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MINISTRY OF AGRICULTURE AND IRRIGATION

IRRIGATION IMPROVEMENT PROJECT
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Main Technical Assistance Package for IIP

WORKING PAPER 16

Training Report 4

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 **ARCADIS** EUROCONSULT

IN ASSOCIATION WITH





YEMENI ENGINEERING GROUP

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ABBREVIATIONS AND ACRONYMS

ACA	Agricultural Co-operatives Association
AE	Agricultural Extensionists (RAO)
APL	Adaptable Programme Lending (approach by IDA)
AREA	Agricultural Research and Extension Authority
CV	Curriculum Vitae (Bio-data, or summary of experience of proposed staff)
CWR	Crop Water Requirement
DIMSSA	Institutional assessment approach: Diagnosis-Mission-Strategy-Structure-Action
EC	Executive Council of WUA
EDI	Economic Development Institute of the World Bank
FAO	Food and Agricultural Organisation of the UN
FCA	Facilitator / Change Agent
GDI	General Directorate of Irrigation
GoY	Government of Yemen
IC	Irrigation Council
IDA	International Development Association
IE	Irrigation Extensionists (RAO)
IEI	Irrigation Engineering Institute
IIP	Irrigation Improvement Project
IMT	Irrigation management Transfer
ISF	Irrigation Service Fee
iSIS	Hydro-dynamic modelling software
IWMI	International Water Management Institute
LRAO	Lahej Regional Agricultural Office
LWCP	Land and Water Conservation Project
M&E	Monitoring and Evaluation
MAI	Ministry of Agriculture & Irrigation
MCM	Million Cubic Metres
MIS	Management Information System
NGO	Non-Governmental Organisation
NWRA	National Water Resources Authority
O&M	Operation and Maintenance

OED	Operations Evaluation Department of the World Bank
ogma	(traditional) earthen diversion weir
PIM	Participatory Irrigation Management
PIP	Project Implementation Plan
PIU	Project Implementation Unit
PMU	Project Management Unit
PPR	Project Preparation Report
PPU	Project Preparation Unit
PY	Project Year
RAO	Regional Agricultural Office of MAI
RDA	Regional Development Authority of MAI
RIA	Regional Irrigation Agency
RID	Regional Irrigation Department
RoY	Republic of Yemen
SC	Steering Committee
SIIP	Spate Irrigation Improvement Project (original name for IIP)
SLHIDP	Saturation and Localised High Impact Demonstration Programme (agricultural extension)
SMC	Scheme Management Council/-> SWUF
SMM	Spate Management Model
SMU	Scheme Management Unit
SRADP	Southern Rural Agricultural Development Project
SSHARDA	Sana'a/Sadah/Hajja Development Authority
SWUF	Scheme Water User Federation
TA	Technical Assistance
TDA	Tihama Development Authority of MAI
ToR	Terms of Reference
UNDP	United Nations Development Programme
WBI	World Bank Institute
WIS	Water Institutions Specialist
WM	Water Master (appointed by RAO - paid?)
WSP	Water Service Provider
WUA	Water User Association
WUG	Water User Group
YR	Yemeni Rials

WORKING PAPERS

- **WP 1 – Water Management in Wadi Tuban & Wadi Zabid**
Alan Clark
- **WP 2 – Concept Paper Management Information Systems**
Thomas R. E. Chidley
- **WP 3 – Training Report No.1 – Orientation Workshops**
Olaf Verheijen
- **WP-4 – Procedure Manual on Participatory Irrigation Management**
Olaf Verheijen
- **WP 5 – Concept Paper for Flood Warning System**
John Windebank
- **WP 6 – Hydrological Analysis**
David T. Plinston
- **WP 7 – Community Awareness Campaigns**
Darryl Kuhnle
- **WP 8 – Gates Assessment – Interim Report**
David A. R. Wood
- **WP 9 – Initial Roads Study**
Abbas A. Abu Taleb
- **WP 10 – Training Report 2**
Olaf Verheijen
- **WP 11 – Training Report 3**
Olaf Verheijen
- **WP 12 – Issue Paper on PIM**
Wicher Boissevain/Olaf Verheijen
- **WP 13 – Irrigation Management (First Mission Report)**
Wicher Boissevain
- **WP 14 – Hydrological Analysis-Interim Report 2**
David Plinston/Abdul-Aziz Abdullah Ahmed Al-Ariki
- **WP 15 – Progress Report MIS-GIS**
Reint-Jan de Blois/Mohammed Ahmed Abdulrahim Hodish/Abdulrahman Mujahed

1 TRAINING AND WORKSHOPS

During the first two quarters of 2003, a number of training courses and workshops has been conducted in Sana'a as well as in Wadi Tuban and Wadi Zabid, which will be described briefly in the following sections of this Training Report. In addition, the PIM Training Specialist together with the PIM Specialist and Training Expert from Wadi Tuban have identified and visited a number of potential training providers.

1.1 CONDUCTED TRAINING COURSES

1.1.1 WADI TUBAN

During the first 6 months of 2003, the following training courses have been conducted in Wadi Tuban:

- Refresher Training for PIM Extensionists on 27 and 28 January 2003
- WUA Formation Training for PIM Extensionists on 12 May 2003
- WUA Formation Training for WUG Leaders from Bustan-Bert Salem and Al-Arais on 13 and 14 May 2003
- Training on Participatory Planning and Design for two Farmers' Design Committees (FDCs) formed for Bustan-Bert Salem and Al-Arais in May 2003

More detailed information can be found in Appendix A of this Training Report.

1.1.2 WADI ZABID

From January to June 2003, the following training courses were organised in Wadi Zabid:

- Refresher Training for PIM Extensionists on 5 February 2003
- Training on Awareness Meetings for PIM Extensionists in March 2003
- Training on Agro-Economic Study for PIM Extensionists in March 2003
- Training of WUG Formation for PIM Extensionists in March 2003

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- Training on Cadastral Survey for PIM Extensionists in April 2003
 - Training on Use of Flash Cards for PIM Extensionists in April 2003

A more detailed description of the conducted training courses can be found in Appendix B of this Training Report.

Reportedly, an informal training on main aspects of spate irrigation was also provided to PIM Extensionists to make them more familiar with the existing spate irrigation systems and their O&M in the Project area.

1.2 WORKSHOPS

During the first six months of 2003, a total of 10 one-day workshops has been organised in Sana'a, Wadi Tuban and Wadi Zabid. The main topics and the participants of these workshops are described briefly in the following three sub-sections.

1.2.1 SANA'A

The following workshop have been organised during the first half of 2003 in Sana'a:

- Workshop on IIP Implementation Issues on 24 February 2003 to discuss 11 issues concerning the implementation of different IIP activities between the PMU staff, PIU Directors and MTAT

1.2.2 WADI TUBAN

In the month of June 2003, the following workshops have been conducted in Wadi Tuban:

- Workshops with PIM staff and PIM Extensionists on 15 and 16 June 2003 respectively to evaluate existing communication materials (i.e. IIP Brochure and posters) as well as testing and reviewing newly prepared WUA poster and awareness flash cards
- Workshop with PIU Director, PIM Specialist, Training Expert and Agricultural Specialist on 18 June 2003 to present and discuss the results of testing the different communication materials during a number of meetings with farmers in the project area
- Workshop with PIM Extensionists, female Extension Workers, PIM Specialists, Training Expert, Agricultural Specialist and representative from Ministry of Social Affairs on 24 June 2003 to present and discuss the basic principles regarding the formation of WUGs and WUAs

and the recommended procedure for the preparation, formation and registration of WUAs in a transparent and accountable manner

1.2.3 WADI ZABID

The following workshops have been organised in Wadi Zabid during the month of June 2003:

- Workshop with PIM Extensionists, PIM Specialists, Training Expert, Water Management Specialist and Communication Specialists on 22 June 2003 to present and discuss the basic principles regarding the formation of WUGs and WUAs and the recommended procedure for the preparation, formation and registration of WUAs in a transparent and accountable manner
- Workshops with PIM staff and PIM Extensionists on 21 and 23 June 2003 respectively to evaluate existing communication materials (i.e. IIP Brochure and posters) as well as testing and reviewing newly prepared WUA poster and awareness flash cards
- Workshop with PIU Director, PIM Specialist, Training Expert and Agricultural Specialist on 25 June 2003 to present and discuss the results of testing the different communication materials during a number of meetings with farmers in the project area

1.3 IMMEDIATE TRAINING NEEDS OF PIM EXTENSIONISTS

Based on discussions with the Training Expert and PIM Specialist in Wadi Tuban and Wadi Zabid, the PIM Extensionists have the following immediate training needs:

- Communication and presentation skills in Wadi Tuban and Wadi Zabid
- Main aspects of spate irrigation, including names and function of different irrigation structures in Wadi Zabid
- Existing O&M practices and typical O&M problems of modern and traditional spate irrigation systems in Wadi Zabid
- Training in Communication and Presentation Skills
- It is envisaged that both Communication Specialists will conduct a two to three-day training course in communication and presentation skills for the PIM Extensionists in Wadi Zabid during the second week of July 2003. The Training Specialist recommends that the PMU Communication Specialist also organise a similar training course for the 12 male PIM

Extensionists and 3 female PIM Extensionists in Wadi Tuban during the third or fourth week of July 2003.

- Training in Spate Irrigation and O&M Issues
- Furthermore, the Training Specialist recommends that the PIM Extensionists in Wadi Zabid should receive training in the main aspects of spate irrigation as well as O&M practices and problems of modern and traditional spate irrigation systems. It is proposed that this one-day training course should be conducted by the Water Management Specialist (Mr Gamal Ahmed Hussein Al-Badani) and the Engineer (Mr Seif Abdu Seif) in July 2003. In addition to presentations in the training room, whereby drawings, pictures and schematics shall be used as much as possible, a number of site visits shall also be carried out in order to illustrate the functioning of certain structures as well as specific O&M issues to the PIM Extensionists in the field.

2 WUA TRAINING

With the first two WUAs been established for Bustan-Bert Salem and Al-Arais systems in Wadi Tuban in May 2003, it is required to start with the development of a comprehensive training programme aimed at strengthening the newly formed WUA, so that that they have all the necessary managerial, technical and financial capacities to manage, operate and maintain the entire main canal systems once they have been formally transferred.

The Consultant's Technical Proposal (3.3.3) states that the essence of successful PIM programme is to invest sufficiently in the development of the "social capital" of the farmers' organisations.

2.1 WUA TRAINING NEEDS

In general, the training needs of a WUA can be sub-divided into the following three categories:

- financial management and audit
- administrative management
- technical (O&M) management

2.1.1 FINANCIAL MANAGEMENT

To ensure that the financial resources of the WUA are managed in an efficient, accountable and transparent manner, training shall be provided in the following topics:

- preparation of budget and financing plan
- bookkeeping and accountancy
- development of transparent and equitable system for assessment and collection of Irrigation Service Fees (ISFs)
- preparation and execution of assessment, collection and recording of ISFs
- preparation of financial (income & expenditure) statements and annual financial account
- auditing

2.1.2 ADMINISTRATIVE MANAGEMENT

To ensure that the WUA is managed effectively, training shall be focused on the following issues:

- preparation of annual workplan, reports, minutes of meetings and proposals
- planning and presiding meetings
- internal and external communication, including correspondence
- acquisition of services and/or loans
- mediation and conflict resolution
- maintenance of non-financial records, including membership list, inventory and asset register
- office management
- personnel management, including supervision of executive staff
- stock and asset management

2.1.3 TECHNICAL (O&M) MANAGEMENT

To transfer the O&M responsibility for the main canal system successfully, the WUA shall receive training in various subjects in order to enhance its technical skills and capacities required for:

- the effective O&M of all irrigation infrastructure within its command areas
- the equitable distribution of (spate) water in accordance with existing water rights and distribution rules

The training needs of the WUA with regard to the technical management are as follows:

Operation:

- preparation of annual operation plan, including Primary Canal Water Management Plan
- water distribution and gate setting
- (on-field) water use efficiency
- emergency procedures
- communication and reporting

Maintenance:

- inspection and assessment of maintenance requirements
- preparation of maintenance inventory
- preparation of annual maintenance plan and budget

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- preparation of work plans and coordination of the execution of works
 - maintenance skills and quality control
 - communication and reporting

2.2 IDENTIFICATION OF POTENTIAL TRAINING PROVIDERS IN WADI TUBAN

According to its Technical Proposal (4.2.6), the Consultant will provide a considerable input regarding the preparation and implementation of appropriate training programmes for staff and farmers at all levels. As far as possible, training by external agencies will be arranged and, where necessary, the Consultant will make curricula and training material available to the selected training institutes, so that they will be able to undertake the envisaged training activities.

In line with the proposed policy in the Consultant's Technical Proposal, the Training Specialist recommends that training in financial, administrative and technical management for WUAs shall be arranged through existing training providers as much as possible.

During a meeting with the PIM Specialist, Training Expert, Water Management Specialist, Agricultural Specialist in Wadi Tuban, the following potential training providers have been identified as well as in which of the three main categories of WUA training needs they may provide training for WUAs:

- Ministry of Social Affairs: administrative and financial management
- IDAS Project (GTZ): administrative and financial management
- Social Development Fund: administrative and financial management
- National Institute for Administrative Science (NIAS): administrative and financial management
- PMU – Communication Specialist: administrative management (communication)
- Irrigation Department: technical management
- PIU – Engineering Section: technical management
- Irrigation Institute (Aden): technical management
- Cooperative Institute: administrative and financial management
- NWRA: technical management
- LWCP: technical management

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- AREA: technical management (OFWM)

2.3 ASSESSMENT OF SIX POTENTIAL TRAINING PROVIDERS IN WADI TUBAN

On 16 and 17 June 2003, six potential training providers were visited in Lahej, Aden and Abyan Governorates in order to assess:

- relevant training capacity
- willingness to provide training services for IIP
- training costs
- The results of the visits by the PIM Specialist, Training Expert and PIM Training Specialist to the six potential training providers are summarised in the following sections.

2.3.1 MINISTRY OF SOCIAL AFFAIRS

The following issues were discussed with the Director General, Mr Hassan Kandash, and the Head of the Cooperative Department, Mr Mohd. Saleh:

- Need to conduct comprehensive training programme to strengthen the capacities of the newly formed WUAs concerning financial and administrative management as well as the O&M of the main canal system. The Ministry of Social Affairs also has an interest that the newly formed WUAs are performing properly as WUAs, in particular their financial management, correspondence and preparation of reports.
- Ministry of Social Affairs conducts training for (welfare) associations and cooperatives at regular intervals in various subjects, including:
 - accounting
 - preparation of workplan, correspondence, presiding meetings
 - legal aspects, delegation of powers from Government to cooperatives/associations

Training is carried out with own staff and hired trainers and each training session is conducted as a workshop with lectures and practical training. The Ministry of Social Affairs has a training room with the capacity of 30 persons and audio-visual equipment is available. The timing, structure and content of each training session are determined in consultation with the 'client' in accordance with the assessed training needs of the target group.

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- Recently, the Ministry of Social Affairs conducted a 3-day training for 30 persons from Welfare Association in cooperation with the IDAS Project. The total costs, including transport, refreshments, stationary, copies, use of equipment, were YR 140,000.

2.3.2 IDAS PROJECT

During a meeting with the Project Director, Mr Ali Basid, the following issues regarding training were discussed:

- IDAS Project organises training for leaders and members of Management Boards.
- The training subjects are accountancy, work planning and management and record management.
- All training is contracted out to training institutes, such as Cooperative Institute and NIAS, and Government agencies, such as Ministry of Social Affairs. IDAS Project prefers trainers from the training institutes, as they are better able to adjust the training to the needs and capacities of the trainees. Trainers from Universities are not considered to be appropriate for training members of associations as they often use standard text with high academic level.
- The average cost for hiring trainers is about YR 2,000 per hour, whereas the cost of a 3-day training for 20 participants were about YR 100,000, including the costs of hiring outside trainers, rent of training room, stationary, transport, etc.

2.3.3 AGRICULTURAL TRAINING CENTRE

During a meeting with the Director of the Agricultural Training Centre of the Ministry of Agriculture and Irrigation, situated in Ja'ar (Abyan Governorate), the following issues were briefly discussed:

- The ATC has more than 30 years of experience with the training of Government staff, project staff and cooperatives.
- Most training is conducted in the ATC itself, but training on site is also possible
- Training is conducted by ATC staff and trainers hired from (Agricultural) Universities, educational centres and research stations.
- The cost of hiring a trainer from the ATC is YR 1,500 per hour plus the additional costs, such as transport, per diem, stationary, etc.

2.3.4 ABYAN DELTA SPATE IRRIGATION PROJECT

During a meeting with the Project Manager, Mr Xaver Hagen Busch, and CARE staff member, Mr Wade'a Abdul Habeed, the following issues regarding training were discussed:

- ADSIP will hire the training services of the ATC, IDAS Project and the Ministry of Social Affairs for the training of newly formed WUAs in the fields of O&M, financial management, auditing as well as monitoring & evaluation.
- It was agreed that both projects will stay in contact to exchange information about training courses for WUAs.

2.3.5 NATIONAL INSTITUTE FOR ADMINISTRATIVE SCIENCE

The following training issues were discussed with the General Manager, Mr Nasser Hussein Shamshair Khan:

- NIAS is an independent Government institute under the Ministry of Civil Service.
- NIAS provides training in all aspects of management for (small) organisations, cooperatives and associations. This year, it has provided training for the ATC and the IDAS Project.
- Normally, NIAS provides the training with its own staff, but occasionally outside experts are hired for very specific subjects.
- Normal training session is a mixture of lectures and practice. The duration of one training day is not more than 3 to 4 hours. The preferred training period is from October to February.
- The costs for hiring NIAS trainers range between YR 1,500 and YR 2,000. In addition, transport shall be arranged as well as stationary.

2.3.6 COOPERATIVE INSTITUTE

The following issues were discussed with the Deputy Director, Mr Othman Kathan:

- The Cooperative Institute (CI) has been transferred from the Ministry of Agriculture and Irrigation to the newly formed Ministry of Vocational Training in May 2003.
- The CI is specialised in the training of cooperatives in financial management, statistics and planning. Training sessions last from 1 week to several months.
- The CI has a training team of 9 members, but it also hires trainers from the University of Aden. Training session comprise lectures with use of overhead projector, (group) discussions as well as practice and exercise.

-
- Each training programme is tailor-made in accordance with the wished of the ‘client’ and the training needs of the trainees.
 - The cost of hiring a CI trainer ranges between YR 2,300 and YR 2,500 if own staff is used, but it can be as high as YR 3,500 for academic trainers, excluding transport, per diem, stationary, etc. One-week training for 25 participants would cost about YR 350,000.

2.3.7 IRRIGATION INSTITUTE

The Irrigation Institute could not be visited as it is temporarily closed for summer holidays. Like the Cooperative Institute, the Irrigation Institute has been transferred from the Ministry of Agriculture and Irrigation to the newly formed Ministry of Vocational Training in May 2003.

2.3.8 CONCLUSIONS AND RECOMMENDATIONS

Conclusions:

Based on the visits to the six potential training providers, the following conclusions can be drawn:

- Only four agencies provide training themselves: Ministry of Social Affairs, ATC, NIAS and Cooperative Institute.
- These four training providers have experience with the training of cooperatives and associations, whereby the Ministry of Social Affairs and the Cooperative Institute have most knowledge about cooperatives and associations due to their specific mandate.
- These four training providers have their own trainers, but they also hire the services of external trainers, especially from the University.
- These four training providers stated that they are not working with standard training programmes, but that each training programme will be tailor-made in accordance with the preferences of the ‘client’ and the training needs of the target group.
- The Ministry of Social Affairs has its own training facilities in the project area, whereas the other three training providers stated that they can conduct training sessions in the project area as well, if transport of the trainers is arranged or reimbursed and a training room is hired.
- Some of the training providers stated that the trainees shall be paid to attend training courses. For instance, the Cooperative Institute reported that trainees were receiving YR 5,000 and a per diem of YR 250 for attending a one-week training.

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- The costs of hiring trainers range from YR 1,500-2,000 per hour for NIAS and ATC to YR 2,300-3,500 per hour for the Cooperative Institute. The total cost per trainee per day for a 3-day training conducted by the Ministry of Social Affairs for the IDAS Project was YR 1,555, whereas the costs per trainee for a 7-day training conducted by the Cooperative Institute are YR 2,000.

Recommendation:

It is recommended that the four visited training providers shall be given the opportunity to demonstrate their training capacities by conducting at least one training session. These trial training sessions shall be used by IIP to assess if these four training providers have the capacity:

- to develop training courses adapted to the training needs of WUAs as well as the learning capacity of the trainees
- to execute training courses in a participatory and practical manner by using appropriate training techniques
- to develop suitable supporting materials (i.e. handouts) for distribution among the trainees

Before the implementation of the first training session, it is recommended that the selected training provider(s), PIM Specialist and Training Expert shall jointly review and adjust the existing curricula and training materials, so that it is suitable for the training of WUAs.

With regard to the training in technical (O&M) management, it is recommended that the Irrigation Management Specialist and O&M Specialist together with concerned PMU and PIU staff identify potential training providers and assess their capacities to provide appropriate training in various aspects of the O&M of main canal systems. If required, they shall prepare the necessary curricula and training materials in collaboration with one or more selected training providers.

3 TENTATIVE TRAINING PROGRAMME AND BUDGET

3.1 TARGET GROUP FOR TRAINING PROGRAMME

3.1.1 TARGET GROUPS FOR WUA TRAINING

The target groups for the WUA Training Programme as specified in Section 2.1 of this Training Report are:

- members of Board of Directors, including:
 - Chairman (and Deputy Chairman)
 - General Secretary
 - Financial Officer
- members of Audit Committee
- Executive Staff employed by WUA, including:
 - Accountant
 - Water Master(s)
 - O&M Technician

3.1.2 TRAINING OF PIU AND CONSULTANT STAFF

To ensure that the newly formed WUAs will receive effective support in the fields of financial and administrative management, preparation and execution of rehabilitation works as well as the O&M of the transferred main canal systems for a number of years, it is required that the following PIU and Consultant staff are also properly trained:

- PIM Extensionists
- PIM Specialist
- Training Expert
- Water Management Engineer
- Design and Construction Engineers

3.2 ESTIMATED COSTS PER TRAINING DAY

Based on the information collected during the visits to four potential training providers, the basic costs for conducting training are estimated as follows:

- YR 2,000 per hour for hiring experienced trainer(s);
- One-day training comprises four hours of training, so that total costs for hiring trainer(s) would YR 8,000 plus transport costs (i.e. YR 1,000 per day); and
- About YR 1,500 per day for each trainee, including transport, refreshments, stationary, handouts, rent/use of training room and audio-visual equipment and any other costs.

The payment of a “per diem” to trainees is not included as the PIM Training Specialist is opposed to the idea to pay trainees for attending training courses. If the PMU and/or PIU is of the opinion that it is necessary to pay a “per diem” to trainees, the incurred costs should be added to the estimated training budgets as presented in this Training Report.

3.3 TENTATIVE TRAINING SCHEDULE AND BUDGET FOR WATER USERS' ASSOCIATIONS

A tentative training schedule and corresponding budget estimates for an individual WUA is presented in the following tables.

3.3.1 TRAINING IN ADMINISTRATIVE MANAGEMENT

Subject(s)	Target Group(s)	Number of Trainees	Duration of Training Session	Estimated Budget
<ul style="list-style-type: none">• Main Aspects of WUA• Functions and Powers of Board of Directors• Functions and Powers of WUA Office Bearers (i.e. Chairman, Secretary, Financial Officer)	All members of Board of Directors (2 WUAs together)	20	1 day	YR 30,000 or YR 15,000 per WUA (no costs for external trainers as own staff conduct training)

<ul style="list-style-type: none"> • Planning, Conducting and Presiding Meeting • Internal and External Communication • Mediation and Conflict Resolution 	All members of Board of Directors (2 WUAs together)	20	2 days	YR 78,000 or YR 39,000 per WUA
<ul style="list-style-type: none"> • Preparation of Annual Workplan, Reports and Proposals • Preparation of Minutes of Meeting • Maintenance of Non-Financial Records • Personnel and Stock/Asset Management 	Chairman, Deputy Chairman and Secretary (5 WUAs together)	15	3 days	YR 94,500 or YR 18,900 per WUA
Total Costs per WUA:				YR 72,900

3.3.2 TRAINING IN FINANCIAL MANAGEMENT

Subject(s)	Target Group(s)	Number of Trainees	Duration of Training Session	Estimated Budget
<ul style="list-style-type: none"> • Main Aspects of Financial Management of WUA 	All members of Board of Directors and Audit Committee	13	1 day	YR 28,500
<ul style="list-style-type: none"> • Bookkeeping and Accountancy 	Chairman and Financial Officer (5 WUAs together)	10	3 days	YR 72,000 or YR 14,400 per WUA
<ul style="list-style-type: none"> • Preparation of Budget and Financing Plan 	Chairman and Financial Officer	10	3 days	YR 72,000 or YR 14,400 per

Subject(s)	Target Group(s)	Number of Trainees	Duration of Training Session	Estimated Budget
<ul style="list-style-type: none"> Preparation of Financial Statement and Annual Account 	(5 WUAs together)			WUA
<ul style="list-style-type: none"> Assessment/Setting of Irrigation Service Fee (ISF) Billing and Collection of ISF Recovery of non-paid ISF 	All members of Board of Directors and Audit Committee	13	1 day	YR 28,500
<ul style="list-style-type: none"> Auditing of Financial Records Preparation of Audit Report 	All members of Audit Committee (5 WUAs together)	15	2 days	YR 63,000 or YR 12,600 per WUA
Total Costs per WUA:				YR 98,400

3.3.3 TRAINING IN TECHNICAL (O&M) MANAGEMENT

Subject(s)	Target Group(s)	Number of Trainees	Duration of Training Session	Estimated Budget
<ul style="list-style-type: none"> Purpose and Conditions of WUA Works Contract Preparation of Workplan and Budget for Execution of Rehabilitation Works Procurement of Materials and Mobilisation of Labour and Equipment Construction Supervision and Quality Control 	All members of Board of Directors and/or members of WUA Construction Committee (if any)	15	3 days	YR 94,500

Subject(s)	Target Group(s)	Number of Trainees	Duration of Training Session	Estimated Budget
<ul style="list-style-type: none"> • Inspection and Assessment of Maintenance Requirements • Preparation of Maintenance Inventory Report • Preparation of Annual Maintenance Plan and Budget 	Chairman, Secretary, and WUA Staff (i.e. Water Masters) (3 WUAs together)	15	3 days	YR 94,500 or YR 31,500 per WUA
<ul style="list-style-type: none"> • Preparation of Workplan • Supervision and Quality Control • Maintenance Skills • Communication and Reporting 	Chairman, Secretary and WUA Staff (i.e. Water Masters) (3 WUAs together)	15	4 days	YR 126,000 or YR 42,000 per WUA
<ul style="list-style-type: none"> • Preparation of Annual Operation Plan (i.e. Main Canal Water Management Plan) • Emergency Procedures 	Chairman, Secretary, and WUA Staff (i.e. Water Masters) (3 WUAs together)	15	3 days	YR 94,500 or YR 31,500 per WUA
<ul style="list-style-type: none"> • Operation Skills, including gate setting • Communication and Reporting 	WUA Staff (i.e. Water Masters) (3 WUAs together)	10	3 days	YR 72,000 or YR 24,000 per WUA
Total Costs per WUA:				YR 223,500

3.3.4 SUMMARY OF ESTIMATED WUA TRAINING COSTS

The total estimated costs per WUA for training in administrative, financial and technical (O&M) management are summarised in the following table:

Training in Administrative Management	YR 72,900
Training in Financial Management	YR 98,400
Training in Technical (O&M) Management	YR 223,500
Total Estimated Training Costs per WUA	YR 394,800

The estimated costs for WUA training are indicative and they may change when each training course is worked out in more detail with the selected training providers. The actual training costs per WUA may increase if:

- training courses have to be conducted for less than the envisaged number of WUAs; and
- the implementation of training course may require more days than estimated.

Based on the assumption that between 15 and 20 WUAs will be formed in Wadi Tuban and Wadi Zabid each, the total estimated costs for training in administrative, financial and technical (O&M) management for about 30 to 40 WUAs will be in the order of YR 11,850,000 and YR 15,800,000 (about US\$ 64,000 and US\$ 85,000).

3.4 TENTATIVE TRAINING SCHEDULE AND BUDGET FOR PIU AND CONSULTANT STAFF

To ensure that the concerned PIU and Consultant staff have the necessary knowledge and skills to provide support and advice to the WUAs, it is required to provide training in the main aspects related to the administrative, financial and technical (O&M) management of WUAs.

3.4.1 TRAINING IN MAIN ASPECTS OF ADMINISTRATIVE, FINANCIAL AND TECHNICAL MANAGEMENT

It is envisaged that these training courses for PIU and Consultant staff are provided by the same training providers, who will also conduct the planned training for the WUAs. Ideally, the training of the concerned PIU and Consultant staff shall be carried out before the training courses for the first WUAs will be conducted.

Subject(s)	Target Group(s)	Number of Trainees	Duration of Training Session	Estimated Budget
<ul style="list-style-type: none"> • Main Aspects of Administrative Management of WUA 	PIM Extensionists, PIM Specialist, Training Expert	14	3 days	YR 90,000
<ul style="list-style-type: none"> • Main Aspects of Financial Management of WUA 	PIM Extensionists, PIM Specialist, Training Expert	14	3 days	YR 90,000

Subject(s)	Target Group(s)	Number of Trainees	Duration of Training Session	Estimated Budget
<ul style="list-style-type: none"> Main Aspects of Technical (O&M) Management 	PIM Extensionists, PIM Specialist, Training Expert, Water Management Specialist	15	3 days	YR 94,500
Total Costs per PIU:				YR 274,500
Total Costs for 2 PIUs:				YR 549,000

3.4.2 TRAINING IN SPECIFIC SUBJECTS

In addition to the three training courses on the main aspects of administrative, financial and technical (O&M) management respectively, PIU and Consultant staff shall also receive training in a number of specific subjects related to the implementation of the different steps of the PIM approach. It is envisaged that these training courses will be conducted by national and international Consultants as well as PMU staff. Therefore, the training costs will only comprise the costs of stationary, photocopies and refreshments.

Subject(s)	Target Group(s)
Works & Support Agreement (PIM Step 9): <ul style="list-style-type: none"> Purpose of Works & Support Agreement Main Aspects of Works & Support Agreement Procedure for Preparation and Signing of Works & Support Agreement 	PIM Extensionists, PIM Specialist, Training Expert, Engineers
WUA Works (PIM Step 11): <ul style="list-style-type: none"> Formation and training WUA Construction Committee Purpose and Main Aspects of WUA Works Contract Procedure for Preparation and Signing of WUA Works Contract 	PIM Extensionists, PIM Specialist, Engineers

Subject(s)	Target Group(s)
Preparation of WUA Works Contract (PIM Step 11): <ul style="list-style-type: none"> • Preparation of Workplan and Budget • Procedure for Procurement of Materials and Mobilisation of Labour 	Engineers
Construction Supervision of Rehabilitation Works (PIM Step 10 and 11): <ul style="list-style-type: none"> • Procedure for Construction Supervision • Reporting and Communication 	PIM Extensionists, PIM Specialist, Engineers
Formation and Registration of Scheme Water Users' Federation (SWUF) (PIM Step 12): <ul style="list-style-type: none"> • Purpose, functions, powers and organisational structure of SWUF • Main Aspects of Articles of Association for SWUF • Procedure for Formation and Registration of SWUF 	PIM Extensionists, PIM Specialist, Training Expert
Irrigation Service Fee (ISF) Policy for WUA (PIM Step 13): <ul style="list-style-type: none"> • Purpose and structure of ISF • Procedure for assessment, billing and collection of ISF 	PIM Extensionists, PIM Specialist, Training Expert
Establishment of Irrigation Council (IC) (PIM Step 15): <ul style="list-style-type: none"> • Purpose, functions, powers and organisational structure of IC • Main Aspects of Articles of Association for IC • Procedure for Formation and Registration of IC 	PIM Specialist
Final Inspections of Rehabilitation Works (PIM Step 16): <ul style="list-style-type: none"> • Procedure for Final Inspections • Preparation of Final Inspection Report 	Engineers, PIM Extensionists, PIM Specialist
Formulation of Wadi Water Management Plan (PIM Step 17): <ul style="list-style-type: none"> • Purpose of Wadi Water Management Plan • Legal Framework and Water Rights at Wadi Level • Procedure for Preparation of Wadi Water Management Plan 	Water Management Specialist, PIM Specialist, PIM Extensionists

Subject(s)	Target Group(s)
Formulation of Main Canal Water Management Plan (PIM Step 18): <ul style="list-style-type: none"> • Purpose of Main Canal Water Management Plan • Legal Framework and Water Rights at Main Canal Level • Procedure for Preparation of Main Canal Water Management Plan 	Water Management Specialist, PIM Specialist, PIM Extensionists
Preparation and Signing of Irrigation Management Transfer (IMT) Agreement (PIM Step 19): <ul style="list-style-type: none"> • Purpose and Main Aspects of IMT Agreement • Procedure for Preparation and Signing of IMT Agreement 	Water Management Specialist, PIM Specialist, PIM Extensionists
Financial, Institutional and Technical Audit of WUA ((PIM Step 21): <ul style="list-style-type: none"> • Purposes of Financial, Institutional and Technical Audits of WUA • Procedure for Financial, Institutional and Technical Audits of WUA • Preparation of Reports on Financial, Institutional and Technical Audits of WUA • Feedback and Communication to WUAs 	PIM Extensionists, PIM Specialist, Training Expert, Water Management Specialist, Engineers

LIST OF APPENDICES

Appendix A: Conducted training courses in Wadi Tuban

Appendix B: Conducted training courses in Wadi Zabid

Appendix C: Overhead sheets used for workshops on WUG and WUA formation

A. APPENDIX A

CONDUCTED TRAINING COURSES IN WADI TUBAN

Name of Training Session:	Refresher Training for PIM Extensionists
Date(s) of Training Session:	27 and 28 January 2003
Location of Training Session:	PIU Office in Lahej
Duration of Training Session:	two days
Number of Participants:	12 PIM Extensionists, PIU Water Management Specialist, PIU Agronomist and PIU Institutional Development Specialist
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Fathiyah Arshad – Training Expert (MTAT) • Kamel Ali Al-Rashahi – PIM Specialist (MTAT) • Ahmed Saeed Hobaishan – Water Management Specialist (MTAT) • Mohammed Barakat – Institutional Specialist (PMU) • Olaf Verheijen – PIM Training Specialist (MTAT)
Purposes of Training Session:	<ul style="list-style-type: none"> • introduction of main aspects of IIP • introduction and review of 21 steps of PIM approach as well as tentative time schedule for first 6 pilot spate irrigation systems • introduction and review of purposes, guidelines and structure of Community Awareness Campaign (PIM Step 2) • introduction of main purposes of utilisation of Flip Chart as well as practising the use of flip charts as extension tool • introduction and review of main aspects of WUG formation (PIM Step 6) • introduction and review of preparation of schematic layout of spate irrigation system, including demonstration and practising • introduction and review of main steps of the participatory planning and design of rehabilitation works (PIM Step 7)
Learning/Training Techniques:	<ul style="list-style-type: none"> • presentation • plenary and small group discussion • demonstration • practising
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • Training Sheets on PIM and Participation, Community Awareness Campaign, WUG Formation, and Participatory Planning and Design • prepared and blank overhead sheets • A-1 sheets + markers • handouts

Name of Training Session:	WUA Formation for PIM Extensionists
Date(s) of Training Session:	12 May 2003
Location of Training Session:	PIU Office in Lahej
Duration of Training Session:	one day
Number of Participants:	12 PIM Extensionists
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Fathiyah Arshad – Training Expert (MTAT) • Kamel Ali Al-Rashahi – PIM Specialist (MTAT) • Mohammed Barakat – Institutional Specialist (PMU)
Purposes of Training Session:	<ul style="list-style-type: none"> • purpose, goal and objectives of WUA • function and powers of WUA • organisational structure of WUA • composition, functions and powers of General Assembly, Board of Directors and Chairman
Learning/Training Techniques:	<ul style="list-style-type: none"> • presentation • plenary and small group discussion
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • Training Sheet on WUA Introduction • prepared overhead sheets • A-1 sheets + markers • handouts

Name of Training Session:	WUA Formation for WUG Leaders from Bustan-Bert Salem
Date(s) of Training Session:	13 May 2003
Location of Training Session:	PIU Office in Lahej
Duration of Training Session:	one day
Number of Participants:	22 WUG Leaders
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Fathiyah Arshad – Training Expert (MTAT) • Kamel Ali Al-Rashahi – PIM Specialist (MTAT) • Mohammed Barakat – Institutional Specialist (PMU)
Purposes of Training Session:	<ul style="list-style-type: none"> • purpose, goal and objectives of WUA • function and powers of WUA • organisational structure of WUA • composition, functions and powers of General Assembly, Board of Directors and Chairman
Learning/Training Techniques:	<ul style="list-style-type: none"> • presentation • plenary and small group discussion
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • Training Sheet on WUA Introduction • prepared overhead sheets • A-1 sheets + markers • handouts

Name of Training Session:	WUA Formation for PIM Extensionists
Date(s) of Training Session:	12 May 2003
Location of Training Session:	PIU Office in Lahej
Duration of Training Session:	one day
Number of Participants:	12 PIM Extensionists, PIU Water Management Specialist
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Fathiyah Arshad – Training Expert (MTAT) • Kamel Ali Al-Rashahi – PIM Specialist (MTAT) • Mohammed Barakat – Institutional Specialist (PMU)
Purposes of Training Session:	<ul style="list-style-type: none"> • purpose, goal and objectives of WUA • function and powers of WUA • organisational structure of WUA • composition, functions and powers of General Assembly, Board of Directors and Chairman
Learning/Training Techniques:	<ul style="list-style-type: none"> • presentation • plenary and small group discussion
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • Training Sheet on WUA Introduction • prepared overhead sheets • A-1 sheets + markers • handouts

Name of Training Session:	WUA Formation for WUG Leaders from Al-Arais
Date(s) of Training Session:	14 May 2003
Location of Training Session:	PIU Office in Lahej
Duration of Training Session:	one day
Number of Participants:	32 WUG Leaders
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Fathiyah Arshad – Training Expert (MTAT) • Kamel Ali Al-Rashahi – PIM Specialist (MTAT) • Mohammed Barakat – Institutional Specialist (PMU)
Purposes of Training Session:	<ul style="list-style-type: none"> • purpose, goal and objectives of WUA • function and powers of WUA • organisational structure of WUA • composition, functions and powers of General Assembly, Board of Directors and Chairman

Learning/Training Techniques:	<ul style="list-style-type: none"> • presentation • plenary and small group discussion
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • Training Sheet on WUA Introduction • prepared overhead sheets • A-1 sheets + markers • handouts

Name of Training Session:	Participatory Planning and Design for 2 Farmers' Design Committees (FDCs)
Date(s) of Training Session:	May 2003
Location of Training Session:	PIU Office in Lahej
Duration of Training Session:	one day
Number of Participants:	Members of FDC formed for Bustan-Bert Salem and Al-Arais
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Fathiyah Arshad – Training Expert (MTAT) • Kamel Ali Al-Rashahi – PIM Specialist (MTAT) • Mohammed Barakat – Institutional Specialist (PMU)
Purposes of Training Session:	<ul style="list-style-type: none"> • principles and steps of Participatory Planning and Design process • purpose, functions and powers of FDC
Learning/Training Techniques:	<ul style="list-style-type: none"> • presentation • plenary and small group discussion
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • Training Sheet on Participatory Planning and Design • prepared overhead sheets • A-1 sheets + markers • handouts

B. APPENDIX B

CONDUCTED TRAINING COURSES IN WADI ZABID

Name of Training Session:	Refresher Training for PIM Extensionists
Date(s) of Training Session:	5 February 2003
Location of Training Session:	TDA Training Room in Zabid
Duration of Training Session:	one day
Number of Participants:	12 PIM Extensionists, PIU Agronomist and 3 female extension workers from TDA
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Mr Abdul Baki Saif M. Al-Hadad – Training Expert (MTAT) • Mr Adel Al-Sakaf – PIM Specialist (MTAT) • Mr Mohammed Barakat – Institutional Specialist (PMU) • Mr Ahmed Kassim – Agronomist (PIU) • Mr Olaf Verheijen – PIM Training Specialist (MTAT)
Purposes of Training Session:	<ul style="list-style-type: none"> • introduction of main aspects of IIP • introduction and review of 21 steps of PIM approach as well as tentative time schedule for pilot spate irrigation systems • introduction and review of purposes, guidelines and structure of Community Awareness Campaign (PIM Step 2) • introduction of main purposes of utilisation of Flip Chart as well as practising the use of flip charts as extension tool
Learning/Training Techniques:	<ul style="list-style-type: none"> • presentation • plenary and small group discussion • demonstration • practising
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • Training Sheets on PIM and Participation, and Community Awareness Campaign • prepared and blank overhead sheets • A-1 sheets + markers • handouts

Name of Training Session:	Training on Awareness Meetings for PIM Extensionists
Date(s) of Training Session:	March 2003
Location of Training Session:	TDA Training Room in Zabid
Duration of Training Session:	one day
Number of Participants:	11 PIM Extensionists

Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Mr Abdul Baki Saif M. Al-Hadad – Training Expert (MTAT) • Mr Adel Al-Sakaf – PIM Specialist (MTAT)
Purposes of Training Session:	<ul style="list-style-type: none"> • introduction and review of purposes, guidelines and structure of Community Awareness Campaign (PIM Step 2) • introduction of main purposes of utilisation of Flip Chart as well as practising the use of flip charts as extension tool
Learning/Training Techniques:	<ul style="list-style-type: none"> • presentation • plenary and small group discussion • demonstration • practising
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • Training Sheet on Community Awareness Campaign • prepared and blank overhead sheets • A-1 sheets + markers • handouts

Name of Training Session:	Training on Agro-Economic Study for PIM Extensionists
Date(s) of Training Session:	March 2003
Location of Training Session:	TDA Training Room in Zabid
Duration of Training Session:	one day
Number of Participants:	11 PIM Extensionists
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Mr Abdul Baki Saif M. Al-Hadad – Training Expert (MTAT) • Mr Adel Al-Sakaf – PIM Specialist (MTAT)
Purposes of Training Session:	<ul style="list-style-type: none"> • main purposes of conducting screening studies • knowledge to plan and execute screening studies • necessary skills to use different data collection techniques
Learning/Training Techniques:	<ul style="list-style-type: none"> • presentation • plenary and small group discussion • demonstration • practising
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • Training Sheets on Screening Studies • prepared and blank overhead sheets • A-1 sheets + markers • handouts

Name of Training Session:	Training on WUG Formation for PIM Extensionists
Date(s) of Training Session:	March 2003
Location of Training Session:	TDA Training Room in Zabid

Duration of Training Session:	one day
Number of Participants:	11 PIM Extensionists
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Mr Abdul Baki Saif M. Al-Hadad – Training Expert (MTAT) • Mr Adel Al-Sakaf – PIM Specialist (MTAT)
Purposes of Training Session:	<ul style="list-style-type: none"> • identification of tertiary hydraulic units as basis for WUG formation • purposes, functions and powers of WUG • mobilisation of farmers to form WUG for their tertiary hydraulic unit
Learning/Training Techniques:	<ul style="list-style-type: none"> • presentation • plenary and small group discussion
Training Equipment:	<ul style="list-style-type: none"> • overhead projector + screen • flip chart tripod
Training Materials:	<ul style="list-style-type: none"> • Training Sheets on WUG Formation • prepared and blank overhead sheets • A-1 sheets + markers • handouts

Name of Training Session:	Training on Cadastral Survey for PIM Extensionists
Date(s) of Training Session:	April 2003
Location of Training Session:	Field
Duration of Training Session:	one day
Number of Participants:	11 PIM Extensionists
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Mr Gamal Ahmed Hussein Al-Badani – Water Management Specialist (MTAT) • Mr Abdul Baki Saif M. Al-Hadad – Training Expert (MTAT) • Mr Adel Al-Sakaf – PIM Specialist (MTAT)
Purposes of Training Session:	<ul style="list-style-type: none"> • use of satellite images to identify individual plots on site • recording of collected data on prescribed proforma
Learning/Training Techniques:	<ul style="list-style-type: none"> • demonstration • practising
Training Equipment:	<ul style="list-style-type: none"> • None
Training Materials:	<ul style="list-style-type: none"> • Copies of satellite images and proforma to used

Name of Training Session:	Training on Use of Flash Cards for PIM Extensionists
Date(s) of Training Session:	April 2003
Location of Training Session:	TDA Training Room in Zabid
Duration of Training Session:	one day
Number of Participants:	11 PIM Extensionists
Trainer(s)/Moderator(s):	<ul style="list-style-type: none"> • Abdul Ghaleb Al-Yousfi – Communication Specialist (PMU) • Mr Abdul Baki Saif M. Al-Hadad – Training Expert (MTAT)

Purposes of Training Session:	<ul style="list-style-type: none">• main purposes of flash cards• necessary skills to use flash cards
Learning/Training Techniques:	<ul style="list-style-type: none">• presentation• demonstration• practising
Training Equipment:	<ul style="list-style-type: none">• None
Training Materials:	<ul style="list-style-type: none">• prepared flash cards

C. APPENDIX C

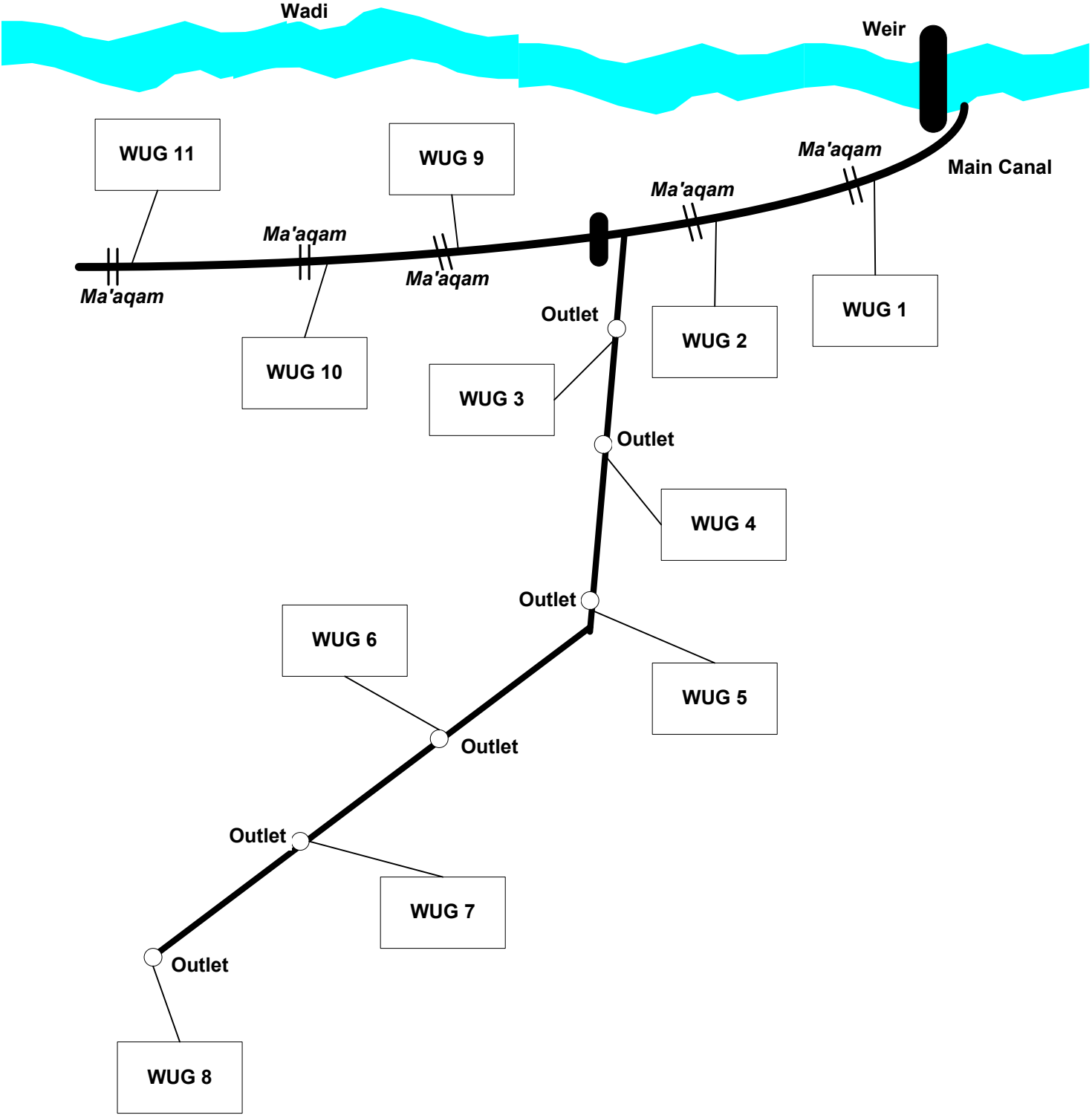
OVERHEAD SHEETS USED FOR WORKSHOPS ON WUG AND WUA FORMATION

BASIC PRINCIPLES FOR FORMATION OF WUGs AND WUAs

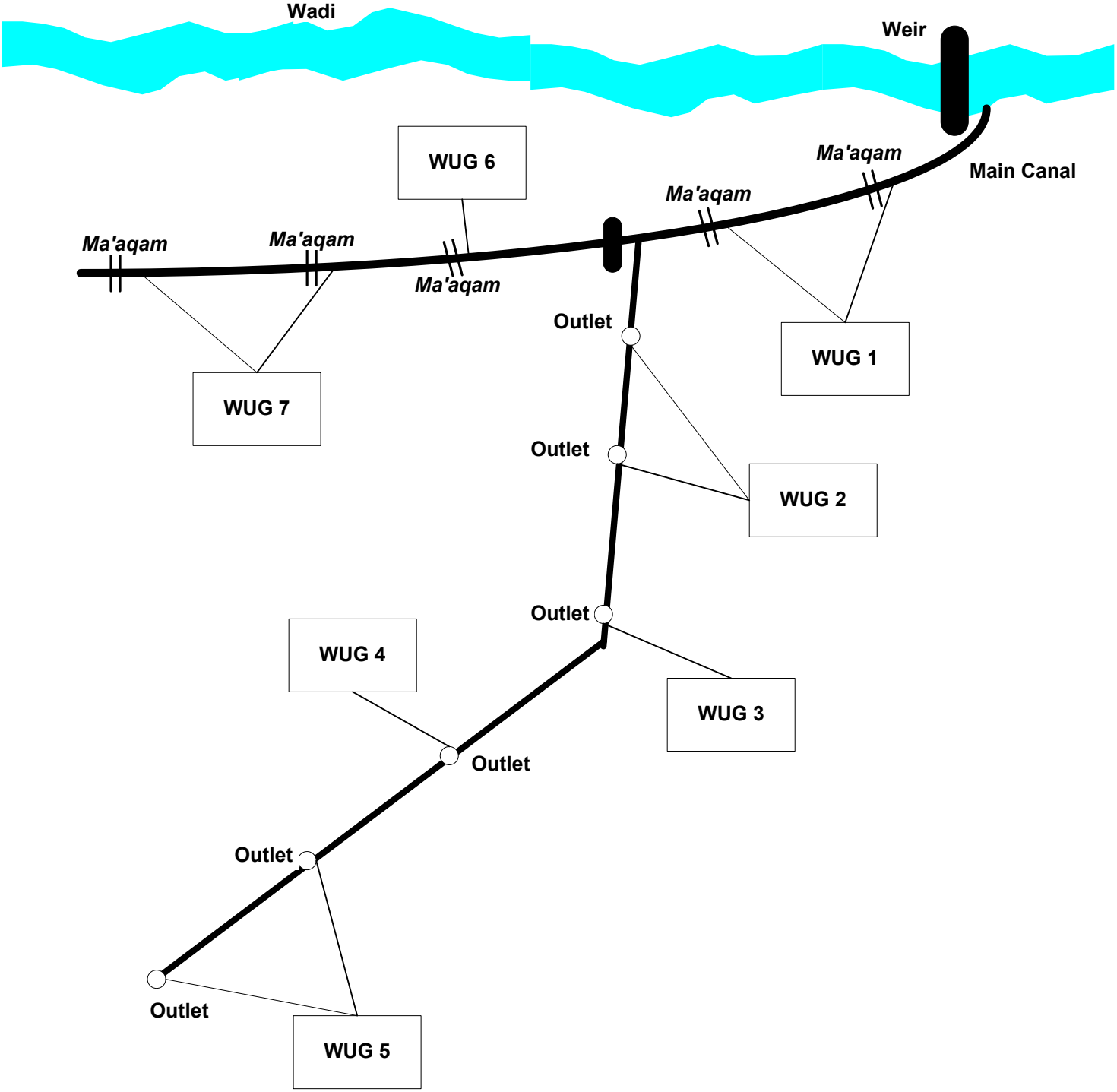
WUG Formation Principles

- WUG is informal organisation of farmers on basis of one tertiary hydraulic unit: *ma'aqam* or intake structure
- Ideally, WUG has 20 to 30 farmers, but WUG with less or more farmers is also possible
- WUG can be formed for few *ma'aqem* and/or intake structures if many farmers have land in more than one tertiary unit
- If WUG formed for two or more *ma'aqem* or intake structures, they must be adjacent to each other
- Decision to form WUG for one or more *ma'aqem* and/or intake structures must be made by farmers themselves

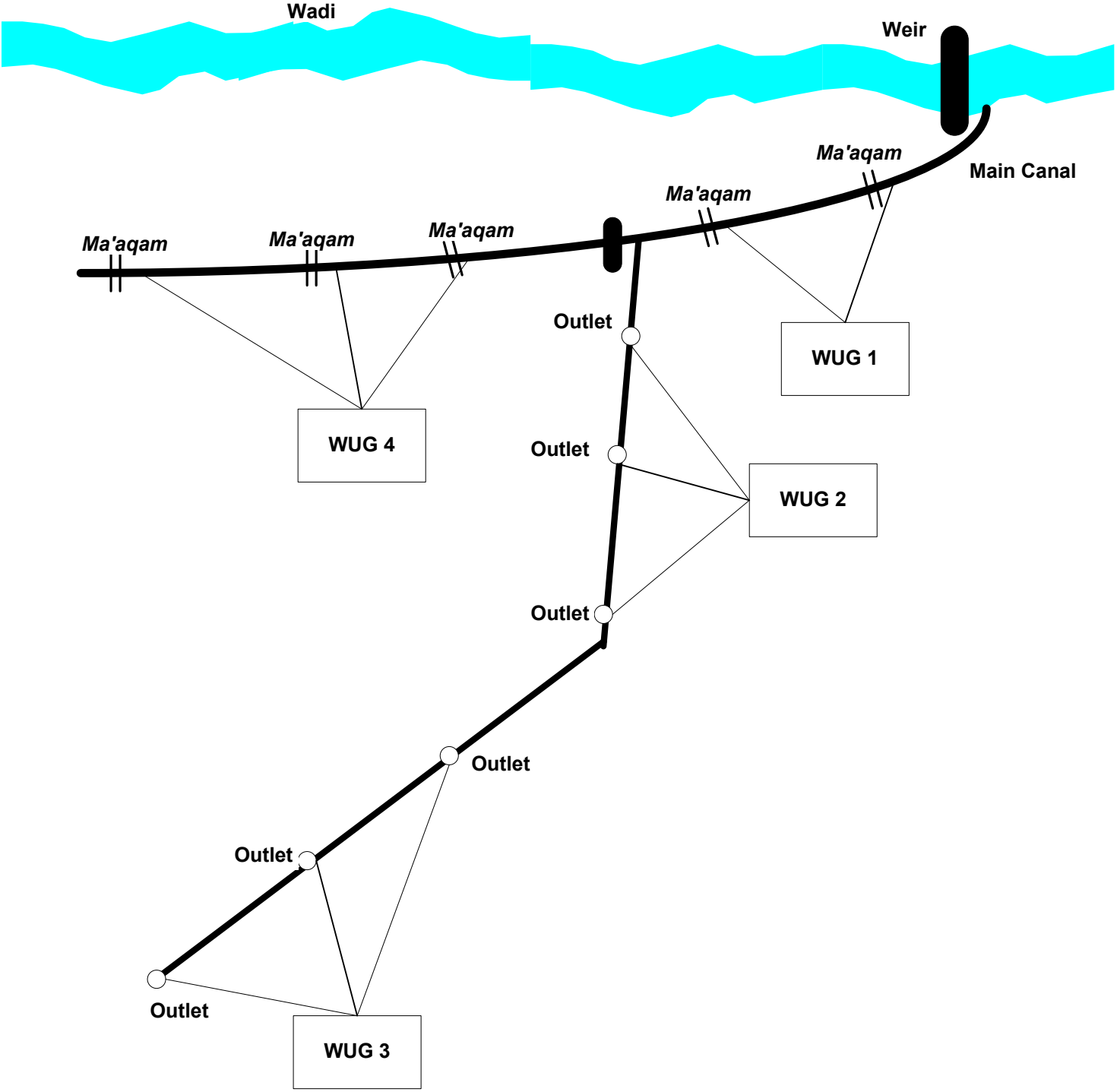
BASIC PRINCIPLE: ONE WUG FORMED FOR EACH MA'AQAM AND OUTLET



7 WUGs FORMED FOR ONE OR TWO MA'AQEM AND OUTLETS



4 LARGER WUGs FORMED FOR TWO OR THREE MA'AQEM AND OUTLETS



WUA Formation Principles

General:

- Formation of WUA shall be transparent and accountable to ensure that all farmers are properly informed and have opportunity to become member before WUA Formation Meeting
- WUA is organisation formed **by** farmers, **for** farmers and managed **by** farmers
- WUA shall be registered under Cooperative Law (No.39, 1998)
- Each main canal receiving water from (modern) weir or (traditional) *uqma/mansub* has the right to form its own WUA if it has at least 31 “founding members”

(Modern) Weir:

- Recommended to form (independent) WUA for main canal receiving water from (modern) weir
- If (modern) weir supplies water to two or more main canals, farmers along each main canal shall decide **themselves** if they want:
 - to form WUA for their own main canal only; or

- to form WUA together with other main canal(s)

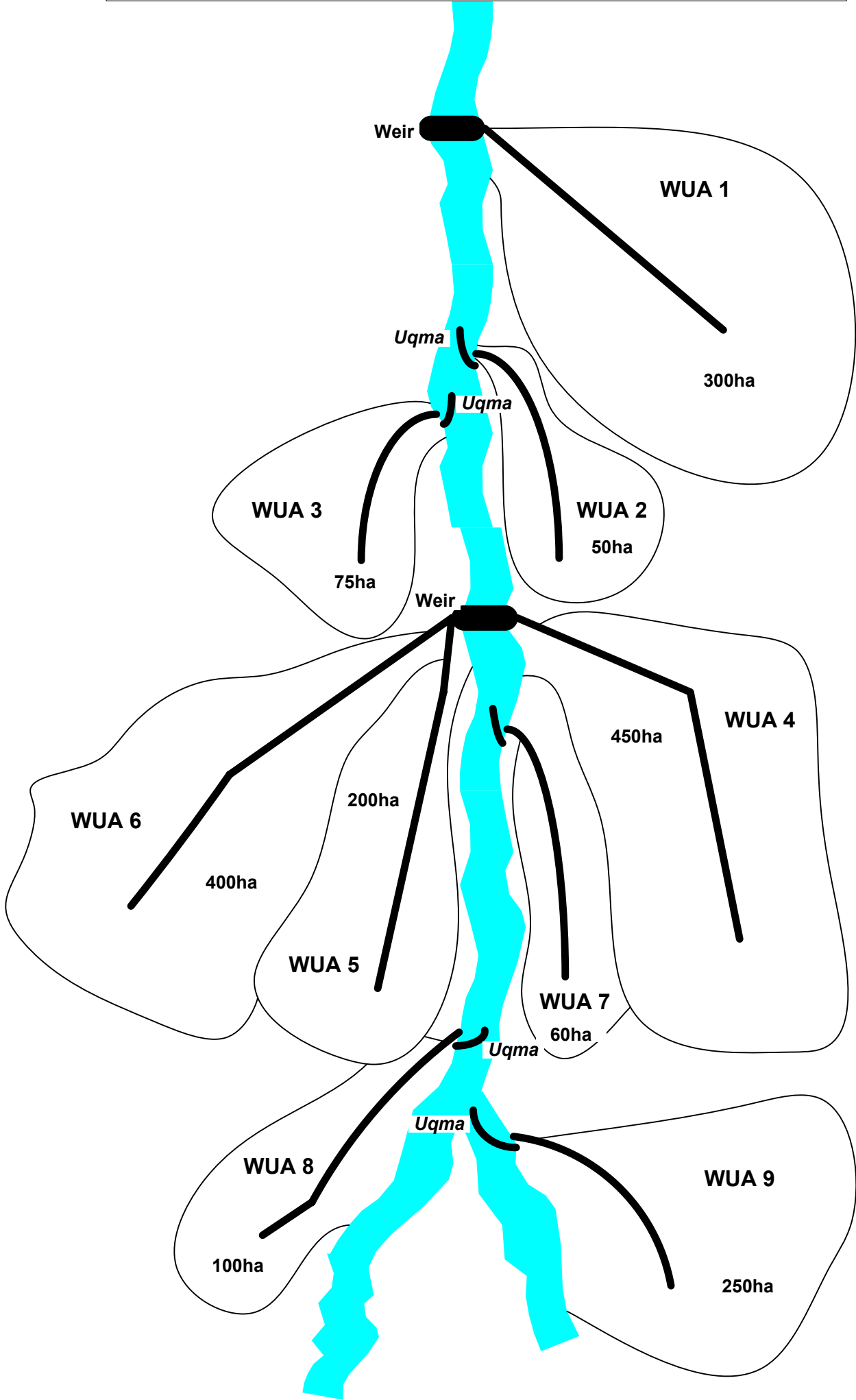
(Traditional) Uqma/Mansub:

- Farmers sharing same *uqma/mansub* shall decide **themselves** if they want:
 - to form WUA for their own *uqma/mansub* only;
 - to form WUA together with one or more other *uqum/manasib*; or
 - to join WUA (to) be formed on main canal receiving water from (modern) weir

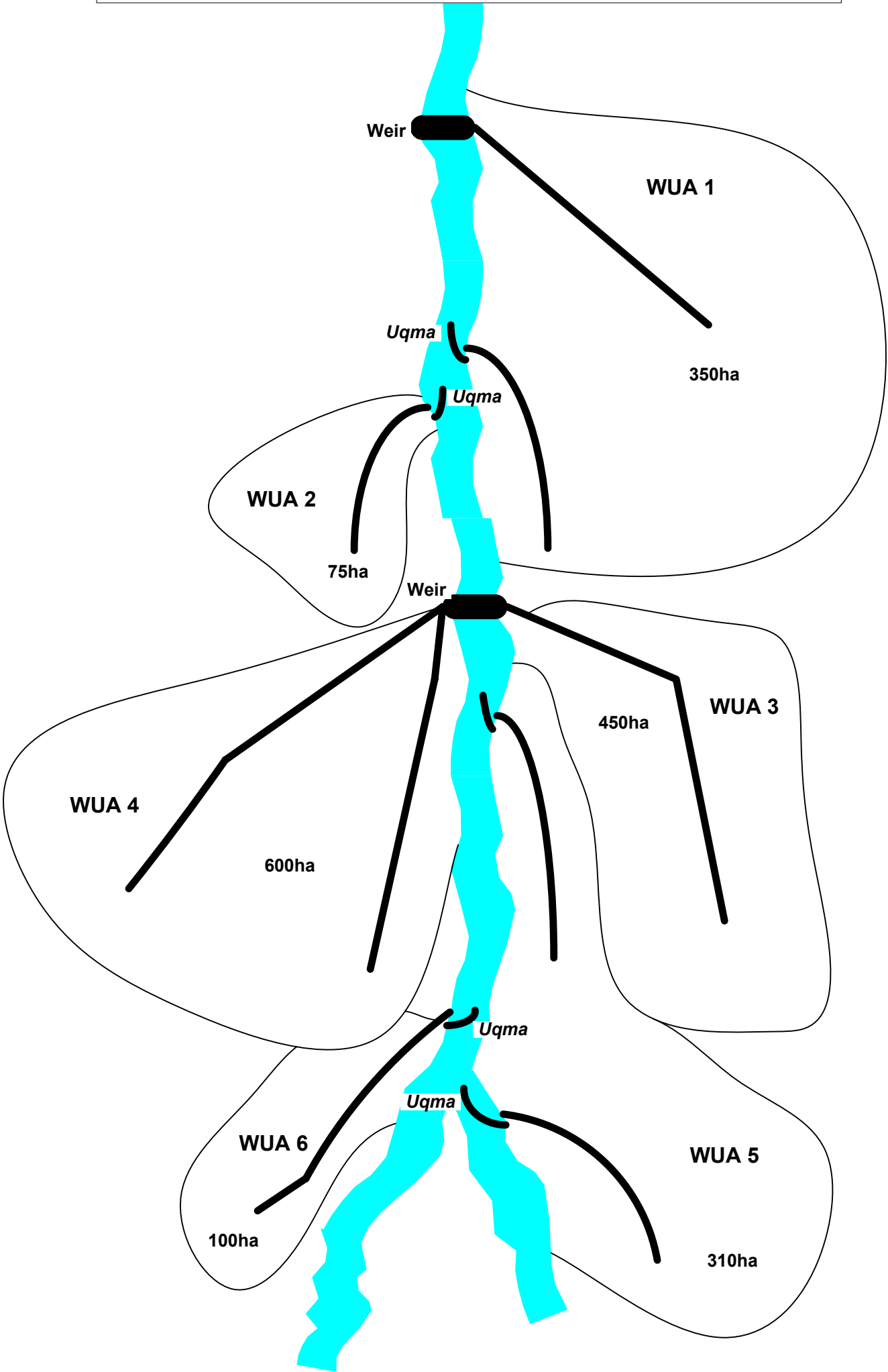
Optimum Size of WUA:

- Management capacity as management of larger WUA with several main canal systems will be more complicated
- Social cohesion between WUA members and non-members: same village(s) and/or ethnic group
- Distances between main canal systems
- Similar O&M requirements: modern versus traditional systems
- Economies of scale: costs per unit of land are lower for larger WUA

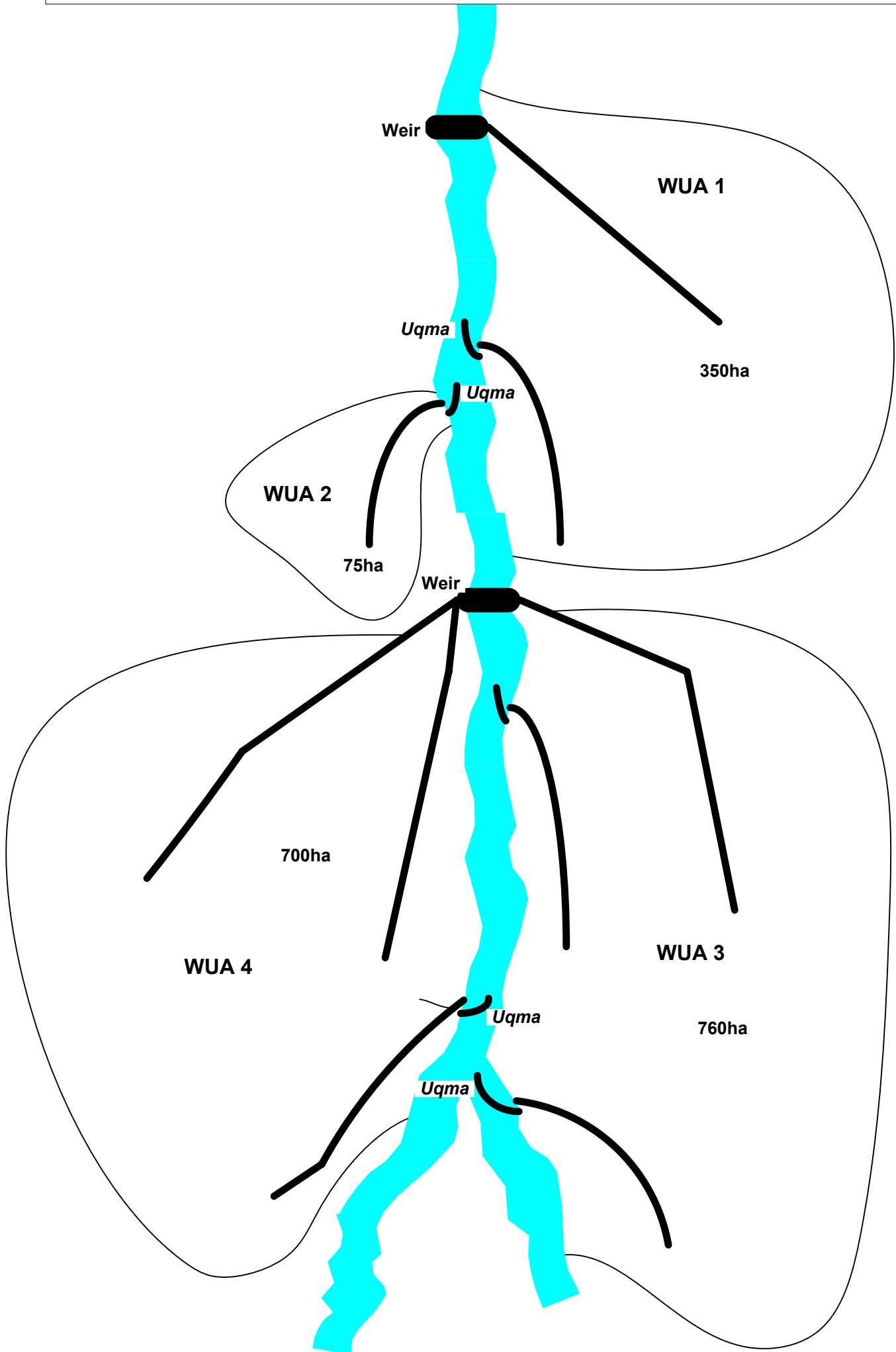
BASIC PRINCIPLE: WUAs FORMED FOR EACH MAIN CANAL



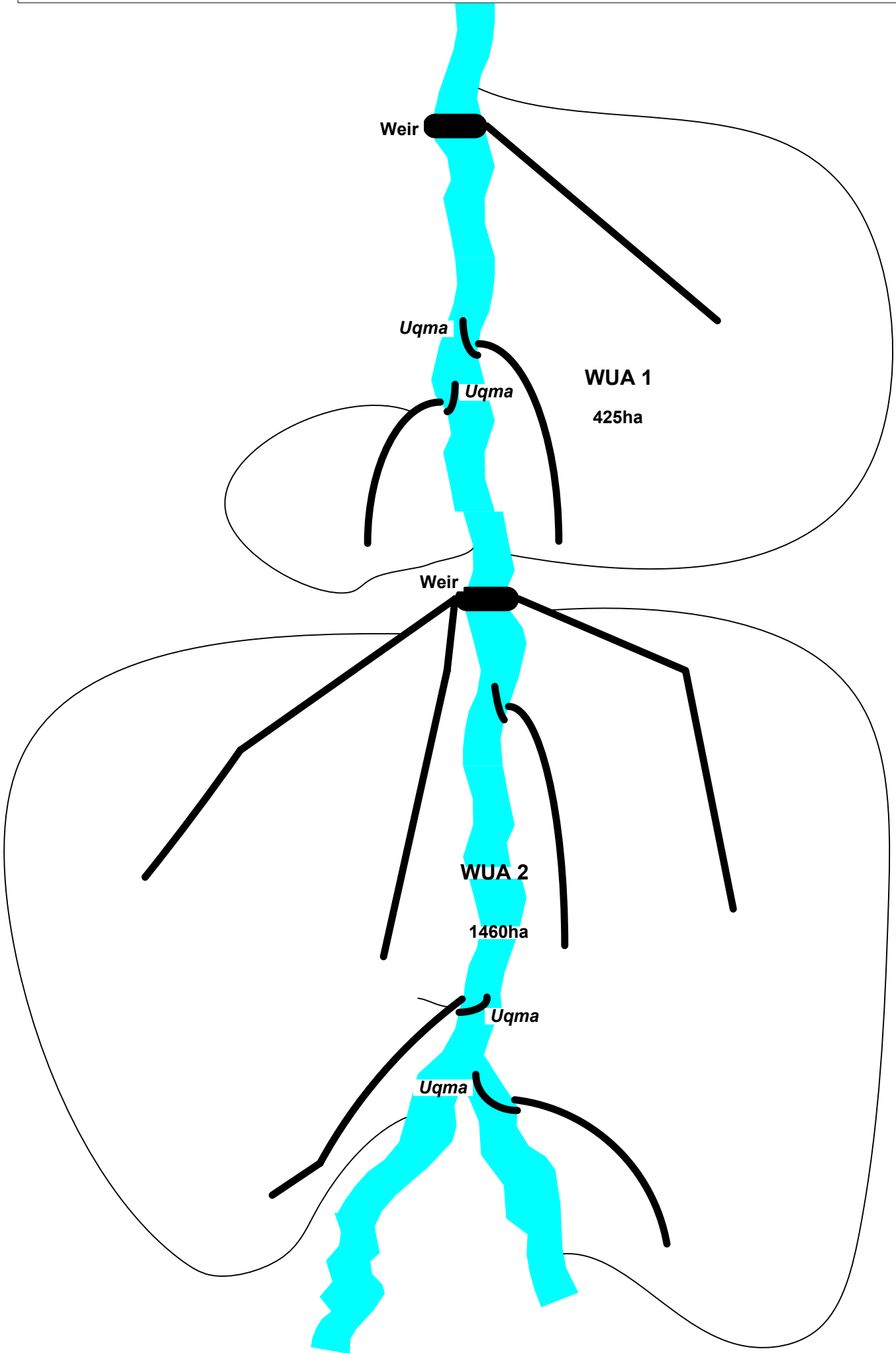
LARGER WUAs: 6 WUAs FORMED FOR ONE AND TWO MAIN CANALS



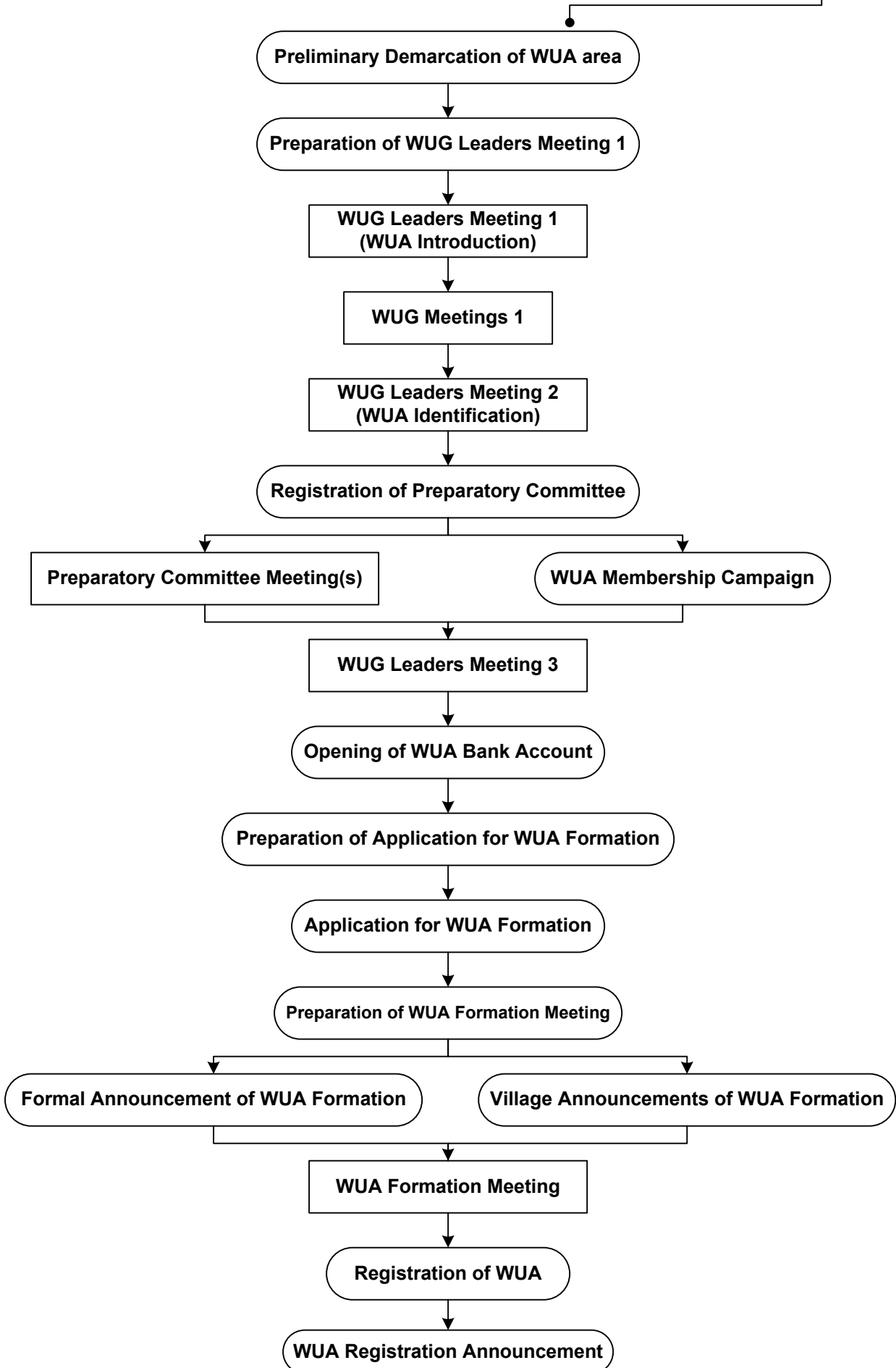
LARGER WUAs: FOUR WUAs FOR UP TO THREE MAIN CANAL SYSTEMS



VERY LARGE WUAs: ONLY TWO WUAs FOR THREE AND MORE MAIN CANAL SYSTEMS



Procedure for WUA Formation



Procedure for WUA Formation

To form WUA in accountable and transparent manner, following meetings and activities shall be carried out in following sequence:

Preliminary Demarcation of WUA area:

- Collection of data on:
 - size and boundaries of command area for each main canal (schematic layout/satellite images)
 - names of villages having land in command area (village list)

Preparation of WUG Leaders Meeting 1:

- Identify WUG Leaders to be invited based on hydraulic and/or village boundaries
- Prepare and distribute written invitations

WUG Leaders Meeting 1 (WUA Introduction):

- Training on main aspects of WUA (Training Sheet 8.1)
- Present and review (Model) WUA Articles of Association

- Explain basic principles and procedure for WUA formation

WUG Meetings 1:

- Present main WUA aspects, basic principles and formation procedure
- Present and review (Model) WUA Articles of Association
- Assess farmers' preferences regarding WUA formation

WUG Leaders Meeting 2 (WUA Identification):

- Present of farmers' preferences regarding WUA formation for each main canal
- Assess size and boundaries for one or more WUAs
- Explain purpose, tasks and responsibilities of Preparatory Committee as well as (recommended) composition
- Formation of Preparatory Committee(s) by electing 5 to 10 members

Registration of Preparatory Committee:

- Register newly formed Preparatory Committee with Ministry of Social Affairs

- Issue of “Letter of Recognition” by Ministry of Social Affairs

Preparatory Committee Meeting(s):

- Review and approve size and boundaries of future WUA
- Formulate initial set of Internal Rules & Regulations on:
 - membership criteria
 - size and composition of Board of Directors and Audit Committee
 - voting rights and procedure
 - representative system for General Assembly
 - membership fee
- Nominate suitable candidates for Board of Directors and Audit Committee
- Formulate appropriate name for future WUA

WUA Membership Campaign:

- WUG Meetings to encourage farmers to become WUA members by explaining advantages of WUA membership:
 - participate in decision-making regarding WUA management, water distribution and maintenance
 - participate in election of members of Board of Directors

and Audit Committee

- receive water at lower cost than non-members
- receive other services and training to improve agricultural production
- Distribute WUA Leaflet among all farmers
- Install WUA Posters in all villages

WUG Leaders Meeting 3:

- Preparatory Committee reports to WUG Leaders to get approval on:
 - list of nominated candidates for Board of Directors and Audit Committee
 - initial set of Internal Rules & Regulations
 - proposed name for future WUA

Opening of WUA Bank Account:

- Preparatory Committee opens bank account in name of future WUA

Preparation of Application for WUA Formation:

- Preparatory Committee shall:

- prepare List of “Founding WUA Members”
- collect bank statement showing deposit of share capital of at least 31 “founding WUA members”

Application for WUA Formation:

- Preparatory Committee shall submit to Ministry of Social Affairs:
 - list with names of “Founding WUA Members”
 - bank statement
 - cash payment of YR 3,200 for media announcement
 - initial set of Internal Rules & Regulations
 - list with names of candidates for Board of Directors and Audit Committee

Preparation of WUA Formation Meeting:

- Preparatory Committee and Ministry of Social Affairs shall agree upon:
 - date, time and venue for WUA Formation Meeting
 - agenda for WUA Formation Meeting
 - list of invitees

Formal Announcement of WUA Formation:

- Ministry of Social Affairs announces formation of WUA in (local) media (i.e. newspaper)

Village Announcements of WUA Formation:

WUG Leaders shall:

- paste written announcements with date, time and venue of WUA Formation Meeting at public places in all villages
- conduct house-to-house visits to inform all WUA members about date, time and venue of WUA Formation Meeting

WUA Formation Meeting:

- Registration of attending WUA members to assess quorum
- Presentation of activity report by Preparatory Committee
- Presentation, review and approval of (Model) WUA Articles of Association
- Presentation, review and approval of initial set of Internal Rules & Regulations
- Presentation of nominated candidates for Board of Directors and Audit Committee
- Registration of additional candidates for Board of Directors

and Audit Committee

- Election of members of Board of Directors and Audit Committee
- Signing of registration documents by newly elected Board of Directors

Registration of WUA:

- Board of Directors of newly formed WUA submits to Ministry of Social Affairs:
 - approved (Model) Articles of Association and initial set of Internal Rules & Regulations
 - list with names of elected members of Board of Directors and Audit Committee
 - payment of YR 2,000 as registration fee
- Ministry of Social Affairs shall issue to WUA:
 - one-year license
 - 3 ID cards

WUA Registration Announcement:

Ministry of Social Affairs shall place formal announcement in (local) newspaper that WUA is formed and registered under

Cooperative Law

Training and Activities before O&M Transfer

- Comprehensive training programme in:
 - financial management: i.e. bookkeeping, preparation of budget and financial statements, setting and collection of irrigation service fee, auditing
 - administrative management: i.e. planning and presiding meetings, (internal) communication, preparation of minutes of meetings and annual report, record keeping, conflict resolution
 - personnel management: i.e. selection and supervision of employed staff, work planning
 - technical management: i.e. maintenance inspections and inventory, preparation of O&M plan and cost estimates, preparation of work plan, execution of works, maintenance skills and quality control, communication and reporting
- Formulation and approval of Internal Rules & Regulations required for effective management of WUA in accountable and transparent manner

- Execution of part of Rehabilitation Works as farmers' contributions and on-the-job training to plan, execute and supervise works

If execution of rehabilitation works and O&M transfer are delayed and to keep the formed WUAs functional:

- Inventory, planning and execution of routine maintenance works together with PIU and on-the-job training to identify, plan, execute and supervise maintenance works
- Execution of agricultural extension programme in close cooperation with WUAs and WUGs