

Tadla Resources Management project  
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**A DESIGN  
FOR THE IMPLEMENTATION OF  
WATER USERS ASSOCIATIONS IN  
THE TADLA IRRIGATION PERIMETER**

Report No 41

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## EXECUTIVE SUMMARY

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Presented in this report are a series of findings and recommendations which may be examined in modular sections or as a whole. The report has been written for a number of audiences: first and foremost, to fulfill the consultancy agreement with the TRM Project, secondly, to respond to USAID's mandate to strengthen the private sector by encouraging the implementation of Water Users Associations, and thirdly, to provide ORMVAT a "road map" as a measure of guidance on the transformations which are beginning to take place within its organization and within the irrigated perimeter.

Morocco is a country entering a period of economic transformation. To paraphrase King Hassan II, Morocco has its roots in the soil of Africa, is watered by Islam and blown by the winds of Europe. It is a country which is opening up its economy to the wind of competition. Many of its institutions have long been sheltered from competition and find it difficult to contemplate a changing economic world. Many of its farmers have also been sheltered from the winds of competition, and will find it very difficult to compete without a sustained commitment to provide technical and financial assistance during the period of transition.

Therefore, this report provides assistance overall to the TRM Project with a hard-headed look at the current status of Water Users Associations. In short, they cannot be considered to be functioning. However, with some appropriate macro-economic changes in the form of incentives designed as a water price differential, WUAs are very feasible and could be organized and functional within a fairly short time frame. Given a sustained organizing effort, 28,000 farmers could be organized into 49 Associations within 5 years and secondary Federations or Unions of Associations begun in the 6th year.

This report examines the impediments to such a rapid transformation and finds that the economic justifications for farmers to organize Water Users Associations are not presently in place. Such impediments can be relatively easily rectified with the strong encouragement by USAID and other donor organizations, such as the World Bank. A conference or seminar between the concerned Ministries which directly addresses the financial mechanisms needed for viable Associations along with amendments to laws and decrees is suggested.

ORMVAT faces a potentially wrenching change as its historical functions are called into question while budgetary support is drastically reduced. A guide for an orderly transformation is presented to ease this transition. An evolutionary transformation which occurs simultaneously from the top at ORMVAT, and from the bottom with the Associations is provided with sufficient detail to serve as a guide for the near-term period.

Key sections in this report are: the Action Plan for Implementing Water Users Associations (Annex A), the Vision for ORMVAT (Section III - A), a Training Schedule and Subjects -- A General Plan (Section V - A).

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## INTRODUCTION

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The following report and design is performed as a short-term consultancy to the Tadla Resources Management Project, financed by the United States Agency for International Development. The work is done in partial fulfillment of the Project Component of Private Sector Strengthening. Previous studies by consultants Schaack and Phillips on this Component were used as the point of departure for the analysis, design and recommendations. Results of consultations with TRM Project staff, ORMVAT direction and staff, interviews with WUA leadership and farmers, and a review of available documents are incorporated into this report.

During the course of the study the following key questions served to focus the analysis:

- 1 Organizational and institutional support
  - a In addition to the World Bank and USAID, who else or what other group desires WUAs, why/why not?
  - b What is the degree of ORMVAT support for support for WUAs?
  - c What is the degree of farmer support/understanding of WUAs?
  - d If WUAs are formed, who wins and who loses (or at least perceptually at this time)?
- 2 Rationale and need for WUAs (ie the positive gains)
  - a What are the economic rationale for WUAs in the Tadla Perimeter?
  - b What are the hydraulic rationale for WUAs in Tadla?
  - c What are the social rationale for WUAs in Tadla?
- 3 Organizational and farmer risks
  - a What risks are there for ORMVAT in moving to a more participatory irrigation structure?
  - b What risks are there for the farmers in moving to a more participatory structure?

For ORMVAT and the Tadla farmers considering a move to a more participatory structure, change can be profoundly disturbing, as people commonly perceive unknown "new" ideas to be riskier than the known present. Hopefully, this report will add needed information to reduce some of the unknown aspects of farmer participation. Additionally, this report is designed to aid the TRM Project in assisting both groups to adopt a new method of managing the irrigated perimeter.

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## SECTION I

### BACKGROUND AND HISTORY TO WUAs IN TADLA

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#### A        **ORMVAT in Tadla**

ORMVAT (Office Regional de Mise en Valeur Agricole du Tadla) is the governmental irrigation organization created by Royal decree, no 828/66 in October 22, 1966, organized under the Ministry of Agriculture and Agrarian Reform in 1976, which delivers water to farmers within the Tadla Irrigated Perimeter. ORMVAT provides close guidance for individual crop selection that reflect both system capabilities and national priorities. It is the organization which, serves as the catalyst for furnishing agro-industrial products for value added elaboration (ex, sugar beets to the sugar factories). As the largest employer of the region, any changes of direction or function of ORMVAT have social as well as economic dimensions for the region.

ORMVAT exists as a large state run organization with complete responsibility for managing and directing water distribution, allocation, operations and maintenance, and renewal of structural components for an irrigated perimeter of approximately 95,000 hectares. ORMVAT has a staff of approximately 2000 persons which include administrative officers, technicians for both water distribution and maintenance, an extension service for directing the agricultural activities of the farmers, and offices for canal repair and replacement. Additionally, there are agro-industrial activities such as milk cooperatives, manufacturers of piping and canals and other entities with whom ORMVAT either effectively maintains control or exerts preponderant influence.

#### B        **The Irrigated Perimeter**

The irrigated perimeter consists of three large sectors, Beni Amir, Beni Moussa East and Beni Moussa West. Beni Amir depends upon a diversionary structure (run-of-the-river) from the Oum Er-Rbia River, rather than a dam for its water, therefore Beni Amir's water quantity is highly variable and water quality lower than would be expected with a dam. Sectors Beni Moussa East and Beni Moussa West benefit from substantially greater quantities of water which is also a higher quality due to the Bin El Ouidane dam and a secondary regulating dam downstream. Normal storage of this reservoir is 1,100Mm<sup>3</sup>, which is shared by 3 irrigated perimeters (of which Tadla is one), a number of communities, and used for hydro-electric generation at Afouer. Historically, irrigation received the highest water usage priority, but a newly signed water law places irrigation as second priority to furnishing water for potable water supplies (personal communication ORMVAT staff).

As would be expected from different water quality sources, rates of canal degradation, costs of canal maintenance, water delivery and allocation issues, and measures of risk are substantially

different for the B Amir sector of the perimeter, than for those measures of the B Moussa East and West sectors. World Bank funding (PAGI II) available for system rehabilitation of the Tadla perimeter is primarily concentrated on repair of the Beni Amir sector.

There are approximately 28,000 farmers within the 95,000 ha for an average farm size of 3.4 ha per farmer. Principal crops grown are sugar beets, wheat, alfalfa, olives, citrus, cotton, various vegetables and some spices. A majority of the crops produced are for internal consumption within Morocco, in part for subsistence of the farm families and in part to satisfy national demand. The model of import substitution with government control of prices of products of basic necessity, while under modification with efforts to open the economy to competition, is still currently the norm. Prices at the farm gate are set not only by national markets but by government run or controlled purchasing entities, such as the sugar factories. Farmers in the Perimeter, for the most part, act individually rather than collectively both in relation to buyers of their produce as well as to suppliers of their inputs. Although cooperatives do exist and do function, farmers still relate largely to those entities as individuals rather than as members who collectively have a large voice. In the case of ORMVAT, it acts in some cases as both the furnisher of inputs (principally water), as well as purchaser of products (by influencing milk cooperatives, for example).

### **C Present Status of WUAs in Tadla**

Work has been done by ORMVAT'S Bureau for Association Relations to define the number, the boundaries and the participants which will form the basis for creating 49 Water Users Associations in the Tadla Irrigated Perimeter. These 49 Associations are planned to encompass all 95,000 hectares of the Perimeter. Of these 49, 11 have received initial organizing efforts, including the preliminary activities of identification of key leaders in each community. Of the 11 Associations which have received greater time and attention from ORMVAT personnel, three are in various stages of operation. Of these three, two have actually performed some tasks as an Association. However, unfortunately, one of the two has fallen into serious disfavor with ORMVAT and no longer receives much high-level assistance.

- 1 The Ittihad Association (CDA 536), is currently participating in a test by ORMVAT of a new water distribution quota system which also involves the use of a checkbook method of accounting for the water used compared to water remaining in a farmer's account. This year the test was made by ORMVAT at the individual farmer level, but has not yet been applied at the Association level. Ittihad does have a functioning Board or Administrative Council (Conseil d'Administration), but there are questions regarding the methods employed for its selection. It has been the practice for ORMVAT and the local authorities to heavily influence the selection of the Councils. On the positive side, the President of the Association is a very astute and capable person and shows a great deal of leadership promise.

- 2 The Al Massira Association (CDA 508) which is out-of-favor, had shown the greatest range of activities as a functioning Association but received a financial blow from which they have not recovered. As described in Phillips' report (Phillips, TRM Report, August 1994), Al Massira had undertaken the management and operations of a number of the activities which could be considered as leading to a fully functioning Association. At present, the Association is struggling to remain viable given the adverse economic climate for Associations which currently exists. It should be noted, that construction of the Association's offices and garage (financed by PAGO II funds) is nearing completion.
- 3 Al Wifak Association (CDA 505) leadership shows a great deal of interest, a good amount of knowledge (translated from current experience with Cooperatives), and good promise to be a future viable Association. The initial tasks of this Association are likely to be centered on organizing the farmers' supervision of the PAGO II financed canal rehabilitation.

Eight other sites were visited and interviews conducted with farmers in randomly selected CDA areas during the on-going TRM farm-level study for comparison to areas which had received intensive ORMVAT organizing efforts. Little diffusion of knowledge about Water Users Associations was apparent. However, knowledge of cooperatives, which are organizationally similar in nature, was widespread and generally favorable.

In short, at this time there are no Associations that could be viewed as fully functioning in tasks of management of water delivery and allocation, operations and maintenance, repair and rehabilitation of their hydraulic resources. It is evident that the ORMVAT staff, given limited resources and the overall adverse economic climate, have attempted to create a limited number of Water Users Associations. These attempts have met with some limited success.

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## SECTION II

### MODEL OF INSTITUTIONAL STATUTES

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#### A Organizational Structure - Legal Basis

##### *Governing Law for WUAs*

The Moroccan law which was passed December 21, 1990 (Loi No 02-84), carefully details the legal standing of the Water Users Associations with respect to their ability to congregate, their purpose for doing so, and their general structure. Responsibility for implementing this law is given to the Ministry of Agriculture and Agrarian Reform. The new law annuls previous legislation regarding "associations syndicales agricoles" (Article 18) which were previous agriculturally related groups sanctioned by law, and requires these older associations to be converted to new "associations d'usagers des eaux agricoles". The new legislation also carefully spells out that these associations are to be non-political in nature and that transgressions are dealt with by application of heavy fines and/or possible jail sentences (Articles 2 and 3, referencing dahir no 1-58-376, 15 November 1958).

While the law is comprehensive in the areas with which it deals explicitly, a large gap was left in the legislation regarding the lack of financial mechanisms with which the associations are to operate. There is reference to "cotisations" (Article 17), or members dues which are to be set by the associations and which are required to be paid. However, the legislation provides no economic rationale for farmers to form associations.

Additionally, the new law does not recognize or explicitly bring into present day use the 1969 Code d'Investissement Agricole. This previous legislation did recognize the need to place an economic value upon tasks that the Associations may perform in lieu of the State (or in the present day, ORMVAT) performing the tasks. This economic recognition was provided in the form of a 20% reduction (restour) of the water user duty fees (redevances) assessed the farmer, if farmers took responsibility for operations and maintenance.

##### *Decree Regulating WUAs*

Following the passage of Law No 02-84, (1990), the Prime Minister and Council of Ministers issued a decree regulating WUAs (15 November 1994). This law provided more specifics as to the application of 02-84 and charged both the Ministry of Agriculture and the Ministry of Finance as being responsible for the execution of the decree. This decree presents a form of a model contract (Articles 1 - 34) between the administration, represented by the Minister of Agriculture and Agrarian Reform, and a WUA.

## *WUA Member Financial Contributions*

Articles 5 through 8 (Title 2) of the Ministerial Decree specify that the "cotisations" fixed by the Association are to be in proportion to each members rights (land holdings) within the perimeter of the Association. The payment of these "cotisations" is obligatory and the amount is fixed annually by the General Assembly. There is to be a "cotisation" at the time of formation of the Association, and then an assessment of an annual "cotisation"

Clarification by either internal Association rules or by another Decree of the definition of proportional rights is likely to be required. Proportional "cotisations" payments are tied to rights, and rights are tied to **either** land ownership or use. As both ownership and use (exploitation) are considered to be eligible for membership (Title 3, Article 9), and no differentiation is made between the rights of the two forms of land holdings, conflicts may arise when land is rented by an owner to another farmer, and either both claim or deny responsibility for land rights. Joint **denial** of rights usually will most likely be seen when payments are to due to the Association, while joint **claims** of rights usually are made when returns or profits have been made by the Association. Either case will cause serious conflicts within an Association and must be resolved prior to implementation.

Future taxes and water duty payments which may be due the State, and costs for operations and management of the irrigation system will be included eventually as part of the annual "cotisation". However, these additional costs to the members are not tied explicitly by the Decree to reductions in the total amounts of the payments due the State, if the Associations take over functions which historically have been those of the ORMVAs.

It is Title 2 of this Decree which may be considered to be incomplete and to require re-consideration by the State. Without such re-consideration, farmers are unlikely to be willing participants in forming Associations. They will have assumed substantial new obligations without seeing any corresponding reduction in the payments due the State, and therefore are unlikely to see the advantages of Associations which lie beyond the immediate financial burdens and any touted benefits are but intangibles to farmers at this point.

### **B Council Election, Composition and Responsibilities**

As specified in Title 4, Articles 12, 13, 19 and 23, a Council composed of 6 members is elected in secret ballot by a majority of the Association's General Assembly present. The General Assembly is composed of all owners and users ('proprietaires et exploitants') within the perimeter as defined by the Administration (ie the ORMVAs). Each member ("societaire") has but one vote.

Additionally, one Council member as representative of the Ministry of Agriculture is appointed by the Administration (Loi no 02-84, Article 12) to represent the State with voting powers ("voie deliberative"). As specified in Article 15, other representatives of the government may sit in on meetings if they so wish, but have only advising roles ("titre consultatif"). Included are a Ministry of Agriculture representative, a Ministry of Finance representative, a local government

official, a representative of the appropriate Chamber of Agriculture, and representatives of the communal councils

Articles 24 through 31 clearly state the Council and President of the Council functions, and the Council's relationship to the General Assembly. Decisions of the Council are to be made by the majority, and in case of ties, the President's vote decides the issue. The President's role is to act as the executive of the decisions taken by the Council, present the budget and the accounts to the Council for deliberation, represent the Association vis-a-vis the State, and authorize payment for expenses. Also, the President is responsible for receipt of members' payments to the Association, especially for the "cotisations"

As noted in Article 29, the Council is to carry out the decisions taken by the General Assembly, submit questions to the General Assembly, establish the budgets and submit them to the General Assembly, and name ("nommer") agents and establish the conditions of their functions ("traitement")

The existing language of Article 29 regarding "agents" needs to be amended. The amended language should clearly allow that the Council may hire and fire either agents or employees of the Association.

Additionally, it should be noted that the Decree (Article 24) appears to contain an error in designating that the Association Council members terms are to be fixed at 2 years. However, the Article also states that 1/3 of the Council is to be elected each year. This implies that either the Council terms should be for 3 years, or 1/2 of the Council should be elected each year, therefore, Article 24 should be amended.

## **C Financing Mechanisms for WUAs**

### *The Farmers' Expectations*

If farmer responsibilities for some degree of system maintenance had been established from the outset, changes in the level of responsibilities would be much less likely to cause anguish and resistance on the part of farmers. Historically, however, farmer responsibilities were limited to simple payment for water delivered. Now, it is likely that farmers will face a dramatically different set of requirements, and need a dramatically different set of expectations, i.e. that no water will be delivered without the active participation from the farmer through an Association. The corollary to the farmer's increased participation will be a decrease in the government's role, to one which will not be all-encompassing, but rather have limitations beyond which the beneficiaries of the water must take responsibility. Therefore, it is likely that in the near future, all farmers within an irrigated perimeter (in this case, Tadla) will be members of an Association and no farmer will receive water without concomitant responsibilities to pay the Association. In order to perform its functions, the Association needs to finance certain tasks to ensure water delivery to the farm turn-out.

Financial mechanisms or requirements for payment, which were attached to the initial delivery of water in the irrigated perimeter of ORMVAT, essentially created expectations in the form of an implied or stated contract. As a pre-condition for receiving water, the farmers have always paid the water duty fee as fixed by the State. As a counter-part to this payment by the farmer, the State promised, either explicitly by contract or through historical practice, to deliver water and to maintain the irrigation delivery system from the main headworks to the farm turn-out. Under this scenario, farmers had a rational set of expectations that by just meeting the required payment at certain periods during the year, they would receive water for a fixed period of time for a given crop.

It is this set of expectations, now fixed in farmers' minds, as well as by the practices of ORMVAT, that the implementation of WUAs confront. Neither farmers, nor anyone else, would rationally volunteer to pay more for services, such as water delivery, system maintenance and system renewal, which they feel they or their neighbor will continue to receive at a lower cost. These expectations will be most difficult to change, unless the State establishes a clear set of incentives and penalties.

### *The Cost of Water*

Irrigation perimeters moving to a participatory structure which are already in existence with established tariffs or water user duties, have to overcome not only mental hurdles of new ways of thinking which require farmers' initiative and cooperation, but also economic hurdles of established water prices with an expected level of cost of production. It is this expected cost of production which the establishment of a WUA confronts. Water represents an important percentage of this cost of production. This cost of water per m<sup>3</sup> for the available period of record is provided in the Table below.

#### HISTORICAL WATER PRICES IN THE TADLA PERIMETER

Price in DH/m <sup>3</sup>	Period (dd-mm-yr)
0 024	01-10-69 to 30 06-80
0 034	01 07-80 to 30-06-81
0 044	01-07-81 to 30-06-82
0 048	01-07-82 to 30-04-84
0 079	01-05-84 to 30-09-85
0 090	01 10-85 to 17-03-87
0 100	18 03-87 to 02-01-90
0 120	03-01-90 to 14-07 92
0 150	15-07-92 to 04-04-95
0 160	05-04 95 to 05-12-95
0 170	06-12 95 to ??-??-??

Source: personal communication ORMVAT staff

According to ORMVAT staff, the price of water is slated to rise from the current 0 17DH to 0 23 or 24DH per m<sup>3</sup>. If this increase in the price of irrigation water indeed is applied, it will represent the largest absolute increase in the price of water in the available historical record. This price increase has serious implications for the farmer, as it is the cost of water in relation to the total cost of production of a crop which is an essential component in the calculation of whether or not a crop is profitable.

As an example, a farmer wishes to plant sugar beets, using the traditional system of "robta" (furrow irrigation), where water costs 17 Dhs per m<sup>3</sup>, and the beets require approximately 13,000 m<sup>3</sup> per crop. From estimates calculated by author based upon available ORMVAT documents, the costs of water represent approximately 25% of the cost of production. If the water price rises to 24 Dhs per m<sup>3</sup>, and if the farmer does not change irrigation methods, the cost of water as compared to the total production cost, rises to 34% -- a very substantial cost increase for a farmer.

#### *Mitigation of Cost of Water Through WUAs*

The farmer may decide to mitigate this increased water cost by changing to a more efficient irrigation method, or grow less water intensive crops in the next season, or by seeking to reduce actual costs by taking over from ORMVAT more of the tasks associated with delivering that water. Implementing WUAs addresses farmers' cost of production expectations by providing a direct benefit to offset increased water prices.

Water Users Associations should be able to be financed in a revenue neutral manner, or in such a way that the farmer is not paying any net increase for water over the price at which the government fixes the water user duties or payments. While a reduction of an existing water duty or tariff may be difficult politically and financially for the government to accept, a reduction of a new duty in conjunction with a reduction in the government's costs is far easier to justify. The creation of WUAs through the financial mechanism of reducing water duties to correspond to the degree by which WUAs assume the tasks of delivery, maintenance, repair and rehabilitation could be considered a win-win situation.

Farmers' WUAs would progressively take over the irrigation tasks which, at each increasing level of responsibility, would result in a reduction in the duty paid to the government. The government would see a progressive reduction in its transaction costs of maintaining an irrigation system at the tertiary and, eventually, the secondary level, through reductions in staff, material, and capital required for each of the tasks assumed by the WUAs. The efficiency of distribution and the repair status of the Association perimeters should improve, and therefore farmers should be able to obtain better service with a net cost savings. The net costs savings to farmers may be measured in three basic ways: total water required per tour is reduced because system losses at the tertiary level are reduced, crop yields increase because water is applied to more closely match crop requirements, cost of water is reduced because the WUAs use labor more efficiently than ORMVAT for tertiary and secondary irrigation management tasks.

Therefore, when new water duty or tariff prices are established it is recommended that farmers belonging to WUAs which have taken over ORMVAT tasks be given a price differential of 15% reduction from the total price of water by assuming all water delivery and scheduling tasks at the Association level. A 30% reduction would be granted for WUAs assuming the water delivery and scheduling task plus the task of routine maintenance of the tertiary canals within the Association. A 50% reduction would be granted to farmers of an Association which assumed the tasks of the first two levels plus tertiary canal rehabilitation. ORMVAT retains 50% for system wide maintenance of secondary and main canals. In the future, if secondary level Unions or Federations are formed (at the current Arrondissement level), a portion of the remaining 50% water duty would be negotiated, as well. The following Table summarizes the proposed water duty or tariff reduction tied to progressive implementation of WUAs increasingly able to take over more demanding tasks.

**Water Users Association Water Price to Task Ratio (Proposed)**

<b>Service Level</b>	<b>Tertiary Tasks Assumed</b>	<b>Percent Price Reduction</b>
I	Water Delivery & Scheduling	15
II	Routine Canal Maintenance	15
III	Canal Rehabilitation	20
I + II + III	All Tertiary Tasks	50

A water price related to task assumption by WUAs is a clear incentive to farmers to form Associations. It is also clear that the obligatory water duties must be collected by the Associations, and that ORMVAT must bill the Association directly rather than the individual farmer for this financing mechanism to work. If farmers continued to pay ORMVAT and the Associations then tried to collect the difference, the Associations would quickly fail through non-payment by "free riders", i.e., those who attempt to gain the benefit of the reduced tariff without supporting the cost of delivery of irrigation services.

The Associations would have a choice in either charging their member farmers the prevailing water tariff charged to farmers not organized into WUAs (i.e., revenue neutral, but providing better service), or to charge less than the prevailing tariff (revenue savings to the farmer when the services by WUAs are more efficiently delivered). This flexibility empowers farmers to take the decision-making into their own hands, through the most efficient operation possible of their WUA and brings into play market forces.

When properly structured, other implications of the WUA financing mechanism are that water trades and exchanges should be encouraged not only on the tertiary level, but on the secondary level in order to encourage system-wide efficiencies. Trading and water exchanges would provide one of several powerful benefits to encouraging the formation of secondary level organizations.

With experience, the intangible benefits of Association membership will become apparent and valued by farmers. Association membership which results in increased irrigation system reliability, fewer losses due to water thefts, increased flexibility of water scheduling and more favorable repayment terms will all become important benefits to the farmers once these have been experienced.

At the outset however, these benefits are intangible in comparison to the prospect of higher costs for water for those organizing into Associations. If there is no provision for a differential water price for Associations in comparison to those farmers who have not organized and committed to assuming more responsibility for their irrigation water delivery and canal maintenance and repair, then farmers will perceive the new Associations as a loss rather than a gain. The most powerful initial rationale will be that of price, the harder to quantify benefits will follow and serve to reinforce and strengthen the rationale for organizing into Associations.

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### SECTION III

## ADOPTION OF MANUAL OF CRITERIA AND APPROACH TO BUILDING WUAs IN TADLA

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#### A VISION FOR ORMVAT

##### *The Current Situation*

Any discussion of building Water Users Associations in the Tadla Irrigated Perimeter must include ORMVAT as the central player in all aspects of the perimeter functions. ORMVAT currently is responsible for delivery and allocation of water from the system main canal originating at Afourer, to the turnout at the individual farmer's field. It operates, maintains, repairs and rehabilitates the system, from the largest to the smallest canals. ORMVAT collects the water user duties from the individual farmers, and controls how much and when the farmer will receive the water. ORMVAT also has a large and extensive agriculture extension role with extension agents (vulgarisateurs) regularly dealing with the individual farmers to schedule planting cycles and to provide agronomic recommendations.

Historically, ORMVAT had responsibility of the delivery of all inputs of seeds, fertilizer, pesticides, etc. from which it has progressively withdrawn. Previously it controlled value added activities such as sugar refineries, milk cooperatives, and cotton ginning which were sponsored by the State. It still maintains close relations through alliances (filiales) and representation on the boards of these organizations but has stepped back from day to day control.

ORMVAT has statutory responsibilities to maintain the perimeter and to deliver water to the farmers within that perimeter who properly pay their water user duties. ORMVAT's very title implies agricultural development activities and its structure confirms these activities. Such responsibilities are not easily shed, nor changed. It should be clearly stated that ORMVAT's principal clients, the farmers, are not clamoring for a radical change in ORMVAT, they are not clamoring for ORMVAT to be disbanded because of service failures, nor are they clamoring for the assumption of ORMVAT's responsibilities by farmer's organizations.

From a recent study, farmers have expressed concerns with respect to ORMVAT's delivery of service, that is to have the water duty payment date coincide with payments received for the principal crops produced, and to receive details with the bill for water of the quantities of water received. As would be expected from a run-of-the-river system, many more farmers from the Beni Amir sector of the perimeter complained of water delivery problems than did those from Beni Moussa East and West (from Diagnostic des Exploitations Agricoles - Resultats de L'Enquete Project MRT March 1995). Hence, from the farmers' perspective and current knowledge of possibilities, the service that ORMVAT delivers needs to be improved and made more responsive to farmers needs. At this stage, farmers are not advocating taking over as the service providers. This

is in part, no doubt, because they do not realize that they could fill such a role, because knowledge of Associations is minimal, but also because ORMVAT continues to function reasonably well in its historical role as the provider of water to the farmers

### *Visible Trends*

In projecting forward, one always must consider the current state of affairs as the basis for any proposed action. Following this, trends are examined. These trends may continue, become stronger or change completely in the future. The unknown is a constant for any vision of the future and becomes increasingly dominant the farther one attempts to project a vision of future status, be it for the individual or for an entire organization. Therefore, given available knowledge and understanding of the present, projections of the future are likely to be substantially more accurate in the near term (1 to 3 years), than projections of 5, 10 and 20 years time.

The world is changing. It is a world where governments are reducing their levels of intervention and control in an effort to stimulate private sector productivity and to lower budget deficits by cutting back on subsidized sectors of the economy. It is a world of open markets, where local production is affected by national and international competition. It is a world where successful competition is based upon price and quality of the goods produced to meet a demand of a market. Agricultural producing areas will, over a period of time, tend to find their most competitive "niches" where they have an advantage because they have

- an abundance of resources (fertile soils, low cost water),
- proximity to markets (lower transport costs),
- seasonal offsets (other producing regions are dormant due to winter),
- lower labor costs, or
- knowledge or skills which are hard to duplicate

A combination of these or other factors will tend to produce the competitive advantage and thereby the market niche.

Competitive markets tend not to favor centrally-run bureaucratic organizations, such as ORMVAT. No matter how worthy such organizations may be from a social viewpoint, they tend to promote policies which diminish competition. Bureaucracies are by nature not innovative and do not respond quickly to changing demand by the market. Bureaucracies, because they respond to social concerns first, and secondly to economic need, tend to be over staffed. Since bureaucracies tend to reward capable administration, accurate knowledge of the system employed, and correct application of rules and regulations, they are rarely sufficiently staffed with personnel who are innovative by nature.

Having examined the current situation of centralized control, and having looked at the apparent national trend in Morocco towards a liberalized market-based economy, where does this leave ORMVAT? Any organization has always three courses of action: it may attempt to resist change and stay as it is, it may choose to evolve into a new structure with new functions, or it may decide (or have the decision made for it) to disband completely and leave the field of its current activities. Which of these is most likely for ORMVAT and which is most likely to produce beneficial results, both economically and socially for farmers and the region?

### *The Future*

Market-driven changes are now in motion at the national scale with an enlarged role being given to the private sector. If ORMVAT chooses to try and simply maintain its current structure and ignore these changes, it does so at its and the farmers' peril. Market forces (involving analysis of a country's credit worthiness based upon the level of budget deficits that it maintains) now will push the government towards reducing its role and financial backing of all activities not considered strategic. The non-strategic activities which are likely to be maintained will be those where the private sector clearly refuses to take the risks, or does not have the economic capital to assume.

In the agricultural context, a strategic activity may be considered the maintenance of the dam and hydro-electric system above Tadla, while the non-strategic but capital intensive activity would be the maintenance and the management of the primary canal structures. That is to say that at some point in the future, the national government will decide that **it can no longer support any activity which ORMVAT performs which it does not have to perform**. ORMVAT's budget will then shrink to the minimum necessary to maintain the primary canal structures, and the remaining structures will become the responsibility of the private sector.

If ORMVAT has chosen to wait for the changes to occur with no prior preparation on its part, it will likely experience massive layoffs of personnel and very abrupt changes to its operations and the system's integrity. The persons most adversely affected will be the farmers of the perimeter who will be faced with an abrupt change in management responsibility for which they are unprepared, and any ORMVAT personnel who are not in the highest management ranks or who do not fill critical main system functions. The region's economy is very likely to be adversely affected, at least in the short-term, by these abrupt changes.

### *A New Structure*

ORMVAT may choose to respond now to the national trends which are becoming apparent. It could reform its structure and functions in two basic ways, or in a combination of the two, to anticipate the likely outcomes of these trends towards privatization. These 3 ways are given as follows:

## **A 1 The Bottom-Up Approach**

ORMVAT progressively creates organizations which are capable in taking over its functions which deal with the individual farmer and where the transaction costs are the highest. Known as the Water Users Associations, they are implemented according to the Plan of Action which as described in ANNEX A of this report. At the same time of creation, ORMVAT performs a self-analysis of its changing functions, and as a result, re-allocates personnel, material and budgets to favor the creation of these organizations. It then shifts personnel and costs to the Associations by Tranches, or phases, and reduces its budget to match its remaining core activities.

Following the implementation of the 49 Associations, a second organizational level may be created. This organization, which may be termed a Union of Associations would perform activities which individual Associations are incapable of performing, from both a financial and technical perspective. Such an organization may be organized at the ORMVAT central level, but more likely, it would be appropriate to recognize the logical division of the perimeter into 3 arrondissements and therefore create 3 Unions, each composed of approximately 30,000 hectares. At this level the Associations would progressively assume the functions of the Arrondissements. The budget and personnel are shifted progressively from ORMVAT to the Unions of Associations at the Arrondissement level.

The problems with this approach are

- a it may take a long time and the macro-economic changes would likely over-take the process,
- b sufficient organizational resources may not be made available to the Associations,
- c duplication of efforts and resources may occur, if Associations are created without ORMVAT reducing its employees and functions

## **A 2 The Top Down Approach**

ORMVAT chooses to maintain essentially its current operational method, but reforms its bureaucracy. It brings into line, or balances, its revenue with its expenditures. In doing such, it rationalizes its structure so that the Department of Agricultural Development (DDA) is matched to the Department of Water Distribution (DGRID), and at each level there is a single manager over both functions who answers to the Director. The result is a pared down number of employees, a structure in which agricultural extension is tied to water delivery, and a management structure where coordination is not an option but a requirement.

The problems with this approach are that

- a bureaucracies inherently resist changes and little real change may occur,
- b bureaucracies inherently grow and a rationalized structure may not result in a smaller staff, but simply shift people and resources to other offices,
- c while revenue may more closely meet expenditures, response to the farmers' needs for a farmer needs remain largely unmet

### **A 3 Simultaneous Change Top Down and Bottom Up**

ORMVAT makes a sustained and serious effort to change, not only the efficiency with which it currently operates (Top Down Goals), but also changes its methods of operation (Bottom Up Goals) ORMVAT pursues simultaneous change to rationalize its structure and reduce the number of employees who are performing non-critical functions (recall the national government's likely response and need to reduce the budget deficit), and to create new farmers Associations which will encourage greater numbers of farmer-to-farmer transactions, thereby reducing the requirements for ORMVAT interventions at the tertiary and secondary levels

The simultaneous change is pursued to the Arrondissement level with the creation of the Unions of Associations Following the creation of the Unions, each one sends a representative to an newly constituted ORMVAT Governing Council (Conseil d'Administration) The representatives from the Unions have one half of the Council's seats ORMVAT and the farmers' interests from this point on should coincide with ORMVAT's central technical capabilities having been maintained, its regional capabilities (arrondissement level) having been maintained but progressively assumed by the Unions, and its functions at the Centre level having been assumed by the Associations

Some of these details are as follows

- a 49 Associations are implemented over a 4 year period and become completely operational in 6 years It is strongly emphasized that the implementation and operation of the Associations depend directly upon finding the necessary financial mechanisms to provide the economic incentives
- b 3 Unions are formed at the Arrondissement level beginning in year 4 and become operational in year 7 In year 5, a representative from each Union is named to the Council of Governors of ORMVAT
- c In a 3 year period, ORMVAT reduces the number of CDAs and ADAs to match the 12 CGRID and 3 AGRID offices
- d ORMVAT creates a new position of Centre Manager to supervise both DA and GRID activities Also, a new position of Arrondissement Manager is created to

supervise both DA and GRID activities. These positions will coordinate water and agricultural activities at their respective levels.

- e Surplus staff from the CDAs and ADAs are shifted to the Associations following their implementation by Tranche. ORMVAT pays 3 years salary of all Technical Managers, the aguadiers and the assistants receive a one year contract but are paid by the Associations.
- f A review is made of the agricultural extension agents necessary to operate at the Association level. Progressive reductions in staff are made, primarily through retirements whenever possible.
- g Staff without positions and not of retirement age are retrained and are put to canal repair and rehabilitation tasks at a much higher rate than currently exists. This staff is put on a 1 year contract. At the end of the year, ORMVAT may rehire on a year-to-year contract, or lay-off the staff following a canal system status assessment.

With respect to changes at the ORMVAT Central Office, resources should be shifted towards the areas of Water User Associations, Training (for ORMVAT personnel and Association Council members), and Communications. Any surplus personnel should be shifted to the field for system repair and rehabilitation. If possible, personnel at the engineering level should be shifted to the new management positions at the Centre and Arrondissement levels.

Once these simultaneous Top-Down and Bottom-Up changes are completed, ORMVAT is prepared for cutting its budgetary dependence upon the national treasury and much more prepared to compete in the private sector. ORMVAT now could become an autonomous society (a corporation), or a public utility and be operated as a regulated monopoly with no public (State) funds being provided. It would sell shares in the organization on the public market (Bourse), but reserve a controlling interest to the farmers. In this way it would raise additional capital for expansion and rehabilitation, and return profits to farmers for any efficiencies realized. This feedback loop of profit incentive would encourage the farmers to see the entire entity of ORMVAT as, in part theirs, and therefore encourage greater innovation and efficiency. At this point ORMVAT becomes ORMVAT, Inc or ORMVAT, S A or some such name.

Once this stage is reached, other roles for ORMVAT become paramount. These may be seen as ORMVAT the information provider, ORMVAT the marketing arm of the Associations and their products, and ORMVAT as the point of contact for international concerns looking to add value to raw products through canning, freezing, drying, packaging and transforming processes. This all is to the future and the base must be created first. Farmers who have a stake in ORMVAT will become partners rather than simply users of its services. 28,000 committed people can be an incredibly talented, creative and productive force if properly motivated.

## **B CRITERIA FOR SELECTING GROUPS FOR WUAs**

The following criteria are some of the principal factors which should be considered during the creation of farmer participatory water user associations. The initial 3 sets of criteria are most important to association success, those being the social context of the membership of the association, the relative geographic location, and the hydraulic factors as relating to individual members, as well as the association as coherent group. Factors of irrigation system condition and agronomic differences or limitations can usually be overcome if the first set of criteria have been taken into account and successfully dealt with during association creation and in the initial period following formation.

The WUAs established by the Bureau for Relations With Associations should carefully reviewed. An outline is offered below which can be employed in such a review to insure that the Primary and Secondary Criteria have been taken into account in the establishment of the Associations prior to their implementation. Convenience of location and familiarity with certain individuals cannot be used as criteria for WUA establishment.

The following outline may be employed as the organizing criteria for WUA reviews.

### Primary Criteria for WUA Selection

- 1 Social/tribal/familial groupings
  - Ethnic composition
  - Historical relationships
  - Societal position or rank
  - Traditional work relationships
- 2 Geographic location
  - Size limitations
  - Co terminus neighbors
- 3 Hydraulic orientation of Association and its members vis a vis
  - Primary canal
  - Secondary canal
  - Tertiary canal
  - Degree of certainty/risk of shortage

### Secondary Criteria for WUA Selection

- 4 Irrigation system condition
  - Primary
  - Secondary
  - Tertiary
  - Historical cost of repairs
  - Projected costs of repairs/replacements
- 5 Agronomic rationale
  - Cropping patterns
  - Soil types

Water quality  
irrigation water delivered  
drainage water removed

Homogeneous groups based upon social/tribal/or familial groupings must be considered as paramount in Association design, with geographic location and hydraulic orientation as being the secondary and tertiary criteria. If the Association is immediately torn apart by historical feuds or conflicts, no amount of nice and neat hydraulic rational will save it. Conversely, if a tribal or social grouping is respected but the geographic and hydraulic locations provide for a perimeter which is not self-contained at either a tertiary or secondary level, the Association will find it impossible to function effectively.

Secondary criteria, such as the degree of commonly shared characteristics found within an Association's boundaries of irrigation system status (ie degree of repair or degradation), or the degree of agronomic homogenization (the soils, water quality cropping types and patterns), are important but can be overcome by organizational arrangements. An Association can agree to compensate for certain parts of the irrigation system under-performing other parts by providing longer "tours" of water, or by giving these canals higher priority for repairs. Agronomic differences, such as sandier or more saline soils can similarly be recognized and appropriate alterations be made to accommodate members at a disadvantage. By the same token, the Association may require certain changes of practice by the individual farmers to continue to receive such consideration, or that special arrangements are made for only a short period of time to allow repair or changes of agricultural practices.

What is clearly signaled here is that to ignore historical tribal or ethnic conflicts in organizing Associations is a fundamental and often fatal flaw. For example putting one ethnic group at a secondary canal head so that it may control the water received by the middle or tail group of another ethnic group is ripe for conflict. Conflicts which may have been suppressed when the central irrigation administration (ie ORMVAT) was the controlling entity will quickly re-assert themselves at the moment that the central organization devolves control to local WUAs.

**Such potential for conflict appears to exist**, at least, in one area of the Tadla Perimeter. This is in the southern sector where Berber and Arab groupings occur in an intermingled manner, and where one of these groups may be in a future position to control another's access to water. These areas must be carefully studied and planned Association boundaries re-worked, if necessary.

## **C METHOD OF ESTABLISHING PARTICIPATORY ASSOCIATIONS**

The methods employed in establishing farmer participatory associations can be characterized as either top down (the State's role as represented by the Ministry of Agriculture or the irrigation entity, such as ORMVAT), or as bottom up (farmers establishing amongst themselves cooperative working societies, often seen in traditional irrigation systems). Large-scale irrigation systems with origins in national Ministries, or deriving their impetus from government financing, rarely have

begun operations with the simultaneous creation of water users associations. Often these associations are created after the irrigation scheme has been in place for a number of years and has encountered serious problems in the scheme's irrigation efficiency, the system's integrity and dependability, and the ability to repay debt or generate sufficient revenue for necessary for operations. Any or all of these situations may push the government entity responsible for the irrigation scheme to search for alternatives to the current situation.

Often times blame will be assigned to the farmers because of system failures, but the solutions, at least initially which are proposed and employed, will be those of an engineering or technical in approach. These solutions will be designed at the headquarters of the irrigation administration and employ clear formulas possessing a limited number of possible outcomes when applied as designed. Farmers are rarely effectively involved as participants during the initial design phase. Farmer input is usually sought only after the original designs are shown not to be working and the technical or engineered "fixes" have not brought the system up to satisfactory performance.

Therefore, farmer participation comes when many of the irrigation physical parameters are already set, as it were, in concrete, where communities already are involved in the production of irrigated crops, and where patterns of actions and responses to system performance have been established. This is to say, the methods employed to establish farmer participation are constrained by a set of factors which already have been established and over which little control can be exerted. Hence, these organizational methods must work within a limited set of possibilities to achieve effective participatory and organized farmer actions which improve upon an established system's performance, a "blank slate" is rarely seen.

In spite of these limiting factors, impressive gains in system performance as measured by markedly more efficient use of water, decreasing maintenance costs, decreasing system breakdowns, increasing cropping intensities with higher margin crops, and decreasing farmer complaints are some of the results commonly seen when farmers are given a greater voice in an irrigation system's operations.

Provided below is a brief description of the methodology employed in organizing WUAs which emphasizes community participation from the outset by through the joint design of a plan of action to implement a Water User Association. Generally speaking, the methodology is divided into five components as follows:

- 1 Identification of key farmers
- 2 Formation of common plan of action (ORMVAT's partnership with community)
- 3 Identification of Potential Areas of Conflict
- 4 Identification of Association and ORMVAT's respective areas of responsibility

Identification of key farmers is the initiating step which an organization like ORMVAT assumes as its responsibility during the initial phases. These key farmers may be identified through factors such as prominent rank or standing in the local community structures, reputation as a successful farmer, and previous service in leadership positions. A sufficient number of key farmers need to be identified so that they may participate as the ad hoc organizing committee of the future Association. These individuals do not assume the title of President or Council members, but serve as the organizers until a General Assembly is convened to elect representatives. These very individuals may then be chosen by the Assembly to formalize their positions of leadership, but at this point, ORMVAT or the local government should "short-circuit" the process of WUA formation and simply name them as the Council representatives. For an Association to function with its members full and active participation, members must feel that they have had a voice in selecting their representatives. This feeling of representation is especially important on the tertiary level where a representative may be chosen for a group of 10 to 20 farmers.

Formation of common plan of action (ORMVAT's partnership with community) The methods employed by ORMVAT to organize WUAs set the "tone" for the development of the new relationship with the farmers and farmers' organizations. Rather than approach to the task as one in which ORMVAT needs to perform all the initial organizing, a different approach is to pose to the community (or ad hoc group of farmers) a set of problems relating to water delivery and system maintenance. The farmers are asked for suggested solutions. These solutions can then be structured and formalized into an draft Action Plan with a timetable for Association implementation, given back to the "ad hoc" group of farmers who are asked to solicit comments from the general community (ie, to the future members of the Association). This provides the community with

- a information about the ad hoc group's existence and ORMVAT's efforts,
- b an opportunity to respond with ideas, and
- c initiates participatory practices with a concrete example by canvassing the community for input into planning documents

It is these ideas from the ad hoc group, the community's comments and ORMVAT's technical guidance that then become formalized into the goals and plans of the community and the future Association.

Identification of potential areas of conflict prior to the implementation of WUAs will often be some of the more important work that can be done by the ORMVAT team with assistance by the community. Prevention of such conflict is the goal and must be incorporated into the design of the Association boundaries and membership. The highest potential for conflict in a WUA can be anticipated in the social realm, in the hydraulic and irrigation system, and over land tenure and land ownership. These are thorny problems but must be tackled and some resolution agreed upon by all parties prior to Association implementation.

Identification of specific Association responsibilities, as well as those which ORMVAT will retain at each phase is an essential task. This task should be pursued as part of the Action Plan with

phases showing ever greater responsibilities of canal system maintenance and operations being taken over by the Association. The responsibilities to be identified should include, as a minimum the following

*The Association*

- a management of internal affairs
  - statutes and rules consistent with legal parameters
- b contracting and payment for water
- c employment of staff
  - Manager
  - Water scheduler
  - Ditch rider
  - Emergency on-call labor
- d maintenance of irrigation system

*ORMVAT*

- a delivery of water to Association
- b supervision of Associations
- c training of Associations
- d construction/rehabilitation of irrigation system
  - organizational level of responsibility

**D IDENTIFICATION OF PRIVATE SECTOR RESOURCES**

Key to the successful transformation of dependent groups of farmers to fully functioning, independent WUAs is the development of the private resources and networks of private businesses which will furnish the needed services and supplies. From contractors and engineers (including surveying), to suppliers of materials, and to suppliers of capital or credit resources run the range of needed resources.

ORMVAT and/or the Project could assist the Associations in locating the appropriate resource firms. An agricultural irrigation fair could be sponsored by ORMVAT and/or the Project to introduce these firms to the farmers and allow the firms a venue to showcase their resources. ORMVAT and/or the Project could also gather and maintain a data base of the services and supplies which are available, especially important are those which are outside the immediate region of Tadla which would be more difficult for the Associations to initiate contact without prior knowledge.

The suggested categories below should be identified by firm, principal officers, type of business and specialties, all pertinent locator information, experience in furnishing the needed supplies or services. This information should be published and widely distributed to all Associations. The following is to serve as an outline for organizing such a data base, as well as the categories of suppliers of resources to be invited to any agricultural irrigation fair.

- 1 Contractors
  - a Engineering
  - b Surveying
  - c Builders/Repair/Rehabilitation  
Canals  
Roads
  
- 2 Suppliers of materials, spare parts
  - a "Canaux"
  - b Primary materials (cement)
  - c Other
  
- 3 Financial Resources
  - a Banking  
Credit  
Deposits/Payments
  - b Accounting/Auditing
  
- 4 Marketing Resources for Crop Diversification
  - a Contract markets  
Internal  
External
  - b Agents/Private Companies
  - c Government/Semi-autonomous Export Promotion Boards

The time frame for such assistance is to be coordinated with the need by the Associations for these types of resources. It is assumed that the most appropriate time to gather such information is during Years 1 and 2.

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## SECTION IV

### STRUCTURE AND RESPONSIBILITIES OF ORMVAT'S WUA UNIT

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#### A Purpose

The purpose of a WUA unit within ORMVAT is to galvanize the creation and implementation of WUAs within the Tadla perimeter. As a key point of contact and coordination, this unit will be the primary unit for ORMVAT activities which deal with the Associations. It must be a dynamic and creative force within ORMVAT to encourage the changes in farmer expectations of responsibilities and to encourage the changes within ORMVAT to promote the new Associations. This unit must expect to withstand a great deal of turmoil both within the farmer groups and with ORMVAT itself as changes of structure and organizational relationships begin to occur which may make some people very uncomfortable.

The ORMVAT unit charged with WUA implementation must be able to maintain a steadiness of purpose when buffeted by the winds of opposition. It must serve to remind ORMVAT of the benefits of the changes which occur during the times when the WUAs are suffering "growing pains" and during the times when mistakes are made. While experiencing the day-to-day problems, this unit must look beyond the immediate to the goals of creation of functioning participatory associations throughout the perimeter. This unit must be able to assist in the transfer of responsibilities of ORMVAT to the Associations in a planned, orderly and continuous manner. The planning for the creation of not only the primary Associations, but for the medium-term goal of creation and implementation of the secondary arrondissement level Unions or Federations of Associations will be undertaken by this Unit.

#### B Responsibilities of the WUA Implementing Unit

The implementing unit will promote the necessary activities for Association creation, implementation, training and operations. The unit will coordinate the activities of other units in ORMVAT which have primary responsibility for distribution, maintenance and rehabilitation within the perimeter so that Association participation is begun at each opportunity. Planning for the creation of the WUAs is done by this Unit in partnership with the local communities (**Please note Sections III B and III C of this report**). Planning the implementation schedule by Tranches of Associations will be the responsibility of this unit, as well as the schedule of progressive assumption of more complex duties (**Please note ANNEX A -- The Action Plan**).

A critical responsibility of this unit will be the training or coordination of the training for the Associations and for their newly acquired staff. Without adequate training, these Associations face grave risks of failure. When specific expertise is available within the Implementing Unit, the training should be performed in-house. However, when insufficient expertise for particular subjects, the Implementing Unit must contact other ORMVAT units and request assistance. The Implementing Unit may also look outside of ORMVAT for such training expertise, for example, to

other organizations within Morocco, or to the MRT Project (**Please note Sections V A, V B & V C of this report**)

Transfer of staff from ORMVAT to the Associations will be coordinated through this Unit. This Unit will follow the performance of the transferred employees. Complaints from the Associations regarding transferring ORMVAT employees will be routed through this office and attempted to be resolved. This unit may also provide counseling to transferring employees, but should not seek to interpose itself between the employees and the Association Council. While the Technical Manager of an Association remains an employee of ORMVAT, the Implementation Unit will communicate both to the leadership and to the Manager. When the Manager becomes an employee of the Association, the Unit will shift to communicate primarily with the Council and will no longer provide orders or give direction to the Manager.

### **C Structure**

Organizationally, the Unit should initially remain at the Bureau level within ORMVAT. This should minimize "turf" battles. As the Unit increases its role within ORMVAT, following the development of the number of functioning Associations, consideration should be given to upgrading the Bureau to the Service level. Upgrading may also be considered during the re-organization of ORMVAT (**Please note Section Vision For ORMVAT**) which should take place within a year.

The Unit needs a more action-oriented title to reflect the active and dynamic role which the Unit must take to promote and guide the implementation of the WUAs. It is suggested that the be re-named the **Bureau for Water User Association Implementation, or more simply the Bureau for Association Implementation, BAI**, which places the word "implementation" prominently in the name.

The Bureau for Association Implementation will expand staff progressively to match Association requirements for assistance. Initially, the Bureau should receive human resources composed of the following:

- 1 Bureau Chief
- 3 Deputies for
  - Creation
  - Implementation and Follow-Up
  - Training
- 1 Secretary

Once the first Tranche of Associations is implemented, field personnel located at each arrondissement should be assigned. Each of the 3 arrondissements should receive a Deputy to maintain continuous contact and follow-up with Associations. The arrondissement representatives must be dynamic persons who have a vision of the eventual creation of secondary Union or Federations of Associations which will be housed at the arrondissement level. Each arrondissement

deputy will be assigned 1 Assistant/Secretary once the second Tranche of Associations has been implemented

The Bureau for Association Implementation enlargement does not envisage a net new hiring of personnel, rather enlargement is achieved through shifting of internal resources. Based upon performance and increased responsibilities, salary increases or grade/rank increases should be budgeted

#### **D Physical Resources**

The Bureau for Association Implementation must have the physical resources available to enable the most efficient operation possible. It must have means of transport, means of communication, and tools for planning and presentation of ideas and trainings. The Bureau staff must also be able to use these tools most effectively and have the training necessary to carry out its purpose and vision. Where possible, these resources can be reassigned or re-allocated during ORMVAT's re-organization. Some additional materials and transport may need to be purchased

##### *At the Bureau level,*

- 1 Vehicle 100 % assigned to the Bureau
- 1 Motorcycle 100 % " " " "
- 1 Computer
- Software (Office Suite)
  - Word processing
  - Spreadsheet
  - Presentation
- Ample training materials and supplies
  - Books
  - Notebooks
  - Flip charts
  - Boards
- Audio-visual training equipment

##### *At the Arrondissement level,*

- 3 Motorcycles
- 3 Typewriters (eventually 3 computers)
- Training materials
  - Books
  - Notebooks
  - Flip charts
  - Boards

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## SECTION V

### TECHNICAL ASSISTANCE TO BE PROVIDED BY TRM

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#### A TRAINING

##### *Training Rationale*

Training which occurs most effectively, occurs because the participants (more specifically, the recipient or target group) feel the need for gaining knowledge or practice in the subject(s). When individuals believe that there is a specific need for new or improved knowledge and can see concomitant gain from possessing that knowledge, training is not something that is difficult for which to provide a rationale. Individuals or groups of individuals, in this particular case farmers, will demand information or at least be very attentive to receive information when they believe they may gain improved yields, lower their costs of inputs, improve their markets, or even improve their quality of life (in what form is appropriate in the local/cultural context). Also, felt needs for new knowledge can arise from fears of missing or losing out on something which will provide greater economic security, sense of well being or advancement. The desire for learning a subject which is taught must come from the recipient, rather the desire to teach create the requirement for training.

Therefore, since training does not occur successfully in a vacuum of desire, how does one create that desire, the interest and the felt need to dedicate the time required to learn a new subject where the felt need does not yet exist because of a basic lack of knowledge? For ORMVAT employees, training(s) in a new subject area, such as the responding to the operational requirements of newly created Water Users Associations, will face the initial hurdle of identifying the reasons why they would want to participate in any such proposed subject. ORMVAT employees may be simply told that they are to go and attend a training on WUAs, probably most would go (at least until some crisis of the moment came up), but likely would be inattentive. However, if those very employees were told that attendance and mastery of the subject would be directly related to their future job prospects, or more immediately, would affect their retention by ORMVAT, attendance would improve dramatically as would the ability to recall, and possibly, the ability to use the information transmitted. Suddenly need and its companion, desire, are present in the target group and learning occurs.

For the leadership of the Water Users Associations, the members must feel there is an equally pressing need and desire to understand what their roles are, how to perform their respective functions and how to supervise or guide the affairs of the Association. In traditional irrigation societies, prestige and social standing may serve as sufficient incentive to apprentice to someone more knowledgeable in a subject. While social prestige may eventually attach itself to service on an Association Council, more likely it may be initial curiosity, desire for economic gain, or concern for the immediate welfare of the group or individual if risk is perceived in not knowing a subject. If successful operation of a Water User Association became a requirement to receive water, attendance and attention would likely be high. If the operation of a WUA showed clear economic gain to the

farmer, from lower costs of water to an Association which is then partially passed on to the farmer in either in kind (quicker repairs, increased reliability, fewer thefts, increased flexibility of schedules, more favorable repayment terms, etc )

### *Training Methodology*

Adult training is most successfully done with active participation in short sessions on the part of persons being trained, and training is least successful that involves long hours in a classroom with a format where the trainer/teacher lectures to the trainees/students. Adult trainees typically come to a training possessing a number of ideas, and sometimes specific knowledge, about the subject area in which the training is occurring.

Such knowledge by the trainees cannot be looked upon as a threat to a trainer's "traditional role", as the font of all knowledge on the subject. Rather, the trainer must elicit the type, and degree of knowledge and experience which the trainees possess. This knowledge of the trainees is used as the point of departure for the training. A key difference between teaching students and adults is that trainer is less of the "teacher" and more of a guide to the participants.

A practical, concrete approach to the subject material is more successful than a theoretical or general presentation. The adults in the course, if motivated, are there to learn. They generally have little time to waste due to the commitments of family and work. A series of case studies where the participants practice the roles which they are to assume shortly is often an excellent manner of engaging the trainees actively and sparking commentary and debate.

Working in small groups of "committees" is encouraged to promote more active participation by all members of the training session. Large groups tend to be dominated by the "notables" of the community who have experience speaking to government officials or in formalized settings. Small groups tend to encourage the more reserved members of the training to vocally participate.

While a written record is important, be it in the form of flip charts, hard copies of overhead slides, etc , it is important to recall that a number of participants may be illiterate and that written material must be accompanied with clear explanations that the trainees should return to their communities and share these materials with those who would benefit from them. No one should be intentionally or inadvertently embarrassed being shown to the group as illiterate. Graphics should accompany texts whenever possible.

## TRAINING SCHEDULE and SUBJECTS -- A General Plan

### Year 1 PHASE I

#### Organizational Status

- i The initial year encompasses organizing effort start of limited set of functions for first Tranche close supervision and assistance required from ORMVAT and Project Create 5 functioning Associations  
  
Al Massira  
Al Ittihad  
Al Wifak  
2 additional WUAs to be id
- ii 2nd "Tranche" Associations (10) are identified and preliminary meetings held in preparation for implementation

#### Training Undertaken

- i Training of Trainers  
  
ORMVAT central, arrondissement staff from the Bureau of Association Implementation, and the technical managers assigned to the Associations 12-14 persons initially trained  
  
Subjects planning the Association campaign (publicity/informational messages), organizing implementation tasks, protocol and methods of holding Association meetings, the conduct of elections, initial tasks of the Association formation, and principles of accounting
- ii Training of Associations  
  
Association Leadership, 1st Tranche  
6 persons per Association, 30 persons total trained  
  
Subjects protocol and methods of holding Council and General Assembly meeting, the conduct of elections, and initial tasks of the Association relating to scheduling and allocation of water, collection of dues and principles of accounting, and roles of the Council, General Assembly and employees of the Association

## Year 2 PHASE II

### Organizational Status

- I 1st Tranche Associations are now in Intensification Stage. Goal is to make the initial 5 WUAs independent. Training continued in more complex tasks. Suivi or follow-up is continued but emphasis shifts to one of advising rather than the directing of tasks initiated in Year 1. Year 2 responsibilities are closely followed and training occurs in these areas.  
  
Financing mechanisms are now critical for Association survival, and must be in place at end of 2nd year.
- II Creation of Functioning 2nd Tranche of Associations. Based upon experiences of 1st Tranche (the 5 WUAs above), 2nd Tranche creation is improved. "suivi" is close, and training of 2nd Tranche occurs. Key element in choice of 2nd Tranche is the close proximity (preferably adjacent) of each of the ten with respect to one of the 1st Tranche Associations. This proximity will increase diffusion of knowledge through informal farmer-to-farmer contact.  
  
Associations in Initial Stage 10
- III Identification of 3rd Tranche of Associations and initial organizational meetings held. 20 Associations are to be chosen and organized.

### Training Undertaken

- I Training of trainers is continued for Bureau for Association Implementation staff in more complex tasks, such as managing employees, financial planning and budgeting, accounting, planning canal rehabilitation and repair, equipment maintenance and repair, supervision and control of expenditures.
- II Tranche 1 (30 persons) training is conducted in the following subjects: establishing a plan for the year, managing employees, financial planning and budgeting, accounting, planning canal rehabilitation and repair, equipment maintenance and repair, and supervision and control of expenditures.
- III Tranche 2 (60 persons) training is conducted in the following subjects: protocol and methods of holding Council and General Assembly meeting, the conduct of elections, and initial tasks of the Association relating to scheduling and allocation of water, collection of dues and principles of accounting, and roles of the Council, General Assembly, and employees of the Association.

### Year 3 PHASE III

#### Organizational Status

- i The Tranche 1 (5 WUAs) are now functioning independently of ORMVAT. Periodic audits and extension-type activities now emphasized for Tranche 1. Tranche 1 leaders now actively participate in the training of successive Tranches (ie, bringing the farmers' viewpoints and practical approaches into the trainings)  
  
Training continued for Tranche 2 in more complex tasks. "Suivi" continued but emphasis shifts to one of advising rather than directing of tasks initiated in initial year for Tranche 2. 2nd year responsibilities are closely followed and training occurs in these areas.  
  
Financing mechanisms now critical for Tranche 2 and must be in place at end of year.  
  
Tranche 2 Associations in Intensification Stage 10
- ii New roles for ORMVAT personnel related to Tranche 1 independence, at end of year technical managers of Tranche 1 become Association employees
- iii Creation of Functioning 3rd Tranche of Associations. Based upon experiences of 1st and 2nd Tranches (the 15 WUAs above), 3rd Tranche creation is refined, "suivi" is close, and training occurs. Key element in choice of 3rd Tranche is the close proximity (preferably adjacent) of each of the 20 with respect to one of the 1st or 2nd Tranche Associations. This is to increase diffusion of knowledge through informal farmer-to-farmer contact.  
  
Associations in Initial Stage 20
- iv Identification of 4th and final Tranche of Associations and initial organizational meetings held. Remaining (14) Associations are to be chosen and organized

#### Training Undertaken

- i Training of trainers. Training continues for any new Bureau employees and technical managers of the 2nd and 3rd Tranches in subjects covered in Years 1 and 2
- ii Tranche 2 (60 persons) training is conducted in the following subjects: establishing a plan for the year, managing employees, financial planning and budgeting, accounting, planning canal rehabilitation and repair, equipment maintenance and repair, and supervision and control of expenditures
- iii Tranche 3 (120 persons) training is conducted in the following subjects: protocol and methods of holding Council and General Assembly meeting, the conduct of elections, and initial tasks of the Association relating to scheduling and allocation of water, collection of dues and principles of accounting, and roles of the Council, General Assembly, and employees of the Association

## Year 4 PHASE IV

### Organizational Status

- i The Tranche 1 & 2 (15 WUAs) are now functioning independently of ORMVAT. Periodic audits and extension type activities now emphasized for Tranche 1 & 2. Tranches 1 & 2 Leaders and Association members participate in training of successive Tranches (farmers viewpoints and practical knowledge emphasized)

Training continued for Tranche 3 in more complex tasks. "Surviv" continued but emphasis shifts to one of advising rather than directing in tasks initiated in initial year for Tranche 3. 2nd year responsibilities are closely followed and training occurs in these areas.

Financing mechanisms now critical for Tranche 3 and must be in place at end of year.

Tranche 3 Associations in Intensification Stage 20

- ii New roles for ORMVAT personnel related to Tranche 1 & 2 independence, at end of year technical managers of Tranche 2 become Association employees
- iii Creation of Functioning 4th and final Tranche of Associations. Based upon experiences of previous 3 Tranches (the 35 WUAs from Tranches 1 -3) 4th Tranche creation is refined. "survivi" is close, and training occurs.

Associations in Initial Stage 14

### Training Undertaken

- i Training of trainers. Training continues for any new Bureau employees and technical managers of the 3rd and 4th Tranches in subjects covered in Years 1 and 2.
- ii Tranche 3 (120 persons) training is conducted in the following subjects: establishing a plan for the year, managing employees, financial planning and budgeting, accounting, planning canal rehabilitation and repair, equipment maintenance and repair, and supervision and control of expenditures.
- iii Tranche 4 (84 persons) training is conducted in the following subjects: protocol and methods of holding Council and General Assembly meeting, the conduct of elections, and initial tasks of the Association relating to scheduling and allocation of water, collection of dues and principles of accounting, and roles of the Council, General Assembly, and employees of the Association.

## **Year 5 PHASE V**

### **Organizational Status**

- i The Tranche 1,2 & 3 (35 WUAs) are now functioning independently of ORMVAT. Periodic audits and extension type activities now emphasized for Tranche 1-3.  
  
Training continued for Tranche 4 in more complex tasks. "Suivi" continued but emphasis shifts to one of advising rather than directing in tasks initiated in initial year for Tranche 4. 2nd year responsibilities are closely followed and training occurs in these areas.  
  
Financing mechanisms now critical for Tranche 4 and must be in place at end of year.  
  
Tranche 4 Associations in Intensification Stage 14
- ii New roles for ORMVAT personnel related to Tranche 1-3 independence, at end of year technical managers of Tranche 3 become Association employees

### **Training Undertaken**

- i Training of trainers. Training continues for any new Bureau employees and technical managers of the 4th Tranche in subjects covered in Years 1 and 2
- ii Tranche 4 (84) training is conducted in the following subjects: establishing a plan for the year, managing employees, financial planning and budgeting, accounting, planning canal rehabilitation and repair, equipment maintenance and repair, and supervision and control of expenditures

## **Year 6 PHASE VI**

### **Organizational Status**

- i The Tranches 1-4 (49 WUAs) are now functioning independently of ORMVAT. Periodic audits and extension type activities now emphasized for Tranches. ORMVAT now assumes the role of major headworks and primary canal supervision. Secondary canal maintenance and repair responsibilities begin to be progressively turned over to new Federations of Associations. ORMVAT'S role is one of expert technical advice, maintenance and rehabilitation of the major structures of the perimeter and advising of other ORMVAs
- ii New roles for ORMVAT personnel related to Tranche 1-4 independence, at end of year technical managers of Tranche 4 become Association employees

### **Training Undertaken**

Training continued for Tranches in more complex tasks of shifting to a Union or Federation of Associations

## **B Resources For WUA Training And Implementation Tasks**

### **B 1 WUAs**

*On a per Association basis*

Office (rehabilitate an ORMVAT office rather build new)

Furnishings

Typewriter (eventually a computer)

Salary assistance

    Manager

    Ditch rider

Contractual repair needs

Capital equipment

### **B 2 ORMVAT**

*On a per phase basis*

WUA Unit Enlargement (no net new creation of personnel - enlargement is achieved through shifting of internal resources, some salary increases should be planned for increased responsibilities )

1 Assistant per phase

1 Trainer per phase

WUA Unit's vehicles

WUA equipment

    computer

    audio-visual training equipment

WUA furnishings

### **B 3 TRM PROJECT (given current resources and if project was to be extended)**

*On a Phase 1-3 basis*

4mos Short-term consultancies

1 Vehicle

1 Computer

1 Office and furnishings

    Audio-visual training equipment

1-2 National Conferences/Seminars on WUAs

## **C            PREPARATION OF A NATIONAL CONFERENCE ON WUAs**

The TRM Project, with active participation from USAID, may consider organizing a high level conference or seminar on financing Water Users Associations. Given the importance of finance to WUA long-term viability, priority needs to be given to establishing round table discussions with the Ministry of Agriculture, the Ministry of Finance, the ORMVAs, leaders of selected Water User Associations, World Bank and Bilateral Donors (USAID etc.)

The subject of the seminar or conference would be to examine the amendments to laws and decrees which are necessary to permit full Association implementation. These amendments must include clear financial mechanisms to provide positive incentives to WUAs. Associations must be encouraged to assume the responsibilities, at the appropriate and progressive level of capability, canal system operations, maintenance, repair and replacement. Flexibility should be emphasized in the choice of financial incentives chosen by the conferees. One financing method has been detailed in this report which involves providing relief from new water user duty or tariff increases for farmers forming and implementing Associations (Please note Section II C)

Such a conference must stay focused on the economic rationale for the existence of WUAs and not delve into the theory or the rationale for such Associations. Model amendments to the relevant decrees and laws should be prepared for discussion prior to the conference. Background financial and economic data regarding the costs of production, costs of canal maintenance, repair and rehabilitation disaggregated to a level approximating an average sized Association are essential and must be available to the conferees.

The TRM Project should take the lead in organizing such a conference and providing the appropriate technical assistance in gathering the necessary data to support the establishment of the economic conditions to permit WUAs to prosper.

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## SECTION VI

### RECOMMENDATIONS AND CONCLUSIONS

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#### ORMVAT

- 1 ORMVAT should begin a review of its mission statement. Such a review will include an analysis of the primary goals of an irrigated perimeter, in light of the changes in national political and economic directions towards liberalization of most aspects of Moroccan society. Once input has been received from all levels of the organization, a new mission statement with clear goals is agreed upon, written down, and communicated to all employees.

It is essential that the upper echelons of ORMVAT are in agreement that such a change is necessary, and, once agreed upon, these changes will be carried out to completion.

- 2 Within 7 to 9 months, a review of ORMVAT's current structure should follow the re-statement of the mission.
- 3 Following the review of its current status, in months 10 to 12, ORMVAT should examine what will be needed with respect to resources to support the shift in its mission with the progressive transfer of responsibilities to the Associations. This analysis should include the re-allocation of personnel, material and budgets which will precede implementation of each Tranche as detailed in the Action Plan.

#### ORMVAT, MINISTRIES, USAID, TRM Project, WORLD BANK

- 4 Given the importance of finance to the long-term viability of WUAs, priority must be given to establishing round table discussions in the form of a seminar or conference with the Ministry of Agriculture, the Ministry of Finance, the ORMVAs, leaders of selected Water User Associations, World Bank and Bilateral Donors (USAID etc). The subject of the conference will be to address the amendments to laws and decrees which are necessary to permit full Association implementation. These amendments must include clear financial mechanisms to provide positive incentives for the assumption of responsibilities by associations, at their level of capability, of canal system operations, maintenance, repair and replacement. Flexibility should be emphasized in the choice of financial incentives chosen.

It is strongly emphasized, that immediate or near-term transfer of any existing Government debts to newly formed Associations must be avoided at all costs. From experience, such a debt transfer, while possibly attractive to governments to improve debt to revenue ratios, has been fatal to Associations which are still relatively weak from a financial perspective.

## **ONCE THE NECESSARY FINANCIAL MECHANISMS ARE IN PLACE**

- 5 The following phased approach should be undertaken by ORMVAT, with TRM Project assistance, to implement Water Users Associations in the Tadla Irrigated Perimeter
  - a 49 Associations are implemented over a 4 year period and become completely operational in 6 years
  - b 3 Unions are formed at the Arrondissement level beginning in year 4 and become operational in year 7 In year 5, a representative from each Union is named to the Council of Governors of ORMVAT
  - c In a 3 year period, ORMVAT reduces the number of CDAs and ADAs to match the 12 CGRID and 3 AGRID offices
  - d ORMVAT creates a new position of Centre Manager to supervise both DA and GRID activities Also, a new position of Arrondissement Manager is created to supervise both DA and GRID activities These positions will coordinate water and agricultural activities at their respective levels
  - e Surplus staff from the CDAs and ADAs are shifted to the Associations following their implementation by Tranche ORMVAT pays 3 years salary of all Technical Managers, the aiguadiers and the assistants receive a one year contract but are paid by the Associations
  - f A review is made of the agricultural extension agents necessary to operate at the Association level Progressive reductions in staff are made, primarily through retirements whenever possible
  - g Staff without positions and not of retirement age are retrained and are put to canal repair and rehabilitation tasks at a much higher rate than currently exists This staff is put on a 1 year contract At the end of the year, ORMVAT may rehire on a year-to-year contract, or lay-off the staff following a canal system status assessment

## **TRM PROJECT**

- 6 The Project continues to hold policy level meetings with the Director of ORMVAT to pursue the dialog of the importance of beginning the transformation process to participatory management of the Tadla perimeter
- 7 The Project continues to pursue training objectives for WUA establishment As financial mechanisms of WUA viability are not yet in place, initially the definition of training should include diffusion of a series on WUAs through the mass media (radio) and in written communications to spark curiosity and

encourage demand (see Action Plan for more details)

- 8 Once the financial mechanisms are in place, the Project concentrates on the progressive training as outlined in Section V Training is progressive and follows the creation of the WUAs Tranche by Tranche in 6 phases Given the projected lifespan of the project, Tranches 1 and 2 are likely to be able to be completed This however, starts the process and has trained the essential trainers in the methodology and processes The persons which must be trained are essentially divided into three groups
  - a ORMVAT employees responsible for WUA implementation,
  - b ORMVAT employees who are slated to be seconded and then transferred as employees of WUAs, and
  - c the first Tranche of WUA Council leadership

In conclusion, ORMVAT, the Project and the donor agencies should work towards a solution to create the economic climate necessary for WUA viability Once this climate has been created, ORMVAT, with Project assistance, should plan for a progressive transfer of a phased number of functions to a certain number of Associations per year for the next 4 to 5 years Complete training and close follow-up supervision will be essential from ORMVAT, with Project assistance, during this period It should be realized that it is likely that ORMVAT will continue, at some level, its functions as the coordinating and directing representative of the State for the foreseeable future ORMVAT should also anticipate the need to resume complete or periodic control in the event of serious problems within some of the Associations

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**SECTION VII**  
**ANNEXES**

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**Annexe A**

**Annexe B.**

**Annexe C.**

# **A N N E X A**

## **ACTION PLAN FOR WATER USERS ASSOCIATIONS OF TADLA**

### **INTRODUCTION**

The following has been written from a review of available documents, meetings with ORMVAT and Project staff, and visits with farmers and Association members accomplished during the period of June 18 to July 10, 1996. To date, ORMVAT has performed a number of actions which are leading to implementation of Water User Associations (WUAs), which are summarized as the

- completion of studies dividing the Tadla perimeter into 49 proto-Associations based upon hydraulic factors and tribal composition
- formation of 3 partially functioning Associations
- implementation and testing of new water allocation system at the individual farmer level
- creation of on-going debate within ORMVAT about the need and type of Associations desired

ORMVAT should, with Project assistance, proceed to progressively implement Water Users Associations, as discussed below. This Action Plan covers in detail the following 12 to 18 months, but also refers to actions and planning which must take place over the next 4 to 5 years.

### **A ESTABLISH ACHIEVABLE OBJECTIVES**

ORMVAT will establish the overall objective of meeting the national government's decisions to liberalize the economy through the establishment of Water Users Associations. It will do so by progressively transferring functions which it performs at the individual farm level to an aggregate of farmers who are organized into participatory groups known as Water Users Associations. Functioning Water User Associations will promote farmer decision making, encourage farmer to farmer transactions, and lead to increasing the capabilities of farmers to manage the Tadla perimeter functions.

- (1) Given the current lack of agreement to finance Water Users Associations, ORMVAT will concentrate on a progressive transfer to Associations of initial responsibilities for water delivery and allocation. Water distribution and allocation does not require large financial resources, but does provide WUAs with

functional reasons for existence, and provides practice in management and negotiations required of an Association

- (2) Given initial organizational efforts and lessons which have already been learned from the period of 1990 to the present, ORMVAT will establish an implementation time frame for WUAs divided into 4 or 5 Tranches. Initial implementation is for only water delivery and allocation functions. Achieving the time frame will depend upon ORMVAT devoting sufficient resources and maintaining its organizational will. Also, the farming community's responses to efforts to progressively implement WUAs will be critical to for the transformation to succeed

Tranche	No Assoc Implemented	Cumulative No
1	3 - 5	3 - 5
2	6 - 10	9 - 15
3	11 - 20	20 - 35
4	21 - 30	41 - 49
5	31 - 40	49

- (3) Given the importance of finance to WUA long-term viability, priority is given to establishing round table discussions in the form of a seminar or conference with the Ministry of Agriculture, the Ministry of Finance, the ORMVAs, leaders of selected Water User Associations, World Bank and Bilateral Donors (USAID etc.) The subject of the conference will be to address the amendments to laws and decrees which are necessary to permit full Association implementation. These amendments must include clear financial mechanisms to provide positive incentives for the assumption of responsibilities by associations, at their level of capability, of canal system operations, maintenance, repair and replacement. Flexibility should be emphasized in the choice of financial incentives chosen.

One clear financial mechanism which could be implemented would be to provide WUAs an exoneration from the next scheduled water user duty increase. That is to say, a group of farmers who

- a meet the requirements of the new WUA law,
- b take responsibility for paying the salaries of water distribution personnel, and
- c take over normal operations and maintenance

would be exempt from paying the increase over the current water user duty fee

ORMVAT would continue in its responsibility to perform rehabilitation of large parts of an Association's canal structures, as well as system-wide rehabilitation, such as occurring presently under PAGI II

It is strongly emphasized, that immediate or near-term transfer of any existing Government debts to newly formed Associations must be avoided at all costs

- (4) Planning will begin for the complete transfer of responsibilities to Associations for management, operations, maintenance, repair and renovation functions. Timing of such a transfer is dependent upon the implementation of financing mechanisms agreed upon by the Ministries and international organizations. The goal, **if financing problems are solved**, is to accomplish a full transfer of responsibilities within three years of an Association's implementation.

## **B DEVELOP COMMUNITY KNOWLEDGE AND FOSTER DEMAND**

Initial interest, awareness and demand for information regarding Water Users Associations will be created, in part, through written communications delivered locally, as well as through use of the mass media. These communications developed by ORMVAT, with Project assistance, will link the liberalization of Morocco's economy, the coming changes in the agricultural sector, and the creation of the WUAs. After Associations are functioning, it is likely that neighboring farmers will see the benefits and begin to demand Association implementation, i.e. demand is now from the bottom up. At this juncture, the nature of the communications can then change to the provision of information about upcoming Association meetings, agricultural extension bulletins, water delivery schedules, etc.

The goals of the communications campaign are to encourage debate among farm communities of how to best produce their crops and how to best organize to take advantage of the water being provided by ORMVAT. The communications have a further goal of changing the farm communities' expectations of what the government should be doing for them versus what they should be doing for themselves. The use of various media has definite implications in leading to one of ORMVAT's future roles as an information provider.

- (1) A series of flyers, pamphlets and posters are created and sent out to all CDAs, distributed to all aguadiers, extension agents, and to all farmers. The messages are in the appropriate language, are positive, and provide increasing amounts of information about Water Users Associations as the series progresses. Additionally, as appropriate, a link should be made of what WUAs are to be and how they will function as being similar to the organizational structure of functioning Cooperatives, which many farmers recognize.
- (2) A mass media campaign is broadcast over the radio. A series of programs are initiated regarding the necessity, utility and benefit of Water Users Associations. The programs for Associations are linked to the existing Credit Agricole broadcasts and are done in the same time slot as the program for the Beni-Mellal/Tadla region. The broadcasts are repeated multiple times and encourage

listeners to talk to their ORMVAT representative and ask for more information

- (3) Planning is accomplished for the continuation of the written information transfer. Following a survey and summary of experience, successive media campaigns are planned. Continuation of broadcasts to the Associations of agricultural programs are studied, and needed resources are identified and allocated.
- (4) To accomplish the above tasks, a communications unit is established in ORMVAT to produce and coordinate agricultural programs for the Associations.

### **C. ORGANIZE TRANCHE 1 OF ASSOCIATIONS**

The primary criteria for selecting the initial Associations for implementation include Associations which have been partially formed already, groups of farmers or existing organizations which have expressed interest in becoming an Association, areas where PAGI II has or will rehabilitate canals, areas with functioning Cooperatives, and areas free of tribal or social discord.

- (1) Following the media campaign, ORMVAT will select sufficient personnel and dedicate enough resources to organize and support 3 to 5 functioning Associations. The level of commitment of personnel and other resources can be approximated by using the experience gained through the effort expended with the Ittihad Association. This effort involved the implementation of the "checkbook" quota system, the repair of breakdowns more rapidly and at a much higher rate than found system-wide (personal communications, CDA 536 personnel).
- (2) Initially, these Associations will assume responsibilities for water delivery and allocation from ORMVAT within the 1st year. Elections will be organized by ORMVAT. The General Assemblies elect the Council on staggered terms (with one third of the membership changing each year), and each tertiary canal block elects its Representatives to two year terms. With ORMVAT assistance, internal Association rules will be adopted by the General Assembly. These rules include anticipated future operation and management responsibilities of the Associations.
- (3) The Council should be selected by members in a secret ballot. It is imperative, however, that each tertiary canal block representative is selected in a secret ballot rather than chosen by ORMVAT/local authorities. The General Assembly fixes dues (cotisations) at level sufficient to pay salary of aiguadiers and assistants.
- (4) Aiguadiers and assistants will become employees of Association, and will be paid by the Association following elections in year 1. Current aiguadiers and assistants who are responsible for water delivery and allocation in an Association's area will be given a 1 year contract. At the end of year 1, the Council may retain or let go aiguadiers and assistants based upon the following

- \* a report by the Technical Manager on the performance of each employee, and
  - \* a review by the Council based upon comments received from members of the General Assembly regarding each employee's performance
- (5) ORMVAT will appoint a full-time Technical Manager to each Association for implementation of Association activities. The Technical Manager is paid by ORMVAT for the first 3 years following Association implementation. Following the 3 year period, the Association then assumes full employment responsibility and makes the decision to retain or not to retain the Manager. At the beginning of year 4, the Association assumes Manager's salary. Each Association must have a Technical Manager as specified by contract with ORMVAT.
  - (6) Prior to transfer of responsibilities for water distribution and allocation to an Association, ORMVAT will put into practice the use of the "checkbook" quota system being tested with the Ittihad Association. However, modifications are necessary to the current practice of ORMVAT following the checkbook transactions to the individual farmer level. After the initial introduction and training with the checkbook system, ORMVAT will "step back" from following individual transactions, to following the aggregate of transactions at the Association level. The Technical Manager, still a nominal ORMVAT employee, will instead follow these transactions. The Manager then will provide a summary of projections for water consumption at the Association level and report this to ORMVAT.
  - (7) Tranche 1 organizing experience is surveyed and summarized. The findings are employed for 2nd Tranche implementation, and adjustments are made in the organizing methodology employed based upon the survey results. Necessary resources for all following Tranches, including personnel and material requirements, are identified and allocated.

#### **D TRAIN ASSOCIATION COUNCILS AND EMPLOYEES**

The goal is to provide new skills to ORMVAT employees and to the leadership of the newly created Associations in order to increase the likelihood of Association success following the transfer of responsibilities from ORMVAT. The Human Resources Department (DRH) will coordinate training for ORMVAT employees, both current and those slated for eventual transfer to Associations. The Department of Agricultural Development (DDA) will coordinate training for Council members of the Associations. The appropriate technical departments must be brought into the training process whenever appropriate to the subject material being taught. Coordination of DRH and DDA training is essential and such coordination must be insured by the Director.

- (1) Council members of Tranche 1 will be trained in board functions and the process of holding meetings. The leadership will practice oversight of the Technical Manager's work, and will review pro-forma budgets, financial reports, and a work plan.
- (2) Technical Managers (Directeur Technique), Ditch Tenders (Aiguadiers), and Assistants involved in Tranche 1 will be trained in new methods of communication. The methods will include reporting to and responding to Association's wishes, and in data assembly for decisions by the Association and Council. Additionally, the Technical Managers will receive training in personnel management and accounting. Training for the Ditch Tenders will include the use of the "checkbook" quota system.
- (3) Planning will be undertaken for training of 2nd Tranche. Experiences learned in initial training will be summarized and employed for next training. Necessary training resources for all successive trainings are to be identified and allocated.

#### **E PREPARE FOR FULL ASSOCIATION IMPLEMENTATION**

Preparations are to be made for transfer of full responsibilities for canal maintenance and repair from ORMVAT to the Associations. A goal of 3 years per Tranche is set for the full transfer of responsibilities. Step (1) should be initiated as soon as possible and completed prior to end of the initial 12 to 18 month period. Steps (2) through (5) should be begun during the first 12 to 18 months and be completed on an as needed basis throughout the 3 year period.

- (1) Prior to the signing of a contract or transfer of responsibilities for maintenance, repair or replacement of the canal structures from ORMVAT to an Association, a feasibility/cost study must be performed. This study will identify and estimate operation and maintenance costs for each Association in Tranche 1. These studies will provide a breakdown of expected costs for
  - a regular maintenance of
    - tertiary structures
    - secondary structures
  - b repair of
    - tertiary structures
    - secondary structures
  - c replacement of
    - tertiary structures
    - secondary structures

The Tranche 1 feasibility/cost studies will include an analysis of the current status of the canal structures and their expected lifespan. ORMVAT's historical costs for repair and replacement work, and PAGI II bids for canal work are to be used in guiding the feasibility studies. The information developed by the studies will be used to determine the percentage retained by the Association of the water user duty, "redevance" or of any

alternate financing mechanisms agreed upon by the various Ministries concerned (recall suggested Conference, Section A(3)) Retained funds will be employed for Association needs, such as operation and maintenance costs

- (2) Feasibility and cost studies will be planned for each of the Associations for each of the future Tranches in the same detail as described for the Tranche 1. The needed resources in personnel and material, as well as the timing of the studies, are to be identified and allocated
- (3) Repair and replacement of canal structures will be completed by ORMVAT before turning over to the Associations the responsibility for maintenance and repair. This work by ORMVAT will be performed on a Tranche by Tranche basis. No contracts should be signed by an Association obligating the maintenance, repair or replacement of canal structures until the Association canals are in the best possible condition
- (4) Planning will be performed for the progressive training of ORMVAT staff to be assigned to the Associations. Such training must anticipate the needed skill on the Association level for assuming the responsibilities for all aspects of operations, maintenance, repair and replacement of canal structures (replacement is limited to the tertiary level, at this point)

Parallel training for the Association Councils is also necessary and should be planned to encompass the above subjects with an emphasis on definition of tasks requiring member labor participation, penalties or fees assessed for non-participation, and the tasks for which cash payments will be required. The internal rules of each Association should be reviewed to insure that they cover such tasks. Sufficient resources need to be identified and allocated to accomplish the above mentioned training for staff and Association leadership

- (5) Planning will be initiated for identifying vacant or under-used ORMVAT buildings for transfer to the Associations for use as offices, garage and store rooms (siege social). Rehabilitation and repair of existing buildings will be given priority over new construction whenever appropriate buildings are located within or nearby to an Association's zone. Rehabilitation and repair costs should be borne by PAGI II whenever possible. Where no appropriate building is available, land should be identified, the transfer process initiated, and construction undertaken with funding obtained from allocated PAGI II funds. The office needs of the Tranches which are to follow will be identified and financial resources, particularly PAGI II, if possible, are to be allocated or reserved in advance

## **F ANALYZE ORMVAT'S ORGANIZATIONAL STRUCTURE AND FUNCTION**

Given the magnitude of changes being proposed for many of the tasks which ORMVAT currently performs, it is imperative that ORMVAT perform a complete analysis of the implications to its structure and function. The goal of such analysis will be to promote an evolutionary transition from a more centralized structure to one which is decentralized and participatory. In other words, ORMVAT moves from an organization in which all needs of the irrigated perimeter are assumed to be its responsibilities, to a one where ORMVAT prioritizes which responsibilities are essential to maintain the proper functioning of the perimeter, and which are those responsibilities best left to farmer participatory decision-making. These latter responsibilities are those to be progressively let go. This self-analysis should be initiated within next 3 months and include the following

- 1 A review of ORMVAT's mission statement will be the initial step. Such a review will include an analysis of the primary goals of an irrigated perimeter, in light of the changes in national political and economic directions towards liberalization of most aspects of Moroccan society. The Tadla Perimeter is taken as the concrete case. The new mission statement is discussed within the organization and input sought from each level, as appropriate. This provides essential information to ORMVAT's employees that an important change is being considered, and involves the employees as part of that change. Once input has been received and reviewed a new mission statement with clear goals is agreed upon, written down, and communicated to all employees.

It is essential that the upper echelons of ORMVAT are in agreement that such a change is necessary, and, once agreed upon, these changes will be carried out to completion. If indecision becomes apparent following the proposal of important changes, employees may begin to doubt what they are doing, and the performance of the organization may degrade.

- 2 Within 7 to 9 months, a review of ORMVAT's current structure should follow the re-statement of the mission. Before proceeding forward, it is imperative to have an accurate picture of the present situation written in precise terms. Such definition will provide guidance and measure progress when reviews are performed. Importantly, the current status of the organization serves to quantify the known starting point for any proposed change.
- 3 Following the review of its current status, in months 10 to 12, ORMVAT should examine what will be needed with respect to resources to support the shift in its mission with the progressive transfer of responsibilities to the Associations. This analysis should include the re-allocation of personnel, material and budgets which will precede implementation of each Tranche. Alternative models may be proposed given different degrees of transfer of responsibilities to the Associations. This analysis should also include the payment of severance pay and pensions which have accrued.

In conclusion, ORMVAT should plan for an immediate and progressive transfer of a limited number of functions to a certain number of Associations per year for the next 4 to 5 years. Complete training and close follow-up supervision will be essential from ORMVAT during this period. ORMVAT must continue, at some level, its functions as the coordinating and directing representative of the State for the foreseeable future. ORMVAT should also anticipate the need to resume complete or periodic control in the event of serious problems within some of the Associations.

## **A N N E X B**

### **PERSONS INTERVIEWED AND THOSE WHO PROVIDED ASSISTANCE DURING THE WUA CONSULTANCY**

#### **USAID, Rabat**

Jim Hradsky, Deputy Director  
M'hamed Hanafi, Project Officer

#### **MRT Project, Fquih Ben Salah**

Edward M Rawson, Chief-of-Party  
Paul Marko, Farming Systems Specialist  
Ron Gaddis, Irrigation Engineer  
Mohammed Khatouri, Surveys and Monitoring Specialist  
Redouane Moudakkir, Driver  
Majid Kettam, Administrative Assistant  
Nadia Amrani, Accountant  
Fouad Chatou, Econom Expeditior

#### **ORMVAT, Fquih Ben Salah**

M Ahmed Hajjaji, Director  
M Mohammed Laarossi, Department de la Gestion des Reseaux d'Irrigation et Drainage  
(DGRID)  
M My Abdellah Bikri, Service de la Maintenance  
M El Boustani, Service de l'Exploitation  
M Abdeslam Boufatma, Bureau des Relations Avec Les Associations d'Irrigants  
M Hamid Zaz, Bureau de la Programmation Des Irrigations  
M Bouchab Afrite, technicien, Bureau des Techniques d'Irrigation et de Drainage

#### **Water Users Associations - Leadership**

M Salah Mechkouri, Assesseur, Al Massira, CDA 508  
M Haj Ali Mabrouk, President, Al Itihad, CDA 536  
M Rahal Elghayat, President, Amrania, CDA 536  
M Mohamed Riad, President, Al Massira, CDA 508  
M Salah Choukri, Tesorier, Al Massira, CDA 508  
M Haj Bendaoud Bourbal, President, Al Wifak, CDA 505  
M Haj Abdelkader Houceim, Assesseur, Al Wifak, CDA 505  
M Cherkı Lamabab, Assesseur, Al Wifak, CDA 505

Additionally, 8 other farmers (two within Associations, six outside) were interviewed from 4 different CDA zones for general knowledge assessment and awareness regarding WUAs

## ANNEXE C

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