

REPUBLIC OF YEMEN

MINISTRY OF AGRICULTURE AND IRRIGATION

IRRIGATION IMPROVEMENT PROJECT

PHASE I

MAIN TECHNICAL ASSISTANCE TEAM

TRAINING REPORT No.1

ORIENTATION WORKSHOPS

ARCADIS EUROCONSULT

IN ASSOCIATION WITH

Halcrow

Pan Yemen Consult

DCE

Yemeni Engineering Group

IRRIGATION IMPROVEMENT PROJECT

MAIN TECHNICAL ASSISTANCE TEAM

TRAINING REPORT No.1: ORIENTATION WORKSHOPS

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1 Introduction

During the second half of October 2002, the first training activities have been carried out Irrigation Improvement Project (IIP) – Phase I:

- one-day Orientation Workshop for staff of the Project Management Unit (PMU) and both Project Implementation Units (PIUs) from Wadi Tuban and Wadi Zabid;
- two-day Orientation Workshop and Training for the proposed PIM Extensionists¹ in Wadi Tuban; and
- two-day Orientation Workshop and Training for the proposed PIM Extensionists in Wadi Zabid.

Prior to the implementation of the training activities, the Training Specialist in collaboration with the PMU Institutional Specialist have undertaken the following activities:

- preparation of Paper on Participatory Training and Participatory Learning/Training Techniques (see Annex A);
- preparation of Training Sheets with explanatory notes and guidelines;
- preparation of Overhead Sheets, including translation in Arabic;
- preparatory meetings with the Training Experts of both PIUs and the PIM Specialist in Wadi Tuban in order to:
 - determine the agenda of the two-day training session
 - introduce and explain a number of participatory learning/training techniques
 - practise presentation techniques as well as use of overhead sheets and flip charts
 - prepare the planned Role Play.

Details about the one-day Orientation Workshop for PMU and PIU staff and the two-day Workshops and Training for PIM Extensionists are presented in the following section of this Training Report.

2 Orientation Workshop for PMU and PIU staff

Name of Training Session:	Orientation Workshop for PMU and PIU Staff
Date(s) of Training Session:	19 October 2002
Location of Training Session:	PMU Office in Sana'a
Duration of Training Session:	one day (agenda is enclosed in Annex B)
Number of Participants:	10 persons (list of participants is enclosed in Annex B)
Trainer(s)/Moderator(s):	Olaf Verheijen – Training Specialist
Purposes of Training Session:	<ul style="list-style-type: none"> • introduction of rationale, conditions and expected benefits of Participatory Irrigation Management (PIM) • discussions on number of issues relating to institutional development, operation and maintenance, scheme rehabilitation and improvement, and water management
Learning/Training Techniques:	<ul style="list-style-type: none"> • presentation • small group discussions • plenary discussions
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • prepared overhead sheets (see Annex B) • A-1 sheets + markers

The results of the small group and plenary discussions on issues concerning institutional development, operation and maintenance, and scheme rehabilitation and improvement have been summarised in the (draft) Strategy Paper for Participatory Irrigation Management.

¹ As it is difficult to translate the word “Facilitator” in Arabic, it is proposed to use the term “PIM Extensionist”.

3 Orientation Workshop and Training for PIM Extensionists

3.1 Orientation Workshop and Training for PIM Extensionists in Wadi Tuban

Name of Training Session:	Orientation Workshop and Training for PIM Extensionists
Date(s) of Training Session:	23 and 24 October 2002
Location of Training Session:	PIU Office in Lahej
Duration of Training Session:	two days (agenda is enclosed in Annex C)
Number of Participants:	12 persons (list of participants in enclosed in Annex C)
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Fathiyah Arshad – Training Expert (PIU) • Kamel Ali Al-Rashahi – PIM Specialist PIU) • Mohammed Barakat – Institutional Specialist (PMU) • Olaf Verheijen – Training Specialist
Purposes of Training Session:	<ul style="list-style-type: none"> • introduction of rationale, conditions and expected benefits of PIM • introduction of concept of participation • introduction of main aspects of IIP and steps of PIM approach • introduction of purposes, guidelines and structure of Community Awareness Campaign • preparation and utilisation of Flip Chart, including proposed text • introduction of main aspects of formation of WUG
Learning/Training Techniques:	<ul style="list-style-type: none"> • presentations • small group discussions • plenary discussions • demonstration • exercise • role play
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • prepared and blank overhead sheets • A-1 sheets + markers • handouts • role play cards with short description of different roles

Copies of the Training Sheets and overhead sheets used for the two-day Orientation Workshop and Training for PIM Extensionists in Wadi Tuban are enclosed in Annex D and E of this Training Report respectively.

Almost all participants have actively participated in all training activities, including small group and plenary discussions, presentations and the Role Play, despite the fact that their transfer to the IIP was not finalised yet.

All participants have received handouts of all overhead sheets that have been used during the workshop and training.

At the end of the two-day workshop and training session, the participants were asked to evaluate the workshop and training activities by writing down the strong and weak aspects. The results of this evaluation are as follows:

- Participants said that they became acquainted with the way in which WUGs and WUAs to be formed, as well as motivating the farmers to join these new organisations.
- Further orientation workshops are recommended with the aim of having more information in the field of participatory irrigation management. Reasons stated to have good qualified facilitators among the farming population.
- Short and long periodical training courses are also recommended for farmers' groups as well as members of WUAs have to be trained in association management.
- This workshop is considered to be short and new workshops should take at least 3 days period.
- The employment contract for the PIM Extensionist should be settled as soon as possible as well as their term of reference

3.2 Orientation Workshop and Training for PIM Extensionists in Wadi Zabid

Name of Training Session:	Orientation Workshop and Training for PIM Extensionists
Date(s) of Training Session:	30 and 31 October 2002
Location of Training Session:	PIU Office in Zabid
Duration of Training Session:	two days (agenda is enclosed in Annex C)
Number of Participants:	16 persons (list of participants in enclosed in Annex C)
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Abdul Baki Haddad – Training Expert (PIU) • Mohammed Barakat – Institutional Specialist (PMU) • Olaf Verheijen – Training Specialist
Purposes of Training Session:	<ul style="list-style-type: none"> • introduction of rationale, conditions and expected benefits of PIM • introduction of concept of participation • introduction of main aspects of IIP and steps of PIM approach • introduction of purposes, guidelines and structure of Community Awareness Campaign • preparation and utilisation of Flip Chart, including proposed text • introduction of main aspects of formation of WUG
Learning/Training Techniques:	<ul style="list-style-type: none"> • presentations • small group discussions • plenary discussions • demonstration • exercise • role play
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • prepared and blank overhead sheets • A-1 sheets + markers • handouts • role play cards with short description of different roles

Copies of the Training Sheets and overhead sheets used for the two-day Orientation Workshop and Training for PIM Extensionists in Wadi Tuban are enclosed in Annex D and E of this Training Report respectively.

Although it was not clear if they would be transferred to the IIP and work as PIM Extensionists, almost all participants have participated very actively in the two-day Workshop and Training. They did not only closely to the presentations, but they were also actively involved in the plenary and small group discussions. Most of participants were also able to give good presentations.

All participants have received handouts of all overhead sheets that have been used during the workshop and training.

At the end of the two-day workshop and training session, the participants were asked to evaluate the workshop and training activities by writing down the strong and weak aspects. The results of this evaluation showed that all PIM Extensionists responded quite well to the workshop subjects, but some requests are also mentioned:

- to know more about other project components (one person);
- to receive the IIP Brochure and see slides for the project activities.
- participation concept needs more time to enable farmers to be convinced;
- participation concept and formation of WUOs are the main activities to carefully considered;
- reaction with farmers and more consideration for their interests;
- role of the PIM Extensionist in communication with farmers needs more clarification;
- role of WUOs needs more clarification according to Water Law;
- role of WUOs concerning PIM and O&M to be clarified;
- clarification of administration and financial relation among WUOs;

- investment issues for WUOs to be identified as investment activities will create a strong financial base for the benefit of WUOs and ensure sustainability;
- who is going to pay the capital cost and O&M fees (landowners or sharecroppers) and how?
- Is there any new law for spate water distribution?

4 Mobilisation of PIM Extensionists

Transfer Letter:

At the time of conducting the Orientation Workshop and Training for PIM Extensionists in Wadi Tuban and Wadi Zabid, the participants were not formally transferred to the IIP yet. Before the proposed candidates can commence their new functions of PIM Extensionists with the IIP, it is required that a formal transfer letter is issued that is duly signed by the concerned authorities. The following issues shall be clearly specified in the transfer letter:

- the proposed candidates will be transferred on a full-time basis to the IIP and they will not continue to execute their current assignment for the duration of their secondment to the IIP;
- the proposed candidates will be transferred to the IIP for the full period of Phase I and their current employer cannot call them back in the mean time;
- the PIM Extensionist shall accept that he has to work outside the official office times on a regular basis as meetings with farmers cannot always be planned during the official office hours;
- the PIM Extensionist will be fully accountable to the PIU Director for all their activities related to their new assignment of PIM Extensionist following their formal transfer to the IIP;
- the PIM Extensionist will have a probation period of 4 months from the date of their formal transfer to the IIP and their performances as PIM Extensionist will be evaluated at the end of the 4-month probation period;
- the PIM Extensionist, who does not have a motorcycle, will be provided with a motorcycle and a monthly budget for fuel and routine maintenance, but the motorcycles will remain the property of the IIP; and
- the PIM Extensionist will receive a specified monthly financial allowances in addition to his current full salary.
- the Terms of Reference shall be attached to the Transfer Letter (see Annex F)

Means of Transport:

The availability of sufficient means of transport is essential for the effective implementation of any field activities. Therefore, the following issues need to be given due attention:

- the motorcycles shall be available as soon as the PIM Extensionists are formally joining the IIP and they can only commence their field activities on the selected pilot primary canals if they have transport; and
- the two vehicles for the Institutional Development Section in each PIU Office shall be available as early as possible, so that the Institutional Specialist, PIM Specialist and Training Expert can accompany the different teams of PIM Extensionists intensively during their planned field activities in order to monitor their performances and to coach them during the execution of their field activities by providing support and advice (on-the-job training).

Payment of Trainees:

The participants of any workshop or training session shall only receive a 'per diem' that covers their (actual) travel expenses, if any, and the cost of a normal lunch. It must be avoided that trainees only participate in a workshop or training session, because they receive a 'per diem' that is significantly more than their actual costs for transport and lunch.

5 Guidelines for Trainers

The following guidelines shall be followed by any Trainer:

- be knowledgeable about the training subject by consulting the Training Sheet, but accept that there is no monopoly of wisdom or knowledge on the part of the trainer;
- listen to the adult trainees and respect their knowledge, experiences and perceptions;
- be observant in order to notice group dynamics and interactions between individual and/or groups of trainees;
- give the adult trainees the confidence to share their knowledge and experiences, including the use of different methods (i.e. plenary and small group discussions) to ensure that all trainees have the opportunity to participate;

- avoid that training becomes a lecture whereby only the trainer is talking by having plenary and/or small group discussions during a presentation;
- be able to communicate in plain language without using fancy (English) words and (technical) jargon;
- speak clearly, loudly and slowly so that all trainees can hear what is said;
- direct the presentation to all trainees to avoid that they feel to be excluded;
- check regularly if the trainees have understood the information presented to them and if they have any questions;
- ask focused questions to encourage trainees to participate actively as well as to clarify certain issues;
- be organised by having all necessary materials (i.e. overhead sheets) and logistics (overhead projector and flip charts/white board) prepared and keeping the overall objectives of the training course in mind throughout the entire process;
- ask one or more trainees to give a short summary of the topic(s) presented and discussed before the tea or lunch break in order to assess if the trainees have understood the subject(s);
- be responsive to trainees' needs for (additional) training and flexible in organising the course and/or adapting training methods and tools; and
- be assertive without controlling by knowing when to intervene during discussions and provide guidance and when to stay quiet.

ANNEX A

PARTICIPATORY TRAINING AND PARTICIPATORY LEARNING/TRAINING TECHNIQUES FOR IRRIGATION IMPROVEMENT PROJECT

1 Introduction

The concept of Participatory Irrigation Management (PIM) and Irrigation Management Transfer (IMT), whereby the responsibility for the O&M of the spate irrigation systems is transferred to WUAs, can only be successfully implemented if all key stakeholders have the necessary knowledge and skills to carry out their roles and responsibilities properly, whereby the key stakeholders are defined as:

- members of the Management Board, including the Chairman, and any standing committees of the WUAs as well as any permanent and temporary staff employed by these WUAs; and
- water users in the command area of the transferred irrigation systems, who are either cultivating their own plots of land (owner-operators) or cultivation other persons' land as tenants or sharecroppers, including women as owner-operators, tenants/sharecroppers or agricultural labourers.

As the concept of PIM is a new policy adopted by the Government of Yemen, it cannot be expected that all key stakeholders already have the necessary knowledge and skills required for their new roles and responsibilities regarding the O&M of the transferred irrigation infrastructure and the management of the WUAs. An evaluation of World Bank's irrigation projects have revealed that sustainable irrigation development requires that the implementation requirements of the project match with the local institutional capacity. Therefore, the project should provide a detailed plan to enable the key stakeholders to prepare themselves for carrying out the tasks expected from them.

It is paramount for the successful implementation of the PIM concept in the Republic of Yemen that a comprehensive training strategy and programme for all key stakeholders should be prepared and implemented. In order to develop an appropriate training strategy and suitable training programmes for all key stakeholders, the following activities should be carried out:

- Training need assessments at all levels;
- Development of training plans and manuals;
- Preparation of training materials;
- Installment of necessary logistics and support systems for training;
- Implementation of various training programmes at all levels; and
- Evaluation of training conducted.

2 Participatory Training

For a long period, training programmes were based on the assumption that transfer of knowledge and technology, whereby the researcher identified, analysed and solved farmers' technical problems and the extension worker would transfer the results as messages to the farmers, would trigger development. However, the results have been disappointing as the adoption rates of new knowledge and technologies were low in most cases. In addition, the performance of the disseminated knowledge and technologies was often unsatisfactory under farmers' management due to the following three main reasons:

- specific constraints (i.e. unreliable input supply and/or lack of marketing) of farmers were not taken into account;
- social, cultural and political issues at community level were neglected; and
- knowledge of local people were not recognised and valued.

It became obvious that more effective training approaches needed to be developed, in which a greater involvement of farmers should be envisaged. It is now accepted that the main key to agricultural development is the capacity of farmers to develop, modify/adapt and diffuse new technologies and techniques themselves. This has led to the development of the concept of participatory training with the main objective to empower farmers to develop, modify and diffuse appropriate and sustainable new technologies and techniques.

2.1 Irrigation Sector

Since the early 1980s, there is an increasing awareness about the poor performance of irrigation systems. Enormous investments by governments and aid agencies had been based on misleading appraisals and cost-benefit calculations. Problems included delays in construction, faulty construction, cost overruns and the gap between potential and actually irrigated command area. At the same time, research and analysis exposed more and more deficiencies in the operation and maintenance (O&M) of irrigation systems.

The concern with improving the management of irrigation systems is of recent origin. Still more recent is the realisation that farmer participation in irrigation management is something desirable. In even more recent times, the overriding consideration has been, on the one hand, the escalating O&M costs of irrigation works, whilst on the other, the progressive scaling down of the budgetary allocations for such works. Therefore, governments have adopted policies to enhance farmer participation in the development and management of irrigation system in order to reduce the cost burden of irrigation on their budget as well as to increase the productivity and profitability of irrigated agriculture enough to compensate for any increases in the cost of irrigation to farmers.

Greater farmer participation in the development/rehabilitation and management of irrigation systems would have the following benefits:

- Development/rehabilitation of sustainable irrigation systems as the implementation of the construction and/or rehabilitation works is based as much as possible on technically and financially feasible preferences of the farmers;
- More efficient and equitable distribution of irrigation water as water users have better control over irrigation supply and distribution;
- Decrease in O&M costs as water users are able to undertake the works at cheaper rates with their own (financial) resources (cost awareness);
- Increase in recovery of water charges and other service fees as water users are allowed to keep a significant portion of the collected charges and fees for the O&M of the irrigation and drainage facilities;
- Less dependency on Government budget for development and O&M of irrigation and drainage systems as water users will share in the costs;
- More transparent and accountable relations between water users and the WUAs and their Federations as water users will only pay for the services provided in accordance with the terms and conditions of service contracts;
- Increase in irrigated area as well as quality and quantity of agricultural production due to improved O&M of the irrigation systems and an increase in water use efficiency as water users have to pay the real costs for the supply of irrigation water from the source to their fields; and
- Less corruption and favouritism with regard to the allocation and distribution of irrigation water.

Greater participation of farmers in the development and management of irrigation systems will not come automatically. A comprehensive training and support programme is required to ensure that farmers will have the necessary technical and organisational skills and knowledge to participate effectively in the planning, design and construction of the irrigation system and to take on the full O&M responsibility.

Enhanced farmer participation in the development/rehabilitation and management of irrigation schemes will not eliminate the role and responsibilities of the concerned government agencies. The government's role as supply-driven manager of irrigation systems will shift towards the demand-oriented provider of technical assistance and support services aimed at establishing and adjudicating water rights, maintaining a supportive legal framework, providing technical and organisational training and support to farmers, monitoring and regulating the farmer-led management of irrigation systems as well as supplying design, construction and/or financial support for major repairs and/or rehabilitation. To ensure that the concerned government agencies and their staff will have the necessary knowledge and skills to perform their new roles as demand-oriented service providers, a comprehensive training programme for concerned government staff is required.

Although the reliable and sufficient supply of irrigation water is an important condition for the development of sustainable irrigated agriculture, farmers will not be able to enhance the productivity and/or profitability of their agricultural activities if they face other constraints, such as input supply, pests and diseases, soil erosion and/or marketing of their produce.

On the basis of a participatory assessment of main problems, identification of suitable solutions and preparation of action plans, a comprehensive agricultural extension and land development programme is required in order to tackle the major constraints regarding the development of sustainable, productive and profitable irrigated agriculture in the farmer-managed irrigation systems.

3 Participatory Training Approach

The participants of the proposed Training Programme under the Irrigation Improvement Project (IIP) are all adults. To prepare and implement training for adults, it is important to understand:

- adult learning;
- role of the trainer/PIM Extensionist in adult learning; and
- different (participatory) training/learning techniques that can be applied during adult learning.

3.1 Adult Learning

Adults differ from children in the way they learn. For any training for adults to be effective, it is important to take the following aspects of adult learning into account during preparation and execution of training programmes for adults:

- Needs and interest orientation: Adults learning needs and interests are the appropriate starting points for organising adult learning activities;
- Life and work orientation: Adults learn best when it is clear that the context of the training is closely related to their own (envisaged tasks and jobs and the subjects should not be too academic or theoretical);
- Experience orientation: The experiences of adults are the richest resources for adult learning and sharing and learning from these experiences should be at the core of adult learning; and
- Participation orientation: Adults learn best in an atmosphere of active involvement and participation, whereby adults exchange/share, analyse/discuss and evaluate information.

3.2 Training Target Groups

The two main target groups of the training programmes are:

- individual farmers, WUG representatives as well as Management Board members and staff of WUAs and SWUFs; and
- PMU and PIU staff, in particular the PIM Extensionists, as well as TDA and Lahej RAO staff directly involved in PIM activities.

If required, training will also be provided to extension staff of the selected service provider for the Agricultural Extension and Demonstration Programme, especially in participatory techniques with regard to the planning and execution of extension and demonstration activities.

The first target group of individual farmers, WUGs representatives as well as office bearers and employed staff of WUAs and SWUFs is not a homogenous group as they have different needs and interest with regard to training. In addition, there may also be constraints for certain groups to participate effectively during training sessions as they differ with regard to land tenure (i.e. large, medium and small landholders; landholders and tenants/sharecroppers), wealth (rich and poor), age (old and young), ethnicity, religion and/or gender (men and women). For instance, young farmers cannot participate in discussions when older farmers are present or ethnic/religious minority members cannot freely speak in the presence of majority group(s). All too easily the discussions are dominated by a few individuals, who are usually the more powerful and/or wealthier persons from the most dominant group in the village having large landholdings.

It is also important to acknowledge that adults as target group for training courses may differ with regard to the following aspects:

- training needs and interest;
- availability of time; and
- learning abilities due to different levels of literacy.

Furthermore, individual differences among adults increase with age and experience.

3.3 Effective Participatory Training

Effective participation from members of all identified groups among the key stakeholders in any training course should be sought and some of the following methods may encourage their involvement during training sessions:

- selection of venue accessible to everybody, i.e. public places, such as schools;
- timing of training when people have time to participate, i.e. avoiding seasonal and daily periods of peak labour demands, such as slack season, early morning and/or evening, weekends;
- formation of separate focus groups by gender, socio-economic, age, ethnicity and/or religion;
- training needs assessments; and
- flexibility by allowing for differences in method, style and pace of learning in accordance with learning abilities of the trainees.

3.4 Training Needs Assessment

To ensure that any training course match with the actual training needs and interest of the envisaged trainees and to avoid preconceived ideas about the training needs for different group of farmers, training needs assessments should be conducted prior to the preparation of training programmes.

Demand for training does not arise spontaneously as people need information to be aware of existing opportunities. It is important that demand is "informed demand" otherwise unrealistic demands will arise. Developing demand led training is not a simple matter of waiting for farmers to make spontaneous suggestions. A process has to be in place to allow and encourage people to review existing performances and to consider options for improvement before they make specific demands for training.

The following techniques could be used to assess the training needs among the envisaged participants prior to or at the start of a training course:

- group and/or individual (semi-/fully structured) interview;
- skill test (i.e. computer skills); and/or
- field observation (i.e. agricultural practices).

3.5 Participatory and Facilitative Role of Trainer

Traditionally, trainers act as instructors/lecturers by imparting knowledge to farmers, who adopt a passive role of merely receiving information without opportunities to exchange and discuss information and experiences.

To ensure that the training programmes are experience- and participation-oriented, the role of the trainer and his/her relationship with the adult trainees will contrast significantly from that of instructor/lecturer-type of trainer as he/she will be more a PIM Extensionist. Distinctions between trainees and trainers-PIM Extensionist are much less as compared with classical training. It is important to recognise that all participants in a training course, regardless of their background and level of education, possess knowledge and can make a contribution during discussions. It is essential to acknowledge that both trainer-facilitator and trainees are participants in the training session and that each participant is a resource person. Nobody knows everything and everybody knows something.

The main features of the attitude and role of the trainer-facilitator are:

- to be knowledgeable about the training subject but accept that there is no monopoly of wisdom or knowledge on the part of the trainer;
- to listen to the adult trainees and respect their knowledge, experiences and perceptions;
- to be observant in order to notice group dynamics and interactions between individual and/or groups of trainees;
- to give the adult trainees the confidence to share their knowledge and experiences, including the use of different methods to ensure that all trainees have the opportunity to participate;
- to be able to communicate in plain language without using fancy words and jargon;
- to ask focused questions to encourage trainees to participate actively as well as to clarify certain issues;
- to be organised by having all necessary materials and logistics prepared and keeping the overall objectives of the training course in mind throughout the entire process;
- to be responsive to trainees' needs for (additional) training and flexible in organising the course and/or adapting training methods and tools; and

- to be assertive without controlling by knowing when to intervene during discussions and provide guidance and when to stay quiet.

4 Training/Learning Techniques

To facilitate the exchange of experiences and the active participation of trainees during the training courses, different (participatory) training/learning techniques should be used by the trainer-facilitator in addition to lectures and presentations. Evaluations of training programmes have revealed that people remember only 20% of what they hear, 40% of what they see and 80% of what they have done themselves. Therefore, trainees should be given the opportunity to practice the training subjects as much as possible during the training sessions, so that they will be able to apply the newly acquired knowledge and skills in the real world following the training courses.

Depending on the training topics as well as training venue, the following (participatory) training/learning techniques could be used during training courses for adult trainees:

4.1 Lectures and Presentations

Usually the first activity to start a new training session comprising a prepared talk with the possibilities to ask questions and to have plenary discussions.

Objective:

To introduce the subject and familiarise the trainees to some basic concepts by referring to familiar and related topics.

Structure:

- (Short) introduction of the training topic(s) of the Lecture/Presentation;
- Opportunity of to ask questions about the introduction in order to clarify certain issues;
- Promotion of discussion by asking a number of pre-prepared questions to the participants;
- Plenary discussion; and
- Summary of the main conclusions from the plenary discussion.

4.2 Brainstorming

Objective: to introduce new topics and discover new ideas and responses.

Structure:

- Short introduction of the objective, the topic and the structure/procedure of the Brainstorming session;
- Motivation of participants to think creatively and to include every mentioned idea (quantity rather than quality) by:
 - participants mention their ideas randomly and the trainer-facilitator writes each mentioned idea on (A-1 size) flip charts;
 - each participants has to mention one idea turn-by-turn and the trainer-facilitator writes each mentioned idea on (A-1 size) flip charts; or
 - each participants writes down one or more ideas on small cards, which are posted to the wall;
- Similar ideas are grouped together by the trainer-facilitator and the participants together;
- All (grouped) ideas are discussed plenary or in small groups in order to assess if they are an appropriate solution;
- If the (grouped) ideas have been discussed in small groups, each group has to present its conclusions, which have been either written down on (A-1 size) flip charts by the groups themselves or the trainer-facilitator writes them on (A-1 size) flip charts; and
- Selection of the most appropriate idea(s) by asking the participants to rank them individually or collectively.

4.3 Small Group Discussion

Small Group Discussion allows participants to share their personal experiences and ideas and/or to discuss a particular subject and find one or more appropriate solutions. The idea is that trainees will participate more easily in discussions when the group is smaller and/or more homogenous (i.e. women only).

Objective: to enable trainees to actively participate in discussions and to learn (more directly) from each other.

Structure:

- Short introduction of the objective, the topic and the structure/procedure of the Small Group Discussions;
- Formation of a number of small groups with about 5 members. The small groups could be formed randomly or in a structured way, whereby the trainer-facilitator decides the preferred composition of the small groups, i.e. at least one woman in each group or all female participants in one group together;
- Each small group should nominate one member, who will report the findings and conclusions of the Small Group Discussions during the plenary session;
- The trainer-facilitator should monitor the discussions in all small groups to assess if all participants take actively part and to provide any additional information to facilitate the discussions;
- One member of each small group presents the findings and conclusions during the plenary session, which have been either written down on (A-1 size) flip charts by the groups themselves or the trainer-facilitator writes them on (A-1 size) flip charts during the presentation of each group; and
- If required, the findings and conclusions could be grouped and discussed plenary.

4.4 Role Play

By participating in a Role Play, trainees have the opportunity to use their own knowledge and experiences to act out a real life situation. A Role Play may also illustrate that different participants may have different perceptions and ideas about a particular topic and that it is not always easy to come to an agreement, in particular when these perceptions and ideas are conflicting.

Objective: to face the trainees with (a problem in) their real life situation from different points of view and to allow them to find a solution in a creative way.

Structure:

- Short introduction of the objective, the topic and the structure/procedure of the Role Play;
- Preparation of Role Play by assigning certain roles to trainees randomly or by giving certain roles to specific individual participants. Cards with short description of the role and particular instructions could be given to each participant in the Role Play;
- Two or three other trainees should be given the role of observers;
- Implementation of the Role Play, whereby the trainer-facilitator closely monitor the developments and, if necessary, provide (additional) instructions to one or more participants in order to clarify certain issues and/or to change the direction of the Role Play;
- The observers should give a short presentation of their findings;
- The participants in the Role Play and the audience should be given to give their reactions; and
- Summary of the main issues and conclusions.

4.5 Case Study

A written or verbal description of a hypothetical or real situation that is used for analysis and discussion plenary or in small groups.

Objective: to identify and analyse the problem(s) and to identify and select one or more suitable solutions by the trainees themselves.

Structure:

- Short introduction of the objective and the structure/procedure of this training/learning technique;
- Presentation of the Case Study: verbally if any of the trainees is illiterate;

- Trainees can ask questions to clarify the Case Study;
- Presentation of one or more questions to be discussed and/or problems to be solved;
- Participants study the case individually or in small groups to find answers for the question(s) and/or solve the problem(s);
- Presentations of the answers and/or solutions by individual participants or small groups;
- Plenary discussion about all presented answers and/or solutions;
- Formulation of main conclusions; and
- Review of lessons learned from the Case Study.

4.6 Field Walk and Observation

A Field Walk could either be conducted in the scheme village itself, the (envisaged) command area of the (planned) MIS or in another village/scheme in the vicinity of the training venue.

Objective: to give trainees the opportunity to learn through observations in the field.

Structure:

- Short introduction of the objective, the topic and the structure/procedure of the Field Walk;
- Organisation of the Field Walk by deciding:
 - where to go and/or which route to follow;
 - what to observe (i.e. land use, cropping pattern, crop varieties, etc.)
 - to go in one large group or in several small groups;
 - to report individually or as group;
- Execution of Field Walk, during which the trainer-facilitator could encourage short discussions about their observations by asking specific questions to the participants at interesting places, in particular why- and how-questions;
- Individual participants or reporters should present their observations;
- Plenary discussion on presented observations;
- Formulation of main conclusions; and
- Review of lessons learned from Field Walk.

4.7 Demonstration and Field Trial

A Demonstration and Field Trial is a practical way to present a specific skill or technique to participants and to train them in using this skill or technique under real conditions.

Objective: to introduce and demonstrate new and/or alternative technologies and/or practices in order to convince the trainees to adopt them.

Structure:

- Short introduction of the objective, the topic and the structure/procedure of the Demonstration and Field Trial;
- Organisation of the Demonstration and Field Trial by deciding:
 - where to conduct;
 - who will provide which inputs;
 - who will be responsible for managing the Field Trial;
- Set up of Demonstration and Field Trial;
- Monitoring of Demonstration and Field Trial;
- Discussions with participants at key moments of the Demonstration and Field Trial;
- Evaluation of the results of the Demonstration and Field Trial; and
- Assessment of usefulness of skill(s) and/or technique(s) for participants.

4.8 Study Tour

A Study Tour is a type of Demonstration, whereby another area and/or scheme(s) are visited to observe new/alternative practices and/or technologies used by other farmers/water users and to exchange ideas and information between the visiting and visited farmers/water users.

Objective: to facilitate the exchange of information and experiences between trainees and others as well as the demonstration of new and/or alternative technologies and/or practices to the trainees during a visit of an area and/or scheme.

Structure:

- Short introduction of the objective, the topic and the structure/procedure of the Study Tour;
- Organisation of the Study Tour by selecting and visiting an area and/or scheme(s) to assess if the area and/or scheme(s) are appropriate for demonstrating new and/or alternative practices and/or technologies and if the farmers are willing to play the role of host by giving demonstrations, providing information and participating in discussions;
- Preparation of Study Tour to selected area and/or scheme(s) by:
 - agreeing on date and number of participants;
 - selecting the participants of the Study Tour among all farmers/water users;
 - assessing if the agreed date(s) are convenient for the host farmers/water users;
 - arranging transport and accommodation, if required;
- Implementation of Study, whereby the trainer-facilitator's role is limited to monitoring the demonstrations and discussions between the visiting and visited farmers/water users and provision of support only if and when required;
- Evaluation of the Study Tour with the participants and assessment of the usefulness of practices and/or techniques observed/demonstrated and discussed;
- Presentation of the main findings and conclusions of the Study Tour to all other farmers/water users by one or more of the participants in the Study Tour; and
- Decision on the need of any follow-up, such as Demonstration and Field Trial of one or more practices and/or techniques observed/demonstrated and discussed during the Study Tour.

5 Participatory Training Programme

5.1 Levels of Training

The main objective of the Participatory Training Programme is to ensure that all key stakeholders have the necessary knowledge and skills for the successful management of the transferred irrigation systems.

Training has to be provided at the following levels:

- All concerned Project staff involved in the implementation of the envisaged PIM activities, including group formation and strengthening, design, supervision and execution of rehabilitation works as well as agricultural extension and demonstration;
- SWUF to ensure that members of the Management Board, including the Chairman, as well as any employed staff have the necessary technical, organisational and administrative skills and knowledge to undertake the management of the transferred irrigation infrastructure in an effective and efficient manner;
- WUA to ensure that members of the Management Board, including the Chairman, as well as any employed WUA staff have the necessary technical, organisational and administrative skills and knowledge to undertake the management of the transferred irrigation structures in an effective and efficient manner; and
- individual farmers and village women to ensure that they have the necessary technical knowledge and skills to use the supplied irrigation water efficiently and to develop their irrigated agriculture in a sustainable, productive and profitable manner.

5.2 Training Providers

In principle, existing training expertise should be used as much as possible. Therefore, an assessment of existing training expertise in different relevant fields will be conducted in order to prepare an inventory of suitable persons and institutes that are able to provide the necessary training services under IIP.

5.3 Training Modules

The entire training programme for each level can be divided into one or more training modules and sub-modules. Ideally, training sessions about certain topics will be conducted shortly before the trainees have to opportunity to use the knowledge and skills acquired during the training session. The results of training needs assessments at all training levels will determine the content of each training module and sub-module to ensure that each training course satisfies the training needs of the concerned trainees.

To ensure the proper preparation and implementation of the planned training courses, a Training Sheet for each training module and its sub-modules should be elaborated in accordance with the following outline:

- Objective(s)
- Expected output(s)
- Preparations required
- Materials required
- Estimated time required
- Location
- Target group(s)
- Procedure and training/learning techniques
- Explanatory notes

5.4 Training Modalities

5.4.1 Location of Training Courses

In principle, training should be brought to the trainees instead of bringing the trainees to the training. However, some training courses may have to be conducted at the premises of the contracted training institutes due to the presence of essential training facilities, such as audio-visual equipment, models and demonstration sites.

It is also envisaged to organise Study Tours for members of Management Boards of WUAs and SWUFs as well as for their executive staff within their region or elsewhere in Yemen.

5.4.2 Duration of Training Courses

Most training modules and sub-modules should not last longer than two or three days.

5.4.3 Number of Trainees

The maximum number of participants for each training course will not be more than 20 to 25 persons to ensure effective participation of all trainees.

5.5 Evaluation of Training

At the end of each training course, the trainer-facilitators and trainees will jointly evaluate the conducted training (sub-)module to assess if the objective(s) and expected output(s) have been achieved as well as to identify any shortcomings and/or weaknesses in the content, structure and/or training/learning techniques used. If required, adjustments will be made to the training (sub-)module in accordance with the outcome of the training evaluation, so that the objective(s) and expected outputs of the concerned training (sub-)module can be fully achieved the next time.

6 Main Training Subjects

The specific subjects of the planned training courses will mainly depend upon the findings of the training need assessment, but they will likely include the following topics:

- Rationale for PIM and IMT;
- PIM Approach;
- Participatory Rural Appraisal Techniques;
- WUG and WUA Formation and Strengthening Process;
- Participatory Construction Planning, Coordination, Supervision and Inspection;
- Cost Sharing and Farmers' Construction;
- Main Purpose and Aspects of Scheme and IMT Agreements;
- Irrigation Service Fee Policy, including methods for assessment and collection.

To ensure that WUAs and WUGs will have the necessary technical skills required for the effective operation and maintenance of the irrigation infrastructure, training will be provided that will cover the following subjects:

- land levelling and field preparation;
- preparation and implementation of annual water management plans, including schedule for equitable water distribution;
- inspection and maintenance assessment;
- maintenance techniques;
- preparation of annual maintenance plans and budgets;
- operation and maintenance of equipment and machinery; and
- emergency procedures.

To ensure the proper administrative management of the WUA and SWUF, training will be imparted in the following fields:

- office management;
- personnel management;
- stock and equipment/machinery management;
- maintenance of non-financial records;
- planning and presiding meetings, including preparation of minutes of meetings; and
- communication and conflict resolution/arbitration skills.

To ensure that the WUA and SWUF will manage their financial affairs properly, training in the following topics is envisaged:

- accounting;
- budgeting and preparation of financing/business plan;
- resource mobilisation, including assessment and collection of irrigation service fees;
- preparation and maintenance of financial records, annual accounts as well as income and expenditure statements; and
- auditing.

ANNEX B

ORIENTATION WORKSHOP FOR PMU AND PIU STAFF

AGENDA

- Welcome and Purpose of Orientation Workshop
- Main Aspects of PIM and IMT
 - presentation
 - plenary discussion
- (tea)
- Institutional Development Issues
 - small group discussions (3 groups)
 - short presentation by each group
 - plenary discussion
- O&M Issues
 - small group discussions (3 groups)
 - short presentation by each group
 - plenary discussion
- (lunch)
- Scheme Rehabilitation and Improvement Issues
 - small group discussions (3 groups)
 - short presentation by each group
 - plenary discussion
- Water Rights and Management Issues
 - small group discussions (3 groups)
 - short presentation by each group
 - plenary discussion

LIST OF PARTICIPANTS

Name	Designation
Mr Abdul Elah Hatrom	Director PMU
Mr Anwar Girgirah	Engineer PMU
Mr Mohammed Atef	Accountant PMU
Mr Mohammed Barakat	Institutional Specialist PMU
Mr Anwar Abdu Karim	Director PIU – Wadi Tuban
Mr Khalid Al Attas	Director PIU – Wadi Zabid
Mrs Fathiyah Arshad	Training Expert PIU – Wadi Tuban
Mr Abdul Baki Haddad	Training Expert PIU – Wadi Zabid
Mr Kamel Ali Al-Rashahi	PIM Specialist PIU – Wadi Tuban
Mr Mohammed Sa'ad Tawili	Institutional Specialist PIU – Wadi Zabid
Mr Pieter Rajmakers	Team Leader Main Technical Assistance Team

TEXT OF OVERHEAD SHEET

PARTICIPATORY IRRIGATION MANAGEMENT

Main characteristics of dominant development approach for irrigation sector throughout the world for several decades:

- governments have been considered as engine for development
- Government agencies were responsible for planning, construction and management of irrigation projects
- farming communities were only perceived as passive “beneficiaries” instead of active “partners”

Main weaknesses of this development approach:

- creation of large, over-staffed government bureaucracies with under-paid staff
- dramatic expansion of irrigated area without corresponding increase in funds required for O&M of irrigation systems
- rapid deterioration of irrigation infrastructure and declining productivity of irrigated agriculture due to increasing deficiencies in O&M of irrigation systems, including inequitable distribution of water
- poor economic and financial returns to irrigation investments due to decreasing agricultural productivity and gap between potential and actually irrigated areas
- weak civil society organisations, such as WUAs

MAIN CHALLENGES FACING IRRIGATION SECTOR:

- Between now and 2025, about 80% of additional food supply needed to feed growing world population must be produced on irrigated land by:
 - more productive and intensive agriculture
 - more productive and efficient water use
- industrialisation and urbanisation in developing countries will reduce share of accessible fresh water that is available for agriculture

RATIONALE FOR FARMERS’ PARTICIPATION IN IRRIGATION DEVELOPMENT AND MANAGEMENT

To avoid further deterioration of irrigation infrastructure and decreasing productivity of irrigated agriculture due to deficient O&M of irrigation systems, governments and financing institutions (i.e. ADB and WB) have agreed that:

- effective farmers’ participation in development and management of irrigation systems is required
- farmers shall contribute to the capital costs of construction and rehabilitation of irrigation infrastructure
- farmers shall pay the O&M costs

Apart from obvious fiscal advantage, farmers’ contributions towards capital costs of new or rehabilitated scheme has following advantages:

- indication of demand and commitment as it is an investment in equity
- development of sense of ownership
- prospects for sustainability

CONCEPT OF PARTICIPATORY IRRIGATION MANAGEMENT

To promote effective farmers’ participation in development and management of irrigation systems, the concept of Participatory Irrigation Management has been introduced

Definitions

Participatory Irrigation Management (PIM) refers to effective involvement of water users in irrigation management along with government

Irrigation Management Transfer (IMT) refers to transfer of responsibilities and authority for O&M of irrigation

infrastructure from government agencies to non-governmental organisations, such as WUAs, with following options:

- full or partial transfer of irrigation management functions
- full or partial responsibility for payment of O&M costs
- transfer of ownership of irrigation infrastructure
- transfer of O&M responsibility at sub-system levels (i.e. distributary canals) or for entire irrigation systems, including diversion structures

MAIN AIMS OF PARTICIPATORY IRRIGATION MANAGEMENT AND IRRIGATION MANAGEMENT TRANSFER

- development or rehabilitation of sustainable irrigation systems as farmers participate in planning and design
- significant savings in capital costs as farmers undertake (significant) portion of construction works
- more efficient and equitable distribution of irrigation water as farmers have better control over irrigation supply and distribution
- decrease in maintenance costs as farmers undertake works at cheaper rates with own (financial) resources (cost awareness)
- increase in recovery of irrigation service fees as water users fully control collection and utilisation of these funds
- less dependency on government budget for O&M of irrigation systems as farmers pay (full) costs
- more transparent and accountable relations between farmers and the irrigation agency as rights and duties of both parties are specified in IMT agreements
- increase in irrigated area and improved agricultural production due to improved O&M of the irrigation systems and increased water use efficiency as farmers pay real costs for supply of irrigation water from source to their fields
- less corruption and favouritism with regard to the allocation and distribution of irrigation water.

CONDITIONS FOR SUCCESSFUL IMPLEMENTATION OF PARTICIPATORY IRRIGATION MANAGEMENT

- clear and strong legal status of WUOs
- clear water use rights vested in WUOs
- irrigation system is functional and compatible with water rights and management capacity of farmers
- full decision-making authority transferred to WUOs
- appropriate cost-sharing arrangements for O&M and system rehabilitation
- government adopts new role based on partnership and giving high priority to strengthen WUA capacity and providing adequate support during and after O&M transfer to farmers
- high-level political commitment is mobilised and communicated through consistent policies and legislation
- profitable irrigated agriculture and clear economic benefits for farmers
- strong parallel support programme to develop irrigated agriculture and marketing

ANNEX C

ORIENTATION WORKSHOP AND TRAINING FOR PIM EXTENSIONISTS

AGENDA

DAY 1:

9.00 – 9.30	Welcome Purpose of Workshop Introduction of Participants
9.30 – 10.15	Duties and Responsibilities of PIM Extensionist - Inventory of Perception of Trainees - Presentation of Main Duties and Responsibilities - Conditions of Recruitment
10.15 – 10.30	Tea
10.30 – 12.00	Participatory Irrigation Management
12.00 – 13.30	Lunch
13.30 – 15.00	Concept of Participation
15.00 – 15.15	Tea
15.15 – 16.00	Role Play

DAY 2:

9.00 – 10.15	Irrigation Improvement Project - Main Aspects - Steps of PIM Approach
10.15 – 10.30	Tea
10.30 – 11.30	Community Awareness Campaign
11.30 – 12.30	Preparation and Utilisation of Flip Chart - Proposed Flip Chart Text - Guidelines for Preparation of Flip Chart - Guidelines for Utilisation of Flip Chart
12.30 – 14.00	Lunch
14.00 – 15.30	Formation of Water Users' Group
15.30 – 16.00	Group Activity

LIST OF PARTICIPANTS

Wadi Tuban:

Name	Designation
Fadhel Abdull'Wasaa Fadhel	Irrigation Agent
Mohammed Saleh Bin Saleh	Agricultural Agent
A'azef Abdul'Rahman	Agricultural Agent (Wahet)
Ahmed Othman Kasem	Irrigation Agent (Beizag)
Aidrous Murshed al'Douh	Irrigation Agent (Agriculture Department)
Amin Alwi Al'dawi	Irrigation Agent (Wahet)
Awadh Salem Aqeel	Irrigation Agent (Eyadh)
Abdulla Mahdi Katoam	Irrigation Agent (Hadharem)
A'adel Mohammed Taher	Irrigation Agent (Thalab)
Abdulla Ali Haidrah	Irrigation Agent (Manaserah)
Fadhel Ali Shareef	Irrigation Agent (Ras al Wadi)
Abdull'Rahman Abdo Mohammed	Irrigation Agent (Al Nino)

Wadi Zabid:

Name	Qualification	Experience as Extensionist
Abdul'Razzak Al'Hamli	University Degree in Law	28
Abdul'Salam Ezzi Khalil	University Degree in Law	20
Abdulla Salem Abbood	High Secondary	25
Dawood Omar Lsa'ee	High Secondary	27
Abdulla Omar Hindi	High Secondary	27
Mohammed Ali Aidroos	High Secondary	20
Fadhel Ali Al'Wahaidi	High Secondary Agriculture	26
Yahya Mohammed Al'Ahmar	High Secondary Agriculture	26
Abdulla Dabwan Esma'eel	High Secondary Agriculture	27
Mohammed Abdul' Ra'ouf	High Secondary Agriculture	25
Abraham Khadem Mahroos	High Secondary Agriculture	11
Haider Amin Ghazali	High Secondary Agriculture	5
Salem Ali Hassan	Intermediate Level	26
Al'Ezzi Ali Ahmed Al'Naka	Intermediate Level	n.a.
Aadam Awadh Sanadi	Intermediate Level	25
Husain Ghaleb Al'Aly'jee	n.a.	n.a.

ANNEX D

TRAINING SHEETS

ON

PARTICIPATORY IRRIGATION MANAGEMENT and CONCEPT OF PARTICIPATION

TRAINING MODULE: COMMUNITY AWARENESS CAMPAIGN (STEP 2)

TRAINING MODULE: FORMATION OF WATER USERS' GROUPS (STEP 6)

ANNEX E

OVERHEAD SHEETS

ON

PARTICIPATORY IRRIGATION MANAGEMENT

CONCEPT OF PARTICIPATION

MAIN ASPECTS OF IRRIGATION IMPROVEMENT PROJECT

COMMUNITY AWARENESS CAMPAIGN (STEP 2)

PROPOSED TEXT FOR FLIP CHART ON COMMUNITY AWARENESS CAMPAIGN

FORMATION OF WATER USERS' GROUPS (STEP 6)

ANNEX F

TERMS OF REFERENCE FOR PARTICIPATORY IRRIGATION MANAGEMENT EXTENSIONIST