda was the election of the AC. For that a list of candidates should be prepared. It was not the case, and then the officers of the CGIC entered into the debate explaining to the users the importance of the election of the AC for the good functioning of the organisation and they criticized the current AC because of the mismanagement of the GIC and the considerable amount of the credits. In spite of this, the users elected the same AC and the meeting was closed.

The process and the running of the meeting is the same concerning the most of the GICs where the president presented the activities and financial reports of the organisation. However it is important to mention that a lot of decisions have been taken in the AC of the *saafet* irrigated system. In fact the president of the GIC, the treasurer and the *aquadier* are relatives and they live nearby each other, they have a daily discussion about the organization, credits, water turns, technical problems, conflicts. Some other informal meetings are organised by women. Some women used to meet together in informal groups and they discussed about their problems and shared opinions. They also made some decisions regarding cropping, irrigating, harvesting. In these informal meetings, women also shared information and skills concerning the agriculture activities. However the outcome of theses informal meetings have never been reported to the AC or GA of the organisation.

Box 22

Sharing work and experience

I met a group of young women sitting outside their houses discussing. I approached and then I discovered that they were sitting around a small basin, where they had been planting and watering seeds. They explained me that they are germinating the pepper's seeds till they take root and then they will plant them in the greenhouse next month. I understood that they had agreed to sow together and help each other as they used to do during the season, where they plant and harvest together. After that they will share the germinated seeds and decided which ones are the best, then for next years they will try other seeds and they will do the same thing for pesticides or fodder. They explained to me that what is going on in the meeting of the AC is men's issue and they laughed a lot because men did not even know when the cropping season starts or when the harvest time begins. One of them said that we did not know about what they discussed since they are not doing the job!!

4.4.4 Financial sustainability

The importance of internalising the water service and the O&M in the *Saafet* GIC led to raising the revenues for cost recovery and encourage the financial sustainability without inflows from the general government budget. In fact the treasurer who works within the CRDA has benefited from a good training in financing and also learnt a lot from his daily contact with the CGIC officers. These facts are helping him to solve a lot of problems related to the non-payment and cost recovery of water fees and at the same time the CGIC officers have a good feed back about the functioning of the *Saafet* organisation.

As a result, a good financial system has been elaborated within the *Saafet* GIC compared to the GIC in the Gdara drinking water project. The water tariff has been fixed by the CRDA. One cubic meter of water pumped is 125 millimes

(0.100 Euro). This price has been multiplied by six since 1991. The treasurer has set up a database for the whole irrigated areas with the help of the *aquadier*. The *aquadier*'s role consists of collecting the water demands of irrigators, distributing water among them and keeping the records of farmers' water consumption. On the base of this information, the treasurer set up the Budget of the GIC, calculates the total consumption for each irrigator every turn. Each month the irrigators received a bill of water consumption. They have to pay it within three weeks. The modality of payment consists of the transfer or the deposit of the required sum into the current account of the GIC. In order to perform the payment the irrigators have to move on to the bank in the city of Mahdia.

The farmers' ability to pay depends on their incomes. In fact the families that have an off-farmers' income are facing less payment problems than those who have not. Indeed, most of the women *de facto* or *de jure* head of households are meeting problems of payment such as the delays in the payments or the increasing of the debts. Furthermore, women whose husbands are not involved in the agricultural activities are facing also problems of payment. Because their husbands considered that irrigation water fees and agriculture activities are women's responsibility. The contrast lies in the fact that these women have to take on responsibilities of agricultural activities and its expenditures without having access to resources.

For those families whose members are working in the city of Mahdia they are helping their families with the cash expenditures. However, there is a distinction between male and female attitudes toward family assistance. Most of the young girls are working in milk or clothing factories in the town of Mahdia. They are helping their families to satisfy some regular cash expenditures such as clothes, food, electricity and drinking water bills, etc. Sometimes they help to pay irrigation water fees. However young men who work in off-farm agricultural activities are no big help in the house expenditure. According to the fieldwork information, women do not have a lot of expenditures comparing to men, so they can help the family. Besides to that, young men have to save money because they are expected to have a heavy responsibility before the marriage (building a house) and after the marriage by taking care of his family.

The modality of payment has an impact on the irregularity of payment mainly among illiterate women. In the past the female irrigators had faced some difficulties related to the complexity of the procedures of payment. Because of their illiteracy women were complaining about the complication of the procedures (filling forms, signatures...) and the distant location of the bank. The GIC tried to remedy these problems by facilitating the procedures. Indeed, the irrigators have to show to the bank officer their identity cards to pay the water bill. Even though with these facilities, female irrigators are still complaining about the location of the bank since they have to spend half a day to fulfill the payment.

Besides to the water bill payment, the irrigators are questioning about the precision of the *aquadier* recordings. Because the *aquadier* is not keeping written records, the farmers are suspicious about the right amount of money they are paying. The *aquadier* affirmed that he used to do so in the past, but now with time and experience he is able to estimate the exact consumption of every irrigator. According to the fieldwork observation, it is easy to remember the exact consumption when the irrigators filled their reservoirs. However, how precise are the records when the farmers irrigated directly from the pipes, this is not clear. Moreover, the water bill used to be detailed, but now the amount is roughly given to the irrigators without any further information. This also has reinforced the suspicions of the irrigators who confirmed that they are not sure how much water they consume and how much they are paying for it. The issue has never been brought to he AG or to the AC meeting. The farmers did not dare to ask about it.

Box 23

I see the receipt, never the money!

Nejiba a married women aged 28 years old, she has three children. She is also the sister of the *aquadier*. Her husband is not involved in any way into agriculture activities, he works whenever there is a job, which is not common. He never helped her when he has no job, not even tried to manage during the meetings to get credits or to get a delay of payment at the end of the season. He is not helping her with the problem of non-payment of the water bill and just told her: " the *aquadier* is your brother you have to manage with him." She said I am working on his land and he refused to help me. All what he can do is at the end of the season when the entire product (peppers and tomatoes) is in the boxes to bring a delivery van and to sell the production. I can just see the receipt! Never the money! How can I pay for water if I do not have money to pay for it. She confessed that sometimes she stole water during the night. If the *aquadier* caught her, her husband would pay the fine. This is my way to involve him into my daily struggle with the *aquadier* and all these responsibilities she said with a malice smile.

The organisation seems to be monitoring the problems of non-payment and credits. The GIC elaborated a gradual sanction system to guarantee the irrigators compliance to the internal rules of the organisation. In fact the AC members enforce a gradual sanction system. The GIC's president confirms that the GIC never cut out irrigation water, it is more about putting pressure on the farmers by depriving them from water for their turns. Therefore, the farmers are obliged to pay or to agree on paying in the end of the harvest. Once the irrigators persist not to pay for water consumption, they are deprived from water. The *aquadier* has a formal instruction from the AC to not provide water for the irrigators who did not show their receipt of payment. The irrigators are complaining about the *aquadier* who refused to open them the gates for many weeks, which is enough for the crops to wilt. Since women who are mostly

farming and irrigating land for their husbands, they are more concerned about the water fees. For that reason they open the gates without asking the *aquadier* or ignore the *aquadier'* schedule and irrigated their lands or fill their reservoirs without taking into considerations the turn of the other irrigators. Women said they did not know about the schedule, but in reality they know about their turns and their know that they are transgressing the rules. The resident of the Saafet GIC, consider that water stealing is "female's transgression". The GIC could not punish them because they are not a member of the organisation and they ask their husbands or fathers to warn them about the issue otherwise they have to pay a fine.

Box 24

Isolated and illiterate

I met khala Mbarka, a widow 55 years old, but she looks more than 70 years old. She has two sons and one daughter. One of the sons died in Italy. The other one is working also in Italy. He is responsible for a family composed of 6 members, living in the village. He is not helping her at all and her daughter-in-law is keeping distant from her and her daughter. She seldom visits her or asks whether she needs anything, despite her house is just in front of the khala Mbarka's house. Her daughter 27 years old, looks older, and has never been in school. She is helping her in every day activities (housework, agriculture, taking care of the cow, etc). We were discussing about the payment modality, she told me that she never went to the bank and she even did not know where it is. To do the payment she gives her identity card and the sum of money to the *aquadier*, or one of her neighbours. Once her daughter went to the bank for payment, since she does not know how to write and read she had to ask the officer to fill the forms. The officer was not willing to do so, therefore she asked someone else. She never came back because she felt humiliated because she does not know how to write and read. khala Mbarka confirmed one of the problems she is facing is the payment, first it is hard for her to gather the amount required and then she has to look for someone to deposit money in the bank. Since people are busy they refuse to do it because it is time consuming.

4.5 Conclusions

The information given in this chapter allowed to figure out the gendered role in irrigation GICs. It is also an attempt to achieve the social goal articulated in the first chapter related to shedding light on the importance of gender perspective in designing water-related policy and in implementing irrigation projects. Therefore, some conclusions are drawn about the importance of the participation of women in GIC meetings and whether it matters that women did not participate in the activities of the organisation and what is the impact of their non-participation.

4.5.1 Gendered participation in meetings

The previous section revealed that women's participation in meetings was low in the three first years of the establishment of the organisation and it became totally marginalized and sometimes totally absent, even though women are completely involved in agricultural activities. Women's participation in the meetings was reserved. According to the fieldwork information, women sat together at the back of the room and did not participate actively in the discussion. However, those who dared and asked questions or participated in the discussion are the widows. They voiced their concerns, needs and difficulties as well as asking for support. In the course of time, their needs and concerns were not taken into consideration. The AC gave them the feeling that their presence is not necessary in the meeting. They get the feeling that they were marginalized and finally they gave up to attend the meetings. Although some widows see that participating in the meeting gave them a lot of opportunities and support. Such as enhancing their skills in using pesticides, irrigation, and access to credits...

The fact that few women used to participate in the meetings, besides to the fact that their participation is not active, the GIC is not responsive to their needs and concerns. For instance, in the *Saafet* second-generation project, which is situated up hill. Most of the irrigators are women suffering from the slowness of the water debit because water conveyors in the downhill are filling big tanks all the day, though the farmers have the priority to irrigate their lands. Therefore these women have to spend much time checking whether their greenhouses get enough water or not. These problems could be solved during the meetings, where the GIC can make rules that prohibit water conveyors to fill tanks when the up hills farmers are irrigating. This could happen if women could voice their concern and much more important if their concerns are heard and taken into account by the AC. Furthermore, an important raison d'être for users to participate in the GIC meeting is to revive their membership within the organisation and consequently their right to irrigate and benefit from the GIC services. Nevertheless, participating in the meeting is not enough to ensure access to water. The farmers (male and female) have to be present in the field to make sure that his/her reservoirs is filling with water or he/she gets the required amount of water for irrigation and none of their neighbours is stealing water or taking their turns. The adequate access of water depends slightly on the negotiation skills of the water users during the meetings. If the water users did not succeed extending their payment or did not succeed to make a deal with the CA for payment, or if they could not ensure that they will get water for the next turn, they are obliged to approach the president or the treasurer individually. The users believe that both of them could influence the water distribution schedule and could put pressure on the *aquadier*, although the reality is that the CA decides about the distribution of water. The *aquadier* himself believes that he has no power to decide about water turns or who is getting water or not. He considers himself as an employee within the organisation and he just implements the decisions taken by the CA.

4.5.2 Does it matter that women don't participate?

So far the organisation is working properly and did not have major problems. The fact that women don't participate did not affect directly the functioning of the GIC. Nevertheless, a significant improvement could be noticed if women participated actively in the meetings and activities of the GIC. The improvement would ameliorate the water turns and payment and reduce water conflicts. Women in the Saafet village think that with a real attention to their participation, a lot of problems could be solved. For instance, as mentioned above farmers (male and female) in the second-generation projects (up to the hill), particularly women who irrigated during the day, could not irrigate properly because the water flow is low. This issue has never been brought in the meetings and solutions were not made. Furthermore, the GIC organised different training programs related to the use of pesticides, cow breeding, irrigation techniques... women felt that they can benefit from these training to enhance their skills and improve their production. A lot of women lost the harvest because they did not know how and when to use the pesticides. Through an active participation in the GIC meetings they could ask the farmers who participated in the "pesticides use session" to teach them. One widow is victim of soil salinisation, the issue has never been brought to the committee, and she lost the harvest and struggled with credits. It is only afterwards that the committee heard about it and helped her to rent another plot.

Furthermore, the participation of women in the GIC will organise the water turns among them. Therefore women could suggest the dates and the time that they can irrigate and pay the water bill. Also they could arrange their debt throughout the season. In that case problems of water taken out of turns will be reduced. Since most of the cases women did not steal water but just open the gates out of their water turns. The participation of women is recognised by some members of the AC. A consensus among the AC will encourage women's participation and improve the GIC activities. In addition, an important number of young girls and women are active in the agricultural activities to irrigate during the day.

CHAPTER V
CONCLUSIONS AND RECOMMENDATIONS

5.1 Accountability and Transparency

5.2 Women Empowerment

5.3 Recommendations

5.4 Need for Further Research

CHAPTER V
CONCLUSIONS AND RECOMMENDATIONS

Before drawing the main conclusions and recommendations it is worth while reminding the main objective of the research that is to produce a better knowledge of gendered role in water users associations systems in Tunisia. This thesis report is an attempt to attain this objective and to understand the dimensions of women participation in WUAs. It gives an overview of the gendered role in drinking and irrigation Water Users' Associations in Tunisia. The thesis report starts by introducing the subject and the outline of the conceptual framework to guide the understanding on Gender, Policy and Participation. The second chapter explores the dimension of Gender in water management and in rural development policies. From a narrow field, which is water management, the analysis shows that the tendency is toward participatory approach without a specific focus on gender perspective in the designing of the water management policy and strategy. However, looking at the gender dimension from rural development policy, the study reveals the gender is taken into consideration sometimes directly and sometimes indirectly, but it shows that women at least are involved directly in some projects. Both chapter three and four give, respectively, a field reality of the policy in drinking water management and irrigation water management. Each chapter, from its domain (Drinking water/Irrigation), explore the gendered performance and the financial sustainability of the WUAs. They go through an analysis of the informal participation and low participation of women in the activities of the WUAs and their impact on the management of either drinking water or irrigation. This study is based on two case studies from the *Gdara* drinking water system and *Saafet* irrigation system.

5.1 Accountability and Transparency

Tunisia is not an exception in taking participatory approach in development projects. Target communities are involved in planning, implementation and operation and maintenance. Forming a management body by beneficiaries is a common approach. In rural water supply and irrigation projects, it is the GICs who are in charge of O&M. In drinking water supply and irrigation systems, in response to the need to raise project efficiency through better O&M by GICs, a participatory approach was adopted by the Direction de Genie Rurale in the latter half of 1997 in KfW funded projects in a form of a sensitisation program. Gender inclusion in drinking and irrigation water management policy does not come from the initiative of the Tunisian government. The international tendency that calls for Community based natural resource management influences the national plans and strategies. The projects in drinking and irrigation that promote women's role and encourage women's involvement in water management were pushed by foreign agencies such as KfW, IBRD, JBIC for a more suitable approach in the rural water management projects in Tunisia. The top down approach in implementing projects were the main trend in Tunisia before the intervention of the international agencies. Therefore the Tunisian government is not

accountable to the citizen or to the water users, but it is accountable to the donors and international agencies that finance projects. It is quite hard to find any mechanism to measure the accountability of the persons involved in the policy formulation to implementation. Although, the responsibilities in practice are defined, but there are no clear criteria or tools to assess the outcome of the achievements or any measure for punishment in case of sideslip.
At regional level, the GIC is accountable to the CRDA, but this is not reciprocal. The GICs are under the continued control and supervision of the CRDA, which have the entire right to close the organisation and withhold the infrastructure when it judges that the GIC is mismanaging the organisation. However the CRDA is not accountable to the GICs or the users. The main criterion used to assess the good functioning of the GICs are financial criteria. Whether the organisation is able to cover the costs of water use, maintenance...without a real focus on whether the local population are really involved in the management of the GIC, the difficulties that the community are facing to pay water fees... there is also no clear mechanism to measure the accountability of the person involved in the implementation of the policy or what could happen of the responsibilities are taken up.

The relation between the GIC and the users is not based on transparency. This has an impact on the relation between CRDA and the Ministry of Agriculture itself. Therefore, this would have an impact on the relation between the government and the donors. It is like a sequence, when the basis is not clear the impact affects the whole chain.
It is obvious that the relation between users and the GIC wrapped round in a suspicious environment and lack of communication and dialogue with users has enforced this atmosphere. The same things happened with the CGIC and the GIC. The GICs did not share the their problems and worries with the CGIC that has as a role to help them out to solve these problems and guide them in their new role to manage the water system.

5.2 Women Empowerment

When introducing beneficiaries' participation based on participatory approach, "beneficiaries" should include all categories of beneficiaries to bring them project benefits equitably. In other words, the participatory approach cannot exclude a certain category or group. It also concerns their social relationship that determines access to and control[29] of resources, services and decision-making process. A gender consideration may enhance an active participation of all beneficiaries concerned if it is carefully introduced in a project. When women are relatively marginalized in a given situation due to social and cultural gender differences, it is necessary to pay more careful attention to women's participation. In the drinking and irrigation case studies, the two projects aimed to involve the beneficiaries into the management of drinking and irrigation projects including women, but, unfortunately the management body was not able to respond to women's concern. Women were not prioritized for official activities of the organization, the training, they

[29] Access means the opportunity to make use of something or to have opportunities. Control means the ability to decide its use and impose that definition of others.

are left behind to the advantage to male who get the opportunity to benefit at least partly from the organization. This scenario enhanced the gap between men and women. It is found that men's understanding is better than that of women regarding the GIC role and activities. Though women know GIC by name, many of them do not know about their role in detail. The case studies show that the out-of-house matters tend to be considered as men's concern and women have limited access to such matters. In addition, the "payment" in household budget is also men's concern and women have no control on this matter.

Motivation to participate in GIC also differs by gender. Even if the momentum is positive for women in terms of national and regional strategy and male attitude, there still remains persistent reluctance or hesitation to participate in public activities including GIC activities. Men are involved much more in participating into the activities of the GIC and members of the CA, while female are less involved are less motivated. Such low women's involvement and motivation may result primarily from their perception of their social position as gender. However, with the time evolution and the recent improvement of educational level, the perception is changing. An existing project visited in the region (Chorbane village) project showed a positive attitude to allocate CA posts to females in GICs for the future, recognising the increase in literate young women and the recent trend in the promotion of rural women at government level.

5.3 Recommendations

1. *Evaluation and Sensitisation for Rehabilitation*: The two case studies are categorised as "top down" projects, so it would be better to evaluate and rehabilitate this category of projects in order to improve their efficiency. An evaluation and revision of the "top down projects" repair the mistakes made and to join them to the "participatory projects". Therefore, the sensitisation for rehabilitation project needs to be carefully considered, judging from actual problems observed in the case studies requested for rehabilitation. In these cases, as explanation on such general issues as water supply and irrigation system and GIC are not necessary, the sensitisation program needs to focus on a diagnostic approach to the area where problems exist on O&M due to social conflicts or lack of confidence between GIC and beneficiaries. Some rehabilitation subprojects have different problems other than technical ones such as management issues or social conflicts. Such issues need to be diagnosed in an early stage of sensitisation, ideally before starting preliminary sensitisation. It would be effective to employ participatory diagnostic tools to help beneficiaries to analyse a situation they face and to find solutions for desired results such as SWOT analysis[30] and problem tree[31]. In introducing a sensitisation program for rehabilitation subprojects, it is recommended to refer

[30] SWOT means Strengths, Weaknesses, Opportunities and Threats. SWOT analysis is an analysis of these four elements in a given situation to find a good view on the direction activities should take to improve this situation.

[31] Building a problem tree is an analytical tool to represent visually the causes and effects of existing problems in a given situation in the form of a tree.

to a sensitisation manual for rehabilitation now under preparation by Direction de Genie Rurale [32].

2. *"Women empowering women" or Allocation of female sociologists and female motivators or facilitators*: Taking the actual tendency into account, it is recommended that female sociologists should be assigned during the preliminary sensitization. The involvement of female motivators or facilitators[33] will be recommended during the sensitization for consolidation and maintenance to ensure women's access to participate in sensitization meetings.

3. *Collaboration with other local organizations working for women's participation*: A collaboration with other organizations/activities in enhancing women's participation will help to ensure women's participation, such as collaboration with the Regional commission for promoting participation of rural women, the local NGOs (e.g. UNFT, WFSD..)[34], the campaign against illiteracy and the regional service of hygiene for sanitary education.

4. *Change the criteria to be a member in the GIC*: In the irrigation GICs, the criteria needed to be a member in the GIC and to have the right to vote in the GA exclude the wives of the landowners who are effectively actif in agricultural activities. Therefore setting a flexible criteria involving "farmers" that could be the wives or the daughters of the owners to have a say in the meeting and the vote process.

5. *Improvement of the sensitization manual from gender perspectives:* The existing sensitisation manual used by the consultancy Bureau describes women's participation, which requires to be improved as follows: Gender equity-oriented approach[35], this manual defines women's participation as (a) two meetings to be held for women and five meetings for men for a community of 100-150 households per visit and (b) covering a total target households heads and 30% of women. Such description needs to be modified as follows to maximize beneficiaries' understanding and acceptance about their obligations. "Each sensitisation meeting should be held equally for men and women to provide necessary information directly and to grasp their comprehension and viewpoints on the themes regarding drinking water and irrigation and their obligations ".

6. *Practical approach to women:* Some issues related to the way women are approached raise from the case studies. The existing way needs to be revised for more practical methods as how to invite and how to communicate are considered to mobilize rural women.

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[32] Sensitization manual for rehabilitation is being used experimentally for projects for rehabilitation financed by KfW, which will be issued finally within this year.

[33] Even if female staff is not available in many CGICs, it is possible to ask the regional commissariat for the promotion of rural women and there are possibility to get their female facilitators involved.

[34] Collaboration for promoting women's participation in GIC activities was discussed between CGIC and UNFT in Kasserine Governorate.

[35] Approach aiming at providing an equal opportunity with both men and women

7. *Training/seminar on gender issues:* Gender consideration can be a concern for the sensitization program. Collaborative support of all parties concerned is crucial for equitable participation through promotion of women's participation. In this respect, gender training[36] targeting key persons such as staff of administration (REGD, CRDA), local authorities (delegation and sector chief, Omda) and local consultants including engineers might be one of the effective means. The training may cover the identification of problems to get an overview of all the current gender issues in water management, the clarification of major key concepts and approaches (different analytical tools) and a concrete consideration (i.e., how to mobilize rural women, how to communicate with them, how to get understanding and support from men).

8. *Gender studies in the national educational Curricula:* The idea is to insert gender studies in natural resources management institutes and universities.

5.4 Need for Further Research

Several practical points were recommended above, some of them need more attention and patience in the implementation of the water projects, the other points need further research and exploration.
This study is limited to the case studies from Gdrara drinking water project and the Saafet irrigation project designed within the framework of the Integrated Rural Development Project. The drinking water system and the irrigation system are quite small. The first system deals with 11 public taps and provides 257 families with drinking water. The second one covers 91ha of a command area and involving 100 farmers. Though the small system gave an a good opportunity to grasp the change in the rural areas, the dynamism of the rural community and the role of rural women in rural areas within limited time and space frame, the study cannot be generalized. Rural areas in Tunisia are diverse, from the North to the Center and the South. Gender relation varies with location and time. The drinking and irrigation system also vary from the north to the center and the south and it depends on the water sources (surface water, underground water, open canals, wells...). Therefore, further research in different context is needed.

There is a need to explore and understand the interest of man and women in the CIGs, mainly in the North part of the country in remote areas of Tunisia, where the system is totally different than the current research studied. With open canals, and public irrigated perimeters, it is interesting to investigate the gender relation, the women's interest in the CIGs, how is the maintenance and operation is organized in opens canals, what is the contribution of women and their benefits.... Furthermore, the issues related to land tenure and the legal aspect of the CIGs, conditions to be members of the organisations.... need to be explored and research their impact on women.

[36] Training on gender-sensitive approach in water supply and irrigation projects that can be organized by local consultants, relevant organisms such as CREDIF, UNFT, WFSD.

Annexes

Annexe (1)

Evolution of Goupement d'Intêret Collectif in Tunisia
(Drinking water, irrigation and combined organization)

Table (1) Evolution of drinking water Goupement d'Interet Collectif, Tunisia (1993-200)

Gouvernorate	1993	1994	1995	1996	1997	1998	1999	2000
Tunis	2	1	2	3	1	0	0	0
Beja	50	61	76	90	105	101	110	121
Sousse	38	38	38	41	49	37	33	32
MAHDIA	**43**	**44**	**49**	**60**	**48**	**54**	**51**	**51**
Kebili	0	0	0	0	0	0	0	0

Table (2) Evolution of irrigation Goupement d'Intêret Collectif, Tunisia (1993-2000)

Gouvernorate	1993	1994	1995	1996	1997	1998	1999	2000
0	1	1	1	1	0	0	0	0
Beja	6	6	6	13	16	29	30	31
Sousse	16	16	16	17	17	29	29	31
MAHDIA	**21**	**21**	**27**	**31**	**34**	**35**	**39**	**42**
Kebili	66	47	68	72	83	83	83	91

Table (2) Evolution of combined Goupement d'Intêret Collectif, Tunisia (1993-2000)

Gouvernorate	1993	1994	1995	1996	1997	1998	1999	2000
Tunis	0	0	0	0	0	0	0	0
Beja	0	0	0	0	0	3	0	0
Sousse	0	3	3	3	3	3	3	3
MAHDIA	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Kebili	0	0	0	0	0	0	0	0

Source: Tunisian Ministry of Agriculture, Direction de Génie Rurale, 2000.

Annexe (2)

The conditions for 'perfect implementation' of policy

1. The external circumstances to the implementing agency do not impose crippling constraints.
2 Adequate time and sufficient resources are made available to the program.
3. The required combination of resources is actually available.
4. The policy to be implemented is based on a valid theory of cause and effect.
5. The relationship between cause and effect is direct and there are few, if any, intervening links.
6. Dependency relationships are minimal.
7. There is understanding of, and agreement on, objectives.
8. Tasks are fully specified in correct sequence.
9. There is perfect communication and co-ordination.
10. Those in authority can demand and obtain perfect compliance.

Source: Adapted from Hogwood and Gunn, 1984, quoted in Hill, 1997, pp 130-31.

Annex (3)

Example of implementing RAP in the drinking water project

In Tunisia, the raising of awareness programs have been introduced in 1997 which, have been financed by KfW. This was an important step in the involvement of the local community in a drinking water management project. This program has been initiated in order to come to the end of the current problems and weakness that several projects suffered from, e.g. the modest level of maintenance, the vandalism due to the users' attitude and a lack of ownership spirit, the low participation of the community vis à vis the system and the emergence of the social conflicts within the community which led to the financial management problems within the GICs.
It is understandable that the new awareness-raising program has introduced some social aspects that have been neglected in the past.
The difficulties to implement such a program lie in the possibility to alter the communities' behaviour and attitudes toward the project and to bring them back from the position of marginalisation, unconcern, and misunderstanding to ensure their engagement in the project.
The project that has been undertaken is meant to improve the drinking water system and to promote the users' management through the GICs, as well as to ensure the covering of the expenses.
Three steps compose the raising awareness program:

1. *The identification:* in fact each CRDA/ Direction de Genie Rurale (DGR), at the regional level, has to prepare its own program of "project-draft" on the basis of a brief study. The Direction Génèrale de Génie Rurale receives several proposals for different regions (CRDA/DGR) and chooses the "project-draft" in the light of some pre-established criteria, such as water quality and quantity and the requirements of the community.
2. *The elaboration of the program*: The feasibility study started with an in-depth survey (detailed questionnaire) comprising the technique and socio-economic components. Since there is no sociologist in the CGIC/DGR/CRDA, the consultancy bureau services have been engaged to carry out to the social part of the study, such as the socio-economic survey, awareness raising sessions and the social feasibility of the project.
   The information collected has been analysed by the Direction Génèrale de Génie Rurale and the consultancy bureau engaged. The awareness raising sessions have been carried out most of the time on portions with the technical study. However, the raising awareness session begun one week before the topography activity, in order to establish the first contacts with the target community and to identify its expectations.
   - The preliminary raising awareness step is conducted through three sessions. The duration of each session lasts between 14 to 21 days, it is spread out over the whole feasibility stage. A meeting is organised to provide a general idea about the project, its costs, and the importance of the collaboration of the population as well as

to identify the needs and expectation of the community. The meeting usually included the community leaders, the local authority and the household heads (in majority men).

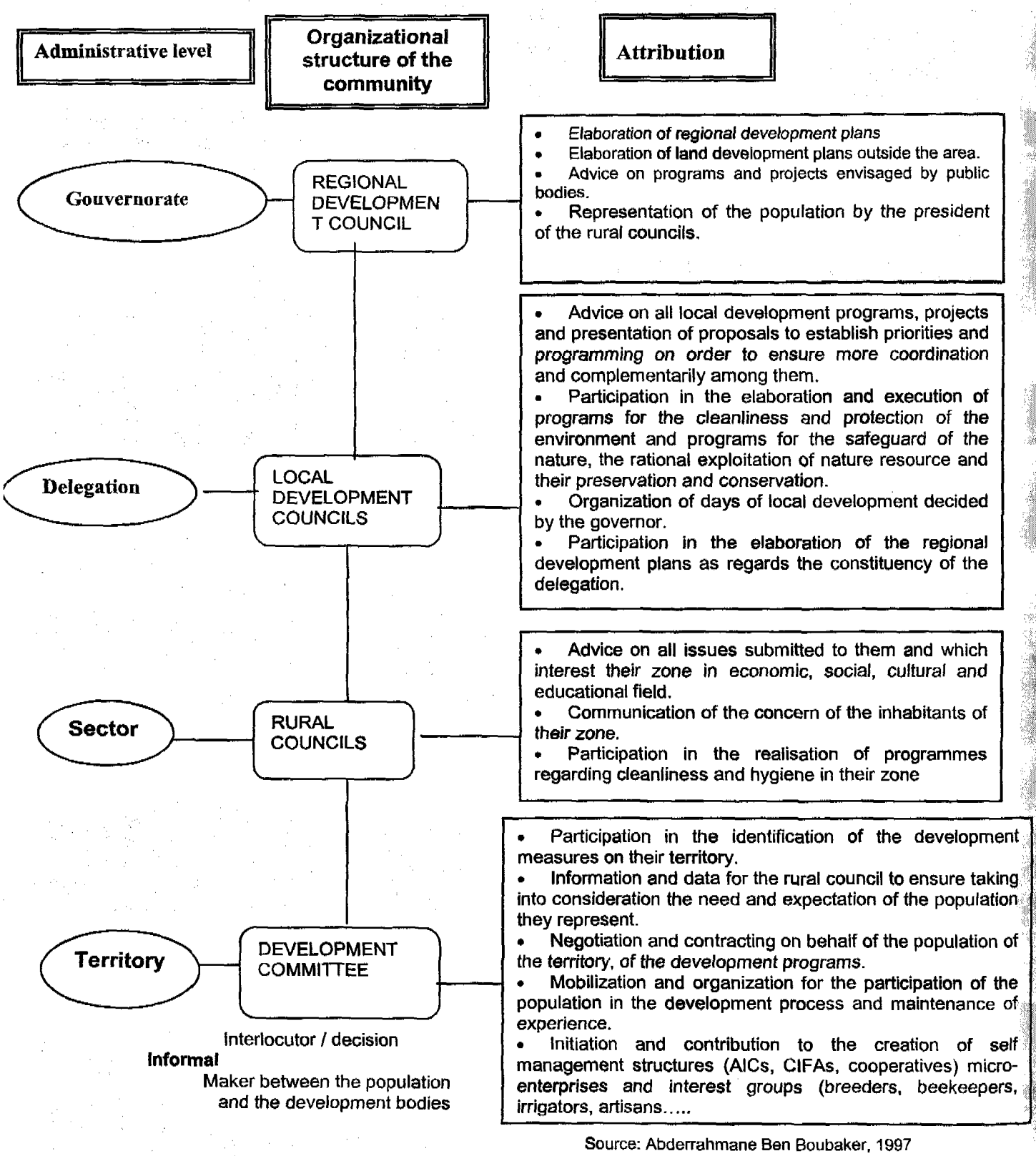
- During the second session, the meetings are held in each county to discuss with the population about the covering method, the management of the drinking water system, the organisation of the GIC and the choice of the members of its Administrative Council. Lastly, a meeting is organised with the women. Usually women from the whole community are invited, to include their needs and their opinions on the project.
- During the third session and after the achievement of the project design, the consultancy bureau and the DGR engineers inform the target group about the final scheme of the drinking water project, its final costs and the plan of the implementation.

  During this passage, users, represented by the head of the families, usually men are asked to sign a document ensuring their engagement within the project with the creation of the GIC, the payment of the working funds (the equivalent of 4 month of expenses sharing) and the selection of the public tap caretaker.

3. *The consolidation of the project:* The last step targeted to legislation of the status of the GIC and collected working fund. The implementation of the project could be undertaken by the DGR or the SONEDE.

Annex (4)

Tunisian Administrative Organisation



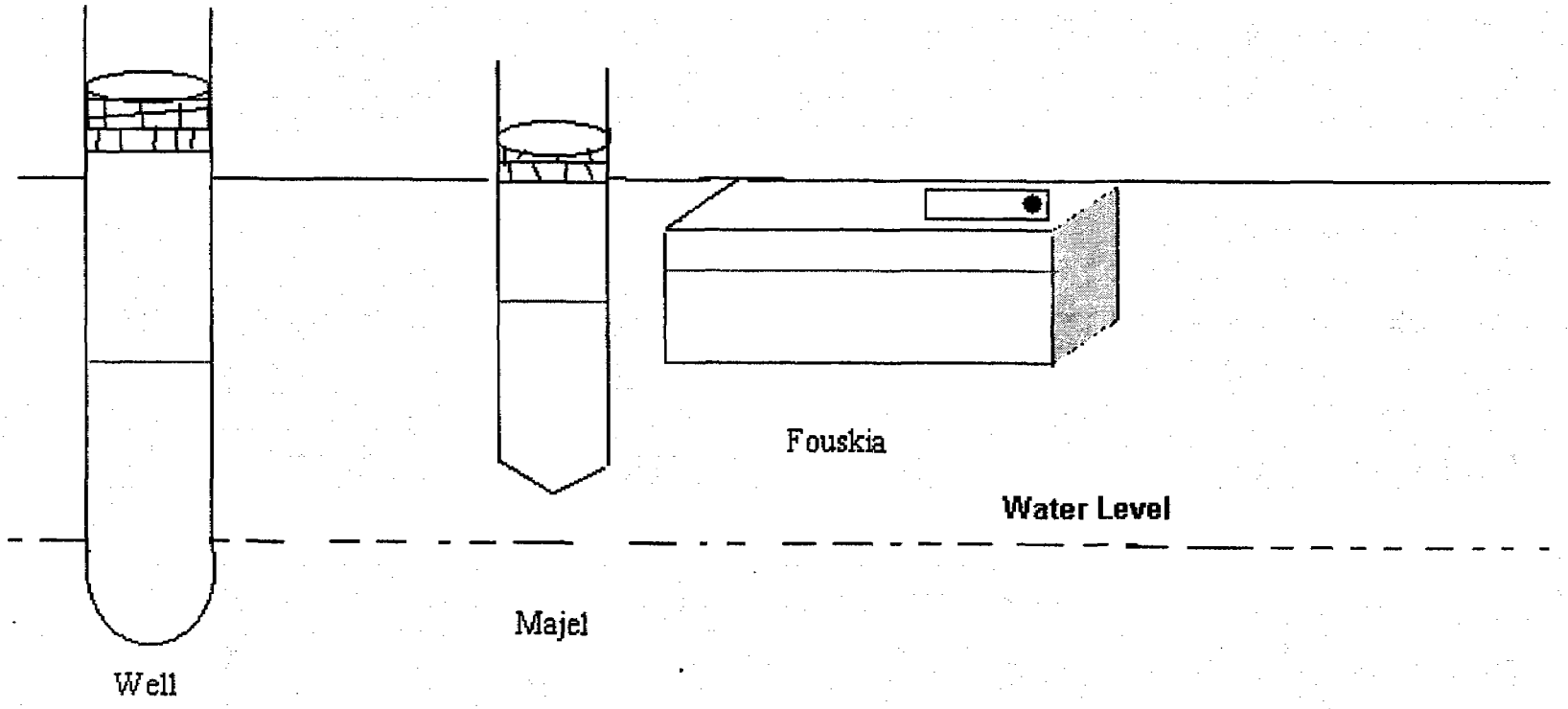
Interlocutor / decision Maker between the population and the development bodies

Informal

Source: Abderrahmane Ben Boubaker, 1997

Annex (5)

The Majel, Fouskia and Well



Annex (6)

The role of the president in the GICs

Planning: the president has to identify and define the activities of the organization, elaborate the budget with the treasurer, organize water distribution and define the daily work of the hired persons.
Information: in the field of information and awareness raising, the president has to organize several meetings to inform the users about the activities of the organization, their rights and duties. He also have to inform the users about the necessity to conserve and protect the goods of the organization, to pay the water fees in order to guarantee water supply, and explain the role of the organization in the system.
Management: the president implements and enforces the decisions taken within the AC, take in charge legal and administrative documents of the organization. Besides he has to organize reports of the AC meetings. Furthermore, look for technical, financial social solutions of the organization if there is any. And order the financial operation of the organization.
Control: in terms of good functioning of the organization, the president has to follow the accountancy, and financial operation of the treasurer (cheques, income, out comes...). Moreover, he has to control the good functioning of the equipments (taps, tubes...) and the safe environment around the water supply points.
Representation: Notably, the president has to represent the organization besides the local authorities, the CRDA and other interveners in the projects (SONEDE, financial receiver, STEG...)
Evaluation: the president is in charge to evaluate the work of the treasurer, and the general activities of the organization by preparing a report for the activities and the financial issues of the organization.

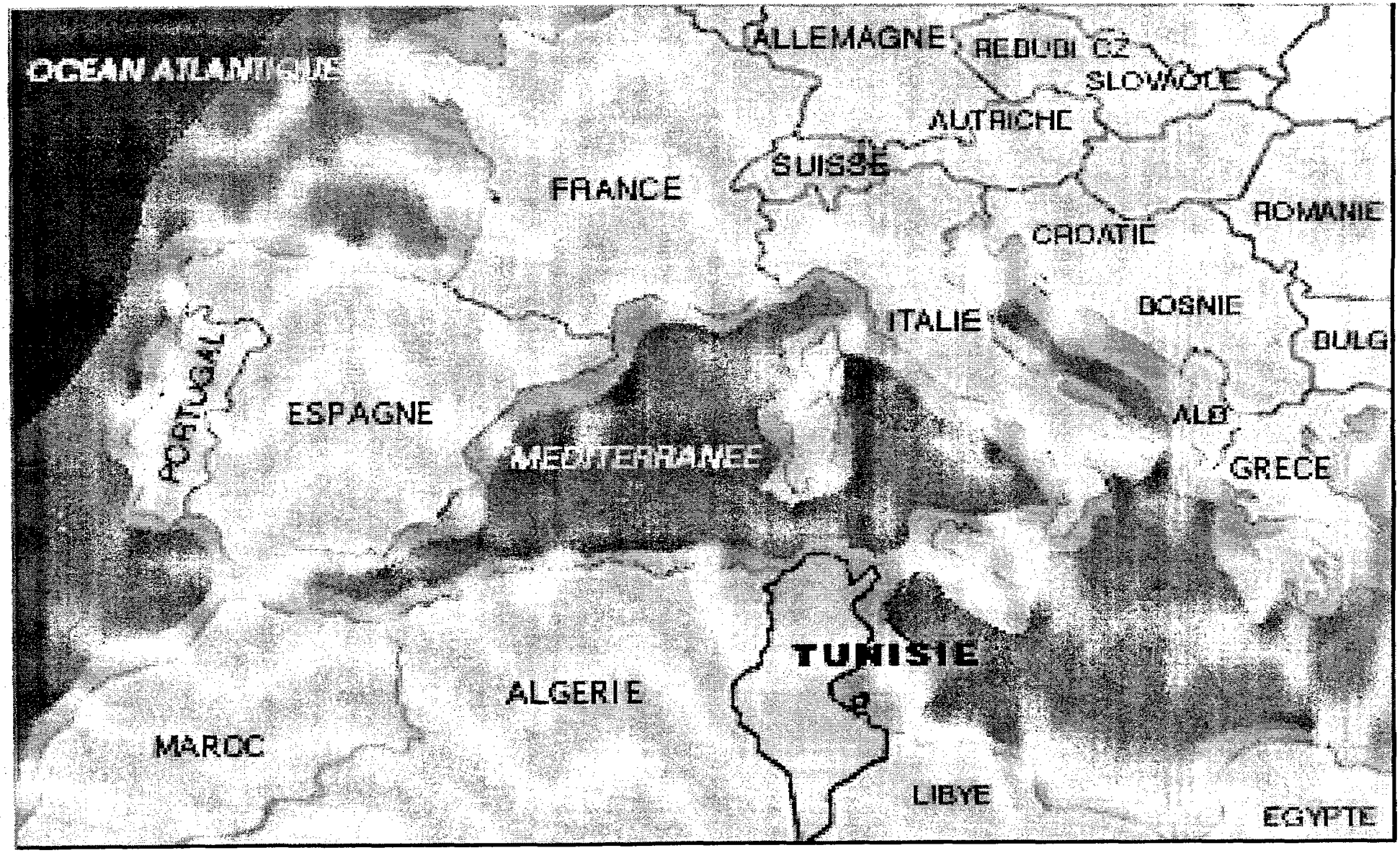
Annex (7)

Role of the treasurer in the GIC

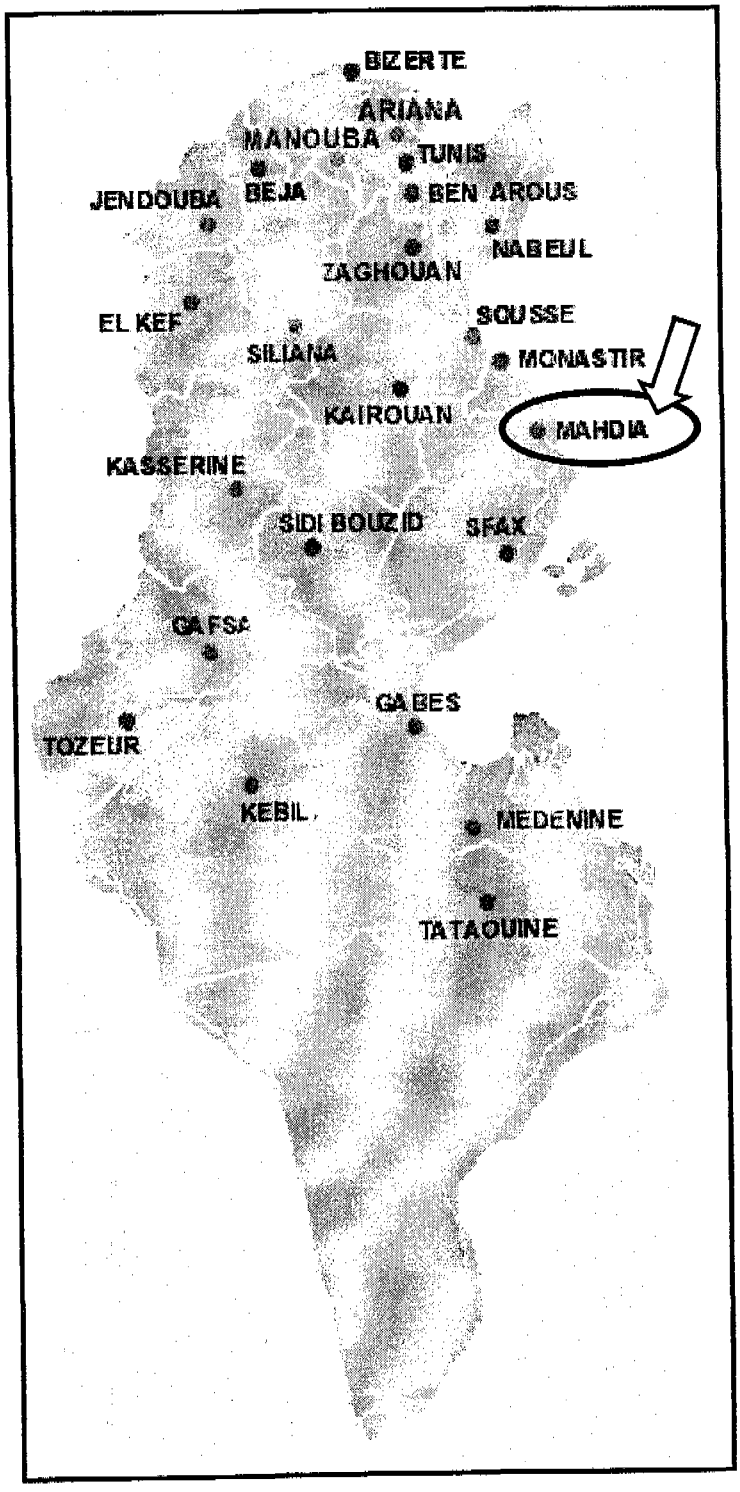
In performing his functions the treasurer is in charge of:

- Preparing the annual budget of the organisation;
- Covering the on comings receipts, payment of the expenditures allowed by the AC;
- Collecting of the royalties from the users;
- Recording countable operations within a specific book that has a classification and serial numbers;
- Keeping all necessary documents of the receipts and expenditures;
- Presenting the financial situation to the Administrative Council and the general assembly.

Map 1. Location of Tunisia in the Mediterranean region



Map 2. Map of Tunisia



APPENDICES

APPENDIX I

Source of information for the Policy Study

- **Ministry of Women, Family and Child's Affairs**

Rural Women Office
Ms. Jasia Hammami

- **CREDIF**

Mrs. Zakia Bouaziz, Director
Mrs. Alia Gana, Researcher

- **Ministry of Agriculture, Environment and Hydraulic Resources**

Direction Générale du Génie Rural et d'Exploitation d'Eaux
Mr. Abdelkader Hamdane, Director

Service GICs
Mr. Taoufik Brahem, Head Service
Ms. Souad Khaddech, Engineer
Mr. Abdelhamid Mnajja, Engineer
Mr. Imed Mighri, Sociologue

Drinking water Service
Mr. Jamel Eddine Brahimi, Ditrector

Rural women Bureau Support
Mrs. Fatma El Arbi, Director

- **SONEDE**

Mohammed Jalloul, Engineer

- **Private Consultancy Bureau**

Mrs Souad Bejaoui, Director,
Ms. Naziha Bouguerra, Sociologue

APPENDIX II

Source of information at local Level, Mahdia

- **Commissariat Régionale au Développement Agricole**

Mr. Salah Znazen, Director
Mr. Ali Slouma, CGICs
Mr. Hmed Hssine, Chef District, CRDA
Mr. Khaled El Arem, Engineer
Mr. Jamel Jbenyani, Chief Engineer
Mr. Abdessalam Essalam, Engineer

- **Regional Co-ordinator**

Office for Rural Women Programs
Mrs. Nesiba Triki, Regional Co-Ordinator
Mr. Salem Sassi, program co-ordinator

APPENDIX III

Source of information for drinking water GIC (Gdara)

President	Mr. Mohammed El Gaied
Treasurer	Mr. Bechir Ton
Member	Mr. Mohammed Karzouni
Member	Mr. Adbel Fateh Baya
Member	Mr. Ferjani Hanini
Member	Mr. Salem Chaieb
Public taps keeper	Ms Mounira Darwiche
Public taps keeper	Ms Hayet Moussa
Public taps keeper	Mrs. Saida Baia
Public taps keeper	Mrs. Thouraya Gaied
Public taps keeper	Mrs. Jamila Hanini
Public taps keeper	Mrs. Aicha Chaieb
Public taps keeper	Mrs. Salma Karzouni
Public taps keeper	Mrs. Hallouma Ton
Public taps keeper	Mr. Taieb Draouich
Public taps keeper	Mr. Mohammed Moussa
Public taps keeper	Mr. Abdallah Belkacem Moussa

APPENDIX IV

Source of information for irrigation GIC (Saafet)

President	Mr. El Mouldi Ouzouaza
Treasurer	Mr. Salam Slama
Member	Mr. El Arbi Rhouma
Member	Mr. Youssef Ouzouaza
Member	Mr. Mohammed Ali Ouzouaza
Member	Mr. Khalifa Gharsallah
Water Distributor	Mr. Mohamed Ouzouaza

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