Women's informal groups and their impact on irrigated agriculture in Tunisia

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Abstract

In Tunisia although there is a feminization of agriculture, women are scarcely involved in irrigators' organizations, and more comprehensively in decisions concerning the organization of agricultural production and the use of water. The expertise and experience of women in irrigation agriculture are not taken into account in regions where there's a predominance of patriarchal structures. These women are invisible actors of the expansion of this agriculture, they are essential but they are marginalized. To reduce these inequalities, women take initiative: they stick to female informal groups. Women's groups not only enable women to better organize, but also enable them take care of themselves, reduce their vulnerability and foster dynamic affirmation. Indeed, women acquire new skills as members in these organizations. They are aware of the problems they face and the importance of their role in agriculture. These women mobilise to claim their water access rights on regular basis as well as rights to manage water collectively.

Introduction

Reviewing Tunisia's agricultural policies since Independence one can make several observations. The top down governance with the long term state dominance as main development actor and manager of large schemes can explain the agricultural evolution with its failure to meet the national food security objective. Observed differences on farmlands could be explained by the technocratic and productivist conception of development that has prevailed. The policies which were based on

a negative perception of farming and peasantry have not met the expectations of small producers. These difficulties were also faced by farmers in Nadhour area which limited their capacity to evaluate the potential of irrigation and its constraints. A major effort was made by the Tunisian government to mobilise water resources and develop irrigation to cope with climatic and soil constraints in a country marked by aridity.

The expansion of irrigated areas, following the official demarcation of public and private areas, increased agricultural production and increased pressure on the limited water resources. Water policies in Tunisia evolved from a highly centralized management system, mainly focused on increasing supply to a more decentralized and participatory model, centered on long-term management, including water demand. During the first phase, the state guaranteed the supply of the scarce resource at low rates. Since the 1990s, with the intervention of the World Bank and the disengagement of the state from direct management of irrigated areas, measures have been taken (price incentives and water saving irrigation techniques) to enable the better management of operating costs of irrigation and water resource conservation. Irrigators' organizations have been established to involve farmers in management. The process of decentralization of the management seems unfinished and does not seem to integrate irrigators' organizations which were not involved in setting the rules that govern the operation of the schemes. We observed that management structures established by the state perform an important role in these areas and the participation of rural people is reduced. Rural women face many obstacles in their quest for emancipation. Their constraints are related primarily to tradition, customs and a conservative interpretation of religious texts. Despite advances in the field of law, education and access to employment, both at the societal level as well as in family units, there is still a high prevalence of the patriarchal system that affects people's behavior. As part of the presentation of our field work, we show how the different activities of women and their participation in informal groups help them affirm their positions thereby changing gender relations. Analysis Framework Conceptually, the irrigation system is the framework for our analysis. Within this context, we mobilize concepts that highlight power relations to access and control water resources. Gender theories are built on the affirmation of the social subordination of women. The concept of hierarchy is firmly rooted in this approach. The recognition of male dominance in many societies has encouraged women to reflect on the domination structure in societies. Women are taking measures to counter balance these relations and to be more visible. Gender relations are part of a dynamic process that certainly reproduce but also evolve. The social logic that governs societies has a solid foundation that is simultaneously perpetuated and reformed. Gender relations involve relations of power and in most societies women have less power than men (Francoise Heritier 1996). Questioning the practices of domination involves restoring the balance of power in all actions. This includes relations of domination and social relations. As part of our work, the challenge is to study women's subordination and marginalization in the context of the formal management of agricultural water in Nadhour. Using the concept of gender provides a more complete analysis of the place of men and women in the Tunisian society. It takes into account the personal characteristics of individuals and their interactions (Jacquet, 1995).

The feminization of agriculture Agricultural crisis can be perceived in particular by the marginalization of a fraction of the peasantry, the importance of productivity and by a growing feminization of agricultural labor. We can call this phenomenon the "feminization of agriculture", that is to say, the massive participation of women in agricultural production and the simultaneous decline in the number of men in the sector. According to Malochet, feminization is "the growth of the number of women in an activity identified as masculine, in view of the hegemony of male staff in the breast and/or the" qualities "socially deemed necessary to exercise it"[1].

Methodology:

To establish a diagnosis of the internal environment of the groups we will conduct a qualitative study based on chosen case studies to discover and understand organisational structures (Wacheux 1996). Many reasons guided our choice of Tunisia: The measures taken by Tunisia since independence in 1956 by the law on the recognition of the equality of rights between men and women have help changed the relationship between men and women in a predominantly patriarchal society. Formally, this enabled Tunisia take important steps towards gender equality far ahead of other Arab countries. Girl education of increased significantly. The employment of women in the modern sector of the economy greatly increased to the point that some people talk of the feminization of certain professions. But many indicators of real or symbolic male domination are still apparent in rural areas. Tunisia is a patriarchal society, though there are important advances at the legislative level to enhance gender equality there exists a big gap between urban and rural areas. Irrigation agriculture in Tunisia is feminised.

Methodological approaches:

Historical analysis: This way of analysing aimed at understanding the dynamics of irrigated systems. It enabled the analysis of the political, institutional and socio-economic network. - Socio-economic and agronomic approach enabled us observe the representations, practices and experiences of individuals. We analyze how different women groups and different organizations and institutions deal with conflict management. We seek to identify the relationship between male and female farmers practicing irrigation agriculture and political power as well as the evolution of power dynamics in order to understand the social setting.

[1] Malochet, « la féminisation des métiers et des professions. Quand la sociologie du travail croise le genre », Sociologie pratiques, 2007).

The agronomic approach, which we also used, enabled us analyse the agricultural practices of male and female farmers. It helped us identify the links between the choice of species, varieties, estates and production techniques by farmers and state recommendations to improve the performance of irrigated farms.

These approaches helped us understand gender dynamics and their emergence within the family, on farms and within groups. - A legal approach: The object of the legal analysis is to know all the standards or rules that guide the behavior of actors at all levels and how they affect their structure, organization and activities on their farms.

Collecting information:

- Research documentary bibliographical study on our research topic which will help to understand gender issues and water.
- We will collect quantitative data on water resources and how they are managed:
    - Zaghouan Regional Commission for Agricultural development (CRDA).
    - Conservation of Water and Soil (CES)
    - Nadhour Cell Extension (CTV)
    - Agricultural Development Groups (GDA)
    - Local authorities.

In our fieldwork, we chose two levels of analysis: irrigated farms and women groups. The field work was based on questionnaires, interview guides, semi-structured interviews and observations. Data was collected through interviews with the different group members, administrative authorities and technical officials in the region. It also included maintenance groups (focus groups) including both men and women. These interviews provide information about organizations and how groups operate, the social division of labor, men/women relations, issues of power and also the various forms of inequality (gender inequalities between men, men and women and also between women). We also mobilize a qualitative approach (monograph, life story ...)

Sample:

The sample of farmers was chosen to represent the diversity of existing agricultural field situations using several criteria: - The involvement of farmers in irrigated agriculture. - The participation of women in farming and the diversity of the articles of labor (family, work) - Taking into account the diversity of farms in terms of structures and production systems, types of irrigation schemes and of irrigation water sources (boreholes, private/group wells...). Presentation of the study area

Irrigated areas of Nadhour (Tunisia) are located north of Tunisia which is one of the wettest parts of the country and an important agricultural setting. This area is also characterized by diversity in agricultural production systems and structures as well as water sources and irrigation systems used.

In fact, this area has benefited from the introduction of irrigation development policies to the benefit of large and small farms. A new form of collective water management has been promoted with the establishment of water user groups around boreholes. Our field of study can be considered to be a relatively rural area isolated from urban influence. We observe here for women, a situation where agricultural employment is competing with employment in «feminised» industries and a situation where the conservative side of society is relatively dominant. Farm work is feminized in a dual context: feminised industrial development in the countryside and the exodus of males to neighbouring cities. Thus we see a society where farming systems as well as division of labor between men and women are in transformation. This development devalues agricultural labor.

Considering these characteristics our study area therefore constitutes an interesting field of research as we chose to study farms dynamics and women groups.

Our field of study: The irrigated farmlands of Nadhour (Tunisia) are rich fields that unravel gender relations in agricultural and the changing rural world.

Results

1. The feminisation of agricultural work

In the informal sector, which is a large, unstructured and dynamic sector with rapid growth and large numbers of women, working conditions are generally very difficult and often unsafe. Women face difficulties in gaining full employment status. There is no real regulation of employment, wages are usually below the poverty line. Access to social protection, training and national services is very limited and these workers are frequently exploited and their rights infringed. For a good number of workers, entry into this sector is not considered as progress but rather a means of survival[2].

1.1. A manifestation of the reduction of agriculture space

In rural areas, women are excluded from public life, a field strictly reserved for men, and a number of them are reclusive. In the countryside, women work at home, in fields and in specific economic sectors, ranging from domestic craftsmanship in all its forms (embroidery, pottery, sewing ...) to small-scale animal rearing.

Women's employment in agriculture takes place under conditions that are often below the norms prevailing in urban areas, thus reducing costs of activities. Many women are engaged in activities characterized by low wages and neglected by men who have sought work in more remunerative

[2] L'organisation internationale du travail. Pour une stratégie dans ACTRAV, nouvelle publication, Activité pour les travailleurs.

sectors. Although there is a general decline in the labor force employed in agriculture, the number of women employed in agriculture is growing remarkably according to a World Bank Report (2009). This feminization of agricultural work can be seen by the increasing occupation by women of jobs previously regarded as male jobs. Given the forms of female employment in agriculture (seasonal labor paid at a discount to replace the members of the farmlands indulged in other activities), this development is an expression of a devaluation of agricultural work.

This devaluation of agricultural labor is also reflected in the aging of the agricultural population. Indeed, presently the average age of farmers is 53 years in our study area. One of the main causes of this phenomenon is the rural exodus, which involves an increasing number of young men. Due to employment opportunities in industrial activities, agricultural work becomes less and less attractive for casual workers, for young people who tend to flee the agricultural sector in favor of sectors deemed more attractive. In most cases, they get a more stable job demanding less labor and better paid. The issue of the succession of a large number of workers who leave to work elsewhere arises within the farm.

In Tunisia women have always participated in agricultural work. In an economic system based on extended families, female tasks were complementary to male tasks. This gendered division of labor was reinforced at the end of the nineteenth century by the establishment of a social organization of the capitalist type[3]. It was superimposed on a patriarchal society that kept women out of landed property and any form of exchange and business[4].

This division of labor, which restricted women to activities excluded from the market system, led them to take charge of operations intended for self-consumption of households as well as agricultural work not recognized as such because it was assimilated to household work by women. For Tunisian women in rural areas lacking income and capacity, working on other's farms is often the last resort. In our Nadhour study area, many women facing a number of difficulties seek to work as agricultural laborers.

In order to analyze the issue of the feminisation of the workforce, we adopt approaches that seek to think of the "dynamics of gender" (Le Feuvre, 2001) at the level of individuals and structures. Work within the agricultural and rural world has long presented a specific "gender regime" that legitimised boys' capture of qualifications and status in agriculture. The future of girls was marriage. Although the share of female labor is growing in agriculture, women are confined to the role of producers of goods and services for household purposes. Their tasks are not listed in official documents concerning the employment of women. They refer rather to activities carried out in the city (secretariat, education, workers in the civil service textiles, etc.).

[3] Cette expression est à entendre dans le sens d'une organisation sociale s'articulent autour d'une minorité de propriétaires terriens mécanisant les travaux agricoles et salariant une main-d'œuvre en cours de sédentarisation

[4] Ferchiou Sophie. Les femmes dans l'agriculture tunisienne ; Edisud cérès Productions. Tunis, 96.

2. Characteristics and causes of dysfunctions in irrigation systems

Irrigation systems are experiencing several malfunctions. The organization of the water towers is not respected by part of the irrigators. There are problems with water sharing. Network maintenance is insufficient. Water pricing is considered too high by many farmers who are in debt. Some of the irrigators' water sources are from private wells illegally constructed, increasing the pressure on water resources. These difficulties are caused by various factors. Some of them stem from deficiencies in management and training systems, divergences between representations of water resources and their management. Others are linked to the unequal power relations within groupings and members' families, to the distrust of farmers vis-à-vis those in charge of these structures and to the insufficient appropriation of these organisations by their members.

2.1. An organization of disturbed rivers

It is necessary to recall the initial rules governing water management to understand how farmers have access to water. The bases and models on which the development is based do not allow irrigation on demand. We try to understand how water distribution and infrastructure maintenance are organized and conducted in each perimeter.

For practical reasons, the perimeters are subdivided into plots each corresponding to a hydraulic district. The hydraulic district is a set of parcels whose total area varies between 0.25 ha and 5 ha. It is supplied by a main channel, then by secondary channels or tertiary channels.

The distribution of water within a hydraulic district is based on a water tower. This water tower consists of irrigating the blocks of parcels one after the other. To plan the rivers, the CRDA technician organises a meeting with the irrigators to know what they want to cultivate during the agricultural season and to encourage them to cultivate depending on speculations recommended by the State in the framework of the national strategy for the fight against malnutrition. Farmers are not allowed to plant more than 5 hectares in irrigated lands.

Depending on the agricultural schedules provided by farmers (crop type, from previous seasons), the availability of water resources and the number of farmers in the perimeter, the agronomic technician schedules. This schedule organizes the rivers of irrigation farmers, and specifies the crops planted on perimeters. According to the established schedules, the farmers organize themselves.

The application of the water tower in the field involves several people at different levels. First, the pumpman starts the pumps after receiving orders from the perimeter director. Next, the waterman is responsible for the water supply in the perimeters. In particular, he ensures the opening and closing of the sprinkler valves and the supervision of the maintenance of the sprinklers. This is done on daily bases on water demands while respecting the agricultural calendar already

established. On each terminal, a volume meter is used to measure a farmer's consumption each time he irrigates his plot. Water is paid hourly and the amount of water that can be pumped is fixed per hour.

The application of these initial rules of water distribution requires an agreement between the members and the representatives of the irrigation farmers. However, sometimes tensions disrupt the rivers. Some are caused by the water cuts that occur due to non-payment of invoices by one or a few farmers. Others arise because decision-making on water sharing does not depend on technical factors but is dictated by other logics related to the social status of irrigators. In several areas, the distribution of water is disrupted by various constraints: deficiencies linked to technical supervision, insufficient maintenance of the irrigation network and pumps, poor organization of water distribution, non-payment of water electricity bills. Some farmers often lose their production due to lack of water.

The organization of water sharing is insufficient on all the perimeters. Difficulties in the understanding, applicability and management of water towers encourage operators to adopt new water distribution methods that suit them better.

The technical difficulties faced by farmers in the application of waterways and the failure to take account of their point of view make them question the way engineers organize themselves in this sector. For the operators, they consider the process as a whole and one cannot give priority to planning of the parcels and neglect other services.

The method of organization carried out by the framework has the following limits:

- The decisions that govern the operation of a perimeter and its profitability are linked to standards developed by planners and technicians.
- The different technical, social and economic parameters that affect the functioning of the perimeters are sometimes treated separately and do not take into account the behavior of the farmers. On the perimeters there is no real dialogue between the engineer and the technician of CRDA on the one hand, and the members of the group, their representatives and irrigators in general.

2.2. Problems of water sharing and maintenance of the water network

Water for irrigation is not available at all times. Farmers seek to use the water of the irrigation scheme according to their individual needs, whereas in reality the irrigation system is not extensible and the availability of water does not allow all farmers to irrigate at the same time. The high number of farmers per terminal (4 per terminal) poses real difficulties for the fixing of water towers and the amount of consumption per farmer associated with the terminal. The organization of the water towers is done with the agreement of the associated farmers at each milestone, but conflicts are frequent at the level of the collective valves where the water is delivered. As a

collective good if one farmer owes bills all others sharing the same marker are penalized by stopping the supply of water. Farmers who adhere to a kiosk often find it difficult to pay for irrigation water because they do not collect income from sales of agricultural products at fixed dates. The threat of water cuts force farmers to endure debts, which increase their vulnerability. Failure to respect the cultural planning and guidelines of the grouping on water towers, payment of fees, maintenance of irrigation equipment by farmers, raises the question of the legitimacy of their presence in these areas. When they joined the consortium, they all agreed to accept the rules for the management and collective management of irrigated areas. To be part of the agricultural development group one needs to accept a set of more or less explicit objectives and, more generally, the authority and the hierarchical framework. Water distribution is a crucial issue. Difficulties in the understanding the management of water towers are related to the fact that the majority farmers practice either monoculture or only the crops mentioned in the agricultural calendar. Nevertheless farmers plant a diversity of crops which complicate the distribution of water and make it difficult to respect the agricultural calendar. It leads to additional pumping thus additional bills. Their increase affects the community budget and individual budgets. The new distribution rules that are put in place at the initiative of farmers reflect existing social relations, highly based on inequality. They reveal inequalities that affect their production. Disparities in access to water are linked to social, economic and technical factors that shape the behavior of farmers.

2.3. Poor water pricing by farmers who are often in debt

The State is gradually disengaging itself from the management of the perimeters to reduce its budgetary expenses and wants to entrust the operation and maintenance of the perimeters to the user groups.

In irrigated perimeters, the price per cubic meter of water is fixed annually by the State. The price is expressed in thousands, ie in thousands of Tunisian dinars (TD). In the irrigated public perimeters chosen in our study, the volume of collective water to be shared during the irrigation season is known to farmers when they make their crop choices. The technician of the consortium, who guides farmers 'agricultural choices by taking into account the nature of soils, agricultural policies and farmers' preferences, sets an agricultural timetable according to the availability of the resource. The establishment of a timetable plays a decisive role in the fixing of water towers and the area irrigated by the farmer. To calculate the pumping costs per beneficiary, the technician of the grouping adds the various fixed and variable charges and divides the sum by the number of beneficiaries on the perimeter.

The technician in charge of monitoring the management of the groups seeks to reduce the indebtedness of the groups. To achieve this objective, meetings, training of technical directors and accounting are carried out. However, concretely on the field, despite these efforts, farmers face difficulties related to their indebtedness. The indebtedness of farmers within the groups create

problems which can lead to temporary water cuts and loss of production. According to some group members, some of the tensions between the farmers and the president of groups are caused by water cuts during the peak period of planting to oblige farmers to pay their debts. These practices which intervene in a critical period only aggravate the problems. To cope with the difficulties caused by these cuts, farmers react by altering water intake structures, breaking canals, blocking meters with sticks or wool. These practices aggravate the situation because the deterioration and malfunctioning of the intake structures. Many conflicts between farmers are explained by the refusal to submit to the discipline of collective water management. Thus, to secure their crops, irrigators seek to have as much water as possible, even if this does not correspond to a real need. Some of them sack the valves to divert water to their farms.

The water service is not well insured as the pumps do not operate normally because of the unpaid electricity bills that cause power cuts by STEG, the national company that handles this service. Other difficulties are related to the fact that the pumps are not renewed when they have largely exceeded their depreciation limit.

This inability to provide these basic services is linked, on the one hand, to the accumulation of bills by users of irrigation water. It is also related to business practices that do not allow them to recover the amounts invested.

Due to the difficulties they face, some farmers are de-motivated and reluctant to invest in irrigated crops. Other difficulties are linked to the faulty conditions of the choice of the leaders of the groups. According to the technician who backs his idea by the state law, the group president must be a farmer. In practice, many group presidents do not carry out any agricultural activities and are chosen based on social criteria, in particular because of their influence in the area of village. The choice of a group chairman by the CRDA may limit the participation of the members. Conversely, good relations between members and managers often have a positive impact on the management of water resources and development.

2.4. Problems related to the shortcomings of coaching and extension

The lack of training and information reduces the capacity of actors at different levels to cope with the problems encountered. This lack experience constitutes a major handicap. The lack of qualification and training of men and women can be observed in collective or individual responsibilities within groups in our study area.

The multitude of functions attributed to the group members who do not have all the skills to ensure them is an important factor in the current difficulties. They are in charge of: agricultural water management, maintenance of community facilities, organization of production through an agricultural calendar, and provision of services to farmers. They must also facilitate the sale of agricultural products, especially vegetables requested on the wholesale markets located in large cities.

In our study area, farmers are not sufficiently aware of the respect of the agricultural calendar, the problem of choosing cultural practices, the systematic use of water saving techniques ... The lack of qualification and training of farm managers has consequences on the collective or individual responsibilities within agricultural development groups. Poor control of irrigation techniques and slow learning hamper the collective management of water resources. These deficiencies are due to the high rate of illiteracy, the aging of farm managers and lack of experience. These difficulties greatly affect the autonomy of groups. It makes one question the future of these organizations and, above all, the optimal use of resources. But the majority of hydro-agricultural developments in our study area continue to operate despite the technical and management problems they encounter and the conflicts that occur. This is due to the fact that settlements play a social and economic role for which they have been partly created, namely contributing to farmers' incomes, making land tenure "accessible" and limiting the rural exodus. There is a significant discrepancy between the model advocated and its actual implementation which results in part from local arrangements of uneven scope on the viability of the perimeters. As E. Ostrom says (cited by Lavigne Delville, 1997a, op.cit), these practical rules are often very different from those laid down by the State and by the administration. The practical rules are the expression of what people actually do. These are those that are used and implemented through individual and collective actions.

3. Women: invisible actresses in the expansion of irrigation agriculture

The development of irrigation in the Nadhour region led to a steady progress in vegetable and cereal production that contributes to the dynamism of the local economy. The increasing involvement of women in productive activities has had a key role in this expansion. Indeed, the share of female labor has increased in agricultural farm holdings after the emergence of an industrial center in the neighboring region of irrigated areas. The opportunities for employment by companies that have invested in this region (more stable situation, lighter work and better wages) has led to the departure of youths and the aging of farm managers. Women have taken over men in irrigated agriculture and produce a high proportion of labor in farms. The wives of heads of fields are involved in all production operations with farm workers recruited around irrigated areas. Women are particularly involved in the following activities: mechanical tillage under irrigation, fertilizing, hoeing, weeding, hand weeding, phytosanitary treatment, fertigation, construction ditches, harvesting and transportation of irrigated products. Women perform a key role in manual tasks but are excluded from sales transactions that are carried out by men. The fact that women now carry out tasks and jobs previously occupied by men in agriculture has led to devaluation (low pay, low recognition of the role of women in productive activities) of agricultural work. The surveys we conducted show that the development of irrigation agriculture has increased their workload. In addition to their agricultural activities, they continue to do household and educational activities which had always been considered an important part of the rural women’s tasks. Accumulated agricultural and domestic activities lengthen women’s working hours though they mainly carryout the unpaid activities. Female education does not favor the questioning of this extra

work. Women working in irrigated agriculture have been socialized within the domestic space and trained by their mothers within it. They in turn teach what is socially desirable to them to young girls. They grow up convinced of assigned tasks for men and women thus the differences and gender prioritization in agriculture. Girls grow with a preconceived image of women in many occupations. Indeed, several tasks are assigned to women. The vision of women that prevails in this patriarchal society, justify and accept the roles defined explicitly as feminine: maintain the household, child upbringing and growing crops to feed the family. These roles are linked to the image of a good wife who is defined as "calm, gentle obedient ...” Gender relations which are culturally constructed on unequal basis, are assimilated by women. A good example is housekeeping which is considered by farm leaders’ wives as a “natural” distribution of task for women. The "invisible work" of women is not recognized and is often tedious.

4. Marginalized and discriminated women in irrigators' organizations against access to factors of production

Although women carry out the major agricultural activities, they are not leaders of irrigators' organizations and Agricultural Development Groups (GDA), which deal with water management in irrigated areas. They are led by men. Women are consulted only when there is need to clarify the arrangements for the distribution of water. Only widows are accepted at GDA meetings, because of their status, they are considered as beyond male control. After the death of their husbands widows acquire the same rights as men in normal decision making, their words are respected and recognized. The low involvement of the vast majority of women in irrigators’ organizations weakens governance processes in irrigation. At the head of the GDA are often notables that are mainly involved in non-agricultural activities and have limited skills in agriculture. Farmers implement collective management systems of which they did not partake in elaborating. The strict rules of water distribution developed by the state extension services are not met. Practical knowledge of women who carryout most agricultural production tasks and key roles in the practical management of water in irrigated plots are not considered. “When it comes to decision-making, in the GDA concerning water management and organization of production, we are not consulted”. This sidelining of women strengthens local hierarchies and dependencies which they are subject to. Women are also discriminated upon in access to resources that provide membership to formal organizations. They do not participate in training courses organized by GDA that seem intended primarily for men. The majority of women have received coaching and training at the family level. This framework is characterized by the duty of a parent to train children in production techniques, conservation, agricultural processing (tomato, pepper, cereal, fruit) with traditional methods. The lack of training and information for women increase the technical problems that occur on farms. Women are disadvantaged to access factors of production. In particular, the customary rules of access to land are unfavorable. The existing distribution channels and management inputs are beyond their control. Most women do not have access to credit because they do not offer warranty on the land. Poor access to information by women is partly explained

by the socio-cultural context. Due to poverty and customs, parents chose to send boys to school at the detriment of female children. Women's poor knowledge of the agricultural framework also largely depends on weaknesses of support organizations, they have very little information on prices and market conditions, on economic opportunities, technological advances, the market requirements in terms of quality, price ... These deficiencies restrict women's opportunities to make profits from their economic activities. Discrimination against women is rooted in the predominance of the patriarchal structure that legitimizes keeping women in a subordinate position. But women do not remain passive, some of them are taking initiatives to be recognized as farmers and to be involved in water management.

5. Membership in informal groups favours dynamic affirmation

Since women are not associated with water management in formal organizations, a minority of them exercise both off-farm activities (weaving, small livestock) and agricultural activities to contribute to the livelihood of the family. They mostly belong to informal groups. The members of these informal groups are mainly leaders' wives who play an important role in agricultural production and water management and widows who have acquired rights and respect and can express themselves more easily outside the domestic space than other women. Besides the farm workers are women who have less power and are the most exploited and underrepresented. Some young literate women have had a key role in the emergence of these groups and the capacity of their members. They were identified by international organizations like IFAD and FAO in the region. Since mastering the complexity of managing irrigation requires a certain level of education, these structures have trained them in their activities geared towards female education and emancipation. These educated young women have the skills they gained as wives of leaders and have gathered to form informal groups. The contributions of these women, who could move more easily than other women is very important. They are allowed to implement more intensive farming practices, better follow-up of their production and diversify their farming activities. These innovations have led to an increase in vegetable and cereal production to informal group members. The exchanges between women in these structures have also facilitated the development of their off-farm activities. These initiatives have increased the yields of women and strengthened their role in the livelihood of the family. The contributions of young women scholars, who were neither in nor out of irrigation systems, contributed to disrupt "established" gender relations. The sphere of women in informal groups has widened. Women started talking about water prices, conflicts in the use of this resource on irrigated farms. In irrigated areas, the distribution of water is often based on power relations between irrigators and clientelist based, which increases the inequalities between farmers. Small producers with less relational and economic resources are the less privileged in access to water and they resort to dry farming. Exchanges between women and knowledge that literate women thought them contributed to the development of their analytical and thinking skills. Learning new knowledge within groups, expanding women's social spaces as

they involve in structures that go beyond the limits of the domestic sphere give women confidence in themselves and favour an affirmation of their identity.

6. Women's protests demands: the campaign and public irrigated Nadhour to the city for better access to water and more freedom

Disparities in access to credit, access to education, access to training, are all constraints that hinder the development of agricultural activities. This inertia perpetuates inequality of women in the practice of irrigated agriculture. While women play a role in public irrigated agriculture in Nadhour they are not involved in the decision making related to water management in the GDA. Yet at the local level, women are more informed on water needs. They have expertise in the field of water management that they transmit informally to other women. Women are often the most affected by water access problems in irrigated perimeters, because they are involved in most of the tasks whose implementation is related to the use of water. We are also interested in women protest actions over the lack of access to water. This causes conflicts with the leaders of CRDA (Regional Commissary for Agricultural Development). Women protested by moving from their farms to cities. They were directed to the CRDA to talk to officials monitoring the management of agricultural water in Nadhour. A protest movement emerged in public irrigated farms in Nadhour following problems with successive water shortages and the lack of technical assistance to non-intervention of elected officials to address the GDA. The women were the actresses of that movement. Through these movements women insisted that they “existed”. They shouted their suffering, not only to protest against clientelist practices in the use of water and how they aggravate inequalities, but also against the norms of patriarchy... These women, hitherto strangely discrete in public life, have skills they use to participate in the GDA to water management. These women "experts” are willing to do things differently to win the battle. They invest a lot in gaining more rights and are open to change. They are actors of a process of social and cultural transformations.

"... I was amazed to see these women descend in large numbers on the streets, I wanted to be part of their revolution ..." (Words of a farmer: Yamina). Among the women who potested, one of them went fearlessly among top officials to denounce the poor organization of collective management of agricultural water ... Another embarked on discussions on gender equality ... "... it is difficult to get in contact with the President of Nadhour II irrigation area... there are always conflicts on access to water ... if we have a woman president, things will be different, she will always be there to listen to us and she will surely solve our problems .... Look on farms ... women are always there to work.... "(About a farmer: Hédia: 35).

Many women face cultural constraints that prevent them from talking publicly and expressing their needs. Among them, some have resigned, some take sides with older women, some are

on the side of conservatives, who are reluctant to change following our protests: "... yes today, we are many ... but a minority is not with us, women who are afraid of being beaten, harassed because they left their homes without seeking permission from their husbands and especially to move to the city ... but personally I think that the majority of women have gone beyond the stage of fear, they will continue to fight to obtain their rights .... We use water for agriculture and it is up to us to manage ... "(A farmer, Habiba).

The decisions concerning the management of agricultural water are wholly detained by men. The space of the majority of working women in irrigated areas is limited to the home or the land on which she works at the farm. To move they need the permission of their husbands. When women need to make purchases, they send one of their children. Their invisibility in public space is one reason for their silence. In rural areas, a woman who walks past a group of men, leans against a wall or sits in a café, is frequently the object of stares and sometimes derogatory comments. This is one reason why women are less visible in public space. A woman who leaves her home becomes vulnerable. For a man defending his wife is defending his honor as well as protecting his wife or daughter from male lust. This protection involves controlling the mobility of women. "... I have always practiced farming, I spend hours working on the fields, ..., my husband works in building construction ... we need a fixed source of income to live ... I try to help working on the field, I deal with almost everything ... Lately there have been frequent cuts on agricultural water, you know ... access to water is collective if someone does not pay, it deprives us from having water ... my workers have moved far from Soughass South to come to work on the farm every day .... but there was no water to irrigate ... my husband is building and I could not go talk to members of GDA ... you know ... I'm a woman. "

Women who portrayed their zeal to break the silence. They moved to cities to claim their rights of regularly access to water and their rights to manage the water collectively. This "visibility" of women in the "public" sphere was first for economic reasons. Women are often forced to work out of necessity. Off-farm activities provided by women permit them contribute to the family income. This creates a kind of dynamism at the farm and can also affect decision-making on agricultural water. "... We want to live by working (wages) ... we're tired ... women are tired. They can't go outside ... you know my daughter if you want to know the farmers, you must have to convert into peasantry ... "(farmer Lyrics: Halima)

Women have a key role in the absence of men. They have heavy workloads. They are the ones who run the home and fend for their needs. Farming is the main activity of these women. The protest is in a bid to defend their rights to water on the irrigated areas. Moreover their action today is to create an awareness of the critical role they play in agricultural activities and the livelihood of their families. Access to water is often synonymous with suffering for women because of frequent power cuts "... water is the responsibility of women, men are unemployed every day they go out early, they are looking for work; Women must therefore look after the needs of the home with the women's group, we want to create a fund for people who cannot buy the water they have access to... ". The importance of women's agricultural activities, at the management of the family

farm, is closely related to the time that men go to work. The more time men spend out the more women's workload increases. Men recognize the role of women in water management, however, men think they are better organized, more diligent and more responsible financial managers. Women demand more training, both administrative in order to ensure better water management, as well as techniques to better understand and learn ... to service channels or their rehabilitation.

"... I am a woman of a doctor ... I am a farmer's daughter and I grew up in such activity ... at first my husband did not move here to Nadhour II ... and I could not live either in town and leave agriculture ... I encouraged him to buy the land ... it often helps me, he was the one who buys the inputs, he is the one who pays the irrigation water but ... he works in the city, during his absence I still had problems with the treasurer ... the latter dared deprive me water when I paid in advance ... I moved to see the director of GDA Nadhour II, he listened as always but did not react .... And I ended up rig: I forced open terminals and had access to water ... and I yelled with the treasurer ... normally access to water is in turns and it was my turn ... but the treasurer embezzled rules by first providing water to his cousin, that he irrigates before me. I told him that I missed of respect and he must regard me as her cousin too to let me access water when I need ... and since that day I have access to water. He dare not cut collective terminal to which I adhere ... my husband said that I am a resourceful woman ... and he trusts me ... he loves me and I think it starts agriculture also love ... "(words of the farmer Hasna) This woman feels more independent, because it is in a position of responsibility, she realized the importance of its role in economic terms. On the other hand, although the contribution of women farmers seems better understood by their families, cultural constraints are internalized by women and the path to gender equality is still uncertain. The public irrigated areas we studied unveiling rich information on gender relations in the agricultural and rural world. 7. Plural expectations of women In terms of public irrigated areas studied, we see profound transformation practices and marital roles. Power relations between spouses are uneven and the room for negotiation between the beneficiaries of water resources is low. Women's expectations converge towards access to more regular water and participation in governing bodies of the GDA. Women have developed strategies to change the power relations that exist within their homes. They have mobilized their family and social networks, based on non agricultural activities mainly to learn new skills on how to improve their income. But the claims are express sharp contrasts, demonstrating the existence of a plurality of empowering methods. Thus, women farmers through women who act as mediators have been integrated in the GDA activities. The trainer of IFAD highlights the growing role of women:

".... From our conversation with women in public irrigation schemes they confirm that, in general women are very sensitive to the economic situation of families.... They try to help their husbands ... presently life is expensive ... there's too much spending and everything is necessary..... as a trainer, I have seen how these women evolved in their female activities (crafts, soap, weaving, conservation of products ...) how they matched into towns to claim their rights ..... their rights of access to agricultural water ... rights to participate in the activities of GDA, rights ... to be members ... even their rights to be heard and to participate in decision-making on irrigation fields ... .I am

impressed.... I'm really proud of them; today I think women know how to impose themselves..... "(Ms Rachida, trainer IFAD project) The involvement of women in women's groups helped to strengthen their social position within their households. As they gained income from off-farm activities they are more conscious and the skills they have acquired make them more confident. The groups have helped them gain confidence in themselves and expand their identities. Commitment creates the emergence of an identity assertion process on the part of some women members who had access to the exercise of responsibility, training, information within collective and material resources. We realized that women no longer fall within a continuity of tradition, because they transform habits. These women are smart and bold, they seek to understand what is happening around them and to acquire new skills to be more recognized. The training they have received, the exchanges which they participated in, enabled them to acquire new skills and to be more mobile. This first spontaneous movement of women into the city, to protest against the discrimination they face in access to water, shows the evolution of women's attitudes and demonstrates awareness on their capabilities.

Conclusion

A precarious women emporwerment

Nadhour irrigated areas represent a rich field unveiling gender relations in the agricultural and rural changing world. Observation shows that informal women groups can be tools of "empowerment" for marginalized women on farms. They contribute to the emergence of a shared identity by women. Involvement in these groups also has implications for the collective management of irrigated agriculture and contributes to poverty alleviation.

In Tunisia, women are invisible and sidelined agricultural development actresses. Their rights are not defended by the unions[5] .These women do not remain passive, but the affirmation of their positions is still limited. With the feminization of agricultural production tasks, dynamic relationships are forged between women around the control of access to water. Enlargement of the identities of women and asserting their positions in informal groups promote evolution of gender relations. Some female farm managers oppose the decisions made by their husbands in agricultural production and water management. They strive to exceed the narrow framework in which the rigidity between sexes and social categories confines them to. The material and symbolic foundations of the prioritization system in favor of men is undergoing a transformation process under the influence of the feminization of agricultural trades and membership in informal women groups. These informal women groups that have emerged in less than 10 years in our study area have similarities with women groups in West Africa, whose constitution is usually old. The formation of groups of women is a major step in Tunisia as in sub-Saharan Africa for women to

[5] Z, Bouzidi, S El Nour, W. Moumen « Le travail des femmes dans le secteur agricole : entre précarité et empowerment, cas de trois région en Egypte, au Maroc et en Tunisie.
http://www.popcouncil.org/pdfs/wp/mena/22_fr.pdf

express themselves freely and acquire skills that enable them make demands (Bonnassieux, 2013, Ryckmans 1998). Belonging to a collective organization promotes the development of a certain identity shared by women, as noted by Pascale Maizi for Mossi women in Burkina Faso. It contributes to the diversification of their abilities. These women groups are frameworks of learning new skills by-pooling and setting value knowledge, know-how and individual experiences. In Tunisia, as in Western sesame producers (Alhassoumi H 2012), speaking and participating in decisionmaking within these collective organizations, increases the confidence that women have in themselves. These changes encourage new behaviors and generate aspirations for better living conditions, as well as new gender relations. The positive dynamics emerging in the informal groups enable women to develop negotiation skills to become agents of change, to assert their rights and improve livelihoods. Hofmann (2003), speaks of community empowerment. Women's participation in the activities of informal groups improves their access to material (inputs, crop protection agents ...) and nonmaterial (training) resources and gives them greater "self esteem" (Moser, 1989). The empowerment process is initiated, may eventually lead to greater participation of women in decision-making, on Tunisian fields, on the farms and in the GDA. But we describe the changes that occur in affirmation of the power of women as "precarious empowerment" because women's assertion of positions is limited and concerns a minority of them in rural areas. The changes are insufficient to face market challenges and especially to the development of capitalist agriculture, with increasing demands on female labor. By mobilizing mainly around access to water, women tend to overestimate the potential role of the availability of this resource in the improvement of their conditions. Magalie Saussey, in her thesis on the production of shea butter in Burkina Faso, made a similar observation by showing that women are mobilizing "towards an ideal" and that shea butter is a symbol around which converge many of their aspirations. But she noted that women have little control over the shea butter sector, in which men occupy dominant positions. Also at Nadhour fields, women have little control over the conditions of marketing, market gardening and cereal production.

Generally, the actions have caused limited changes in gender relations. Although there are many local women's initiatives for fairer access to economic, social and political base, as noted by Isabelle Guérin, African inequalities between men and women show remarkable resilience. In a society where patriarchy is still very present. Tunisia is in a transitional phase. The political and social landscape has changed following the revolts in favor of democracy in 2011, there's more freedom of speech promoting the expression of demands. But the emphasis of political and religious differences can have a negative impact on gender dynamics. In these times of hope and uncertainty, with new challenges and new opportunities, the question arises whether the women' affirmation process that we observed in the Nadhour area will strengthen or if they will continue to be invisible workers and subordinate positions in the GDA.

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