

CAPACITY BUILDING IN PARTICIPATORY IRRIGATION MANAGEMENT: CONCEPTS AND STRATEGIES

JUAN A. SAGARDOY (*)

Many governments are committed to share irrigation management responsibilities to water users and in some cases to privatize irrigation management completely.

This is a trend of world-wide dimensions: many 25 countries in the world are actively engaged in such programmes and every few months new countries are added to the list. There is an overall satisfaction with the results achieved by these programmes but there are also some cases where the programme does not progress as planned or the newly established WUA do not perform as expected.

The causes are many ranging from techno-economic to socio-institutional but in many cases the underlying main deficiency was that insufficient resources and attention was given to capacity building at all levels. Within capacity building the training part is usually the most important component and this paper focuses on the role that training can play in promoting efficient PIM programmes at national level. Particular attention will be paid to the role that training can play to establish and consolidate new WUA. However, training is not the only measure that can strengthen the newly established Water Users Associations (WUA), sometimes additional financial and institutional incentives are required to provide the necessary autonomy.

Before entering into the details of assessing the training needs it is worthwhile to dedicate some time to review the nature of PIM processes and the main types of PIM approaches and last but not least the main types of WUA to which irrigation management responsibilities are transferred because the training needs are different for all phases of the PIM process.

ABSTRACT

In many countries, water management is being shifted from the State to private organisations. In some cases results are quite satisfactory, in others they are disappointing. Among the causes of such inefficiency, training certainly plays a major role in the realisation of private organisational and managing forms in the use of water resources. By this terminology we mean any knowledge and training process in favour of the future users of the water resource both at the farm and institutional level. In this case, the benefits of a possible privatisation of water management appeared to be quite higher than private management without the involvement of users.

RÉSUMÉ

En de nombreux pays, on assiste au passage de la gestion des eaux des formes fortement centralisées à des formes privées. Dans certains cas, les résultats ont été satisfaisants, en d'autres ils ont été décevants. La formation est certainement l'une des causes d'une telle inefficacité; elle joue un rôle important dans la réalisation de formes organisationnelles et gestionnaires privées pour l'utilisation des ressources en eau. Par une telle terminologie, il s'entend tout processus de connaissance et de formation en faveur des futurs utilisateurs de la ressource en eau tant au niveau de l'exploitation agricole qu'au niveau institutionnel. Dans ce cas, les bénéfices de la privatisation éventuelle de la gestion se sont manifestés bien supérieurs vis-à-vis d'une gestion privée sans la participation des utilisateurs.

THE PARTICIPATORY IRRIGATION MANAGEMENT PROCESS

Enough experience has already been accumulated in these processes to understand that they give rise to numerous problems and questions. In order to give some answers and orientations regarding the main issues is necessary to subdivide the process in its main stages to further analyse in every stage the critical decisions and issues. With this purpose we differentiate the following four stages:

1st stage: Gaining political support for the programme
• obtaining highest political support

- defining the scope of the programme
 - ensuring the financial resources
- 2nd stage: Preparing the National PIM programme
- redefining the institutional roles
 - creating a favourable legal framework
 - defining the phases and priorities for its implementation.

3rd stage: Implementation of the National PIM programme

- defining responsibilities for implementation
- defining conditions and modalities for transfer of responsibilities
- training of government staff
- use of information media to convey message to farmers

• undertaking training programmes for farmers leaders and technical staff of WUA

- redeployment/training programmes for government staff implement incentives programmes to strengthen WUA

4th stage: Monitoring and assessment of impact

- establishment of performance indicators

(*) Group Leader of the Water Management and Technology Unit Water Resources, Development and Management Service FAO.

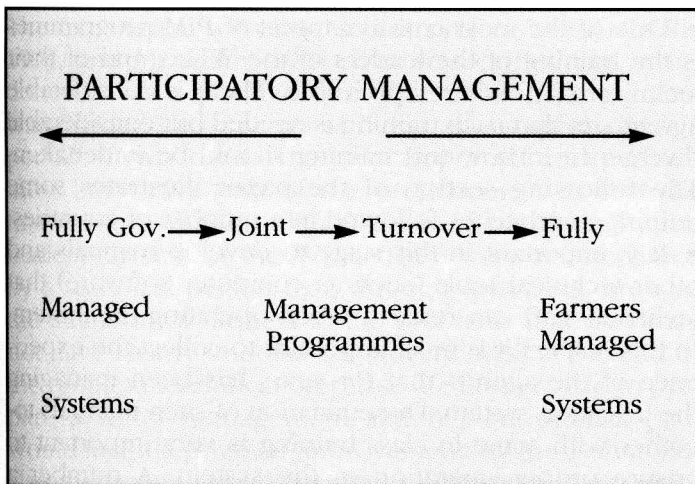
- sampling of farmers
- monitoring of financial viability of WUA
- technical assistance services to WUAs by Government staff

The division of the process in phases is for clarity purposes and in reality these phases do not occur in a sequential manner but overlap to some extent among them. In the remaining part of the paper we will examine the critical role that training can play in each of the above mentioned stages.

MAIN TYPES OF PARTICIPATORY IRRIGATION MANAGEMENT

Many classifications have been developed to differentiate the somewhat different approaches to Participatory Irrigation Management. Perhaps the one that respond more to the most common case is to view it as a management continuum where joint management and turnover processes are part of the same long term approach.

At one end of the continuum systems would be fully operated by the Government while in the other the



farmers will be fully responsible. Between these two extremes there are several intermediate stages where many countries are actually engaged.

CATEGORISATION OF WUAs

So far the term WUA has been utilised in a general sense but there are many types of WUAs and Vermillion (1996) and Turrall (1995) provide a detailed classification of the main types of WUAs. We do not intend to go into detail but for the purpose of this paper is necessary to make a distinction among main types of WUAs because they require essentially different support systems. From the point of view of management, two categories

can be distinguished:

- **Farmers' management.** These are WUAs where most of the management and technical activities are carried out by the farmers elected by the members of the WUA or directly by the farmers themselves. Most of these functions are carried out without financial compensation although sometimes a very specific function, requiring a full time dedication during the irrigation season, such as the physical distribution of the water carried out by ditchriders receives a financial compensation in cash or kind. This type of WUA tends to be associated with irrigation schemes — or part of them — of small size. In fact small associations do not have normally the financial resources to hire staff that will perform some of the technical and accounting functions that are required.

- **Contracted management.** These are WUAs where the main responsibility for managing the irrigation system is contracted to a professional (Manager) and he/she can hire other technical and clerical staff to perform the activities. He/she normally reports to the Board/Council of elected farmers. Such associations cover a relative large physical area and must have a sound financial basis to be able to perform as indicated. However this should not be interpreted as a limitation as experience has proven that these technical services are not necessarily expensive. In many rural areas the younger generation have often academic degrees and professional experience that they are willing to provide for a reasonable compensation or even as a free service to their communities. Therefore a contracted management is not necessarily expensive.

Another differentiation that is important in the WUAs is whether their activities are restricted to *irrigation management* or they have the freedom to act as *business enterprises*. The second alternative gives a greater opportunity for achieving financial autonomy as irrigation management is an activity that cannot generate profits since the only purpose of the fees paid by the farmers is to cover the expenses made in operation and maintenance of the system. While the WUAs that operate as business enterprises can undertake activities such purchasing and sales of fertilizers, renting of agriculture machinery, storing and processing of agriculture production and many others that can generate benefits for the Association and its members. In this way farmers income may improve considerably and make the payment easier for the expenses incurred in irrigation management. On the other hand there is an important differentiation between both types. While every farmer is concerned and affected by the water distribution not all the farmers may be interested in the other agricultural activities that WUA, as a business enterprise, may wish to undertake. This means in practice that the statutes of the WUA must foresee two types of membership: those that are only interested in the irrigation management ac-

tivities and the others that are willing to pay the costs (and eventual benefits) of the other activities. Sometimes these functions are separated in two different organizations. However small irrigation systems cannot afford to have two separate organisations and they tend to concentrate into one. The training requirements for supporting services for these types of WUAs is also different because the business enterprises have many more functions and responsibilities and therefore a greater need for support than the WUAs dedicated only to covering the function of irrigation management.

CAPACITY BUILDING NEEDS

During the different stages of PIM programmes

During the **first stage**, ensuring political support to the programme the capacity building needs are more in term of facilitating the decision of policy makers in support of the PIM programme. Often the visit to the countries where such programmes have been progressing well may represent a favourable factor for a positive decision to support a PIM programme.

During the **second phase**, preparing the National PIM programme there are two major activities concerned with capacity building:

- Review/modify the legal framework for supporting the transfer programme. The scope of this review may be very large, as in the case of Mexico, where a new water legislation had to be drafted to other cases where only minor modifications are needed at ministerial level. The mayor issues in these reforms are: the water rights of the WUAs and their capacity to contract works and undertake financial operations. FAO has assisted several countries (Mexico, Guatemala, Belize, El Salvador) to redefine their water laws within the context of PIM programmes.

- The fact that government officials are made responsible for implementing PIM programmes requires that briefing sessions are held with them in order to familiarize them with the procedures to follow and their role. Preparation of operating manuals are needed to define the work of the WUAs but also of the part of the system that remains under the responsibility of the government staff.

In the **third phase**, implementation of the PIM National programme, the role of capacity building is very important and the following activities should be covered:

- Training of government staff. With the transfer of management responsibilities the role and function of government staff are likely to be different from before. The new functions are likely to include more responsibilities in the areas of: promote the farmers organization in WUAs, resolving social conflicts, monitoring and

evaluation, advice and assistance in irrigation practices, contract preparation. The training needs in this area are difficult to define before hand, much depends of the definition of the functions and of the knowledge and technical capacity of concerned staff. Furthermore, it is very likely that many government staff will have to move to the private sector and it can be advisable to give some briefing for how to open and run small private enterprises.

- Use of information media to convey the messages to thousands of farmers. One of the major problems of PIM programmes is how to inform thousands of farmers of the role that they are expected to play in the new management system. Although the use of traditional ways of passing messages to farmers by means of extension staff has been used in some cases the use of modern methods of information (radio and TV) are practically the only way of reaching large audiences and guaranty that the messages are clear and uniform. The Mexican experience in this area was particularly successful but many other countries use nowadays these technologies to bring to the farmers important technical messages. FAO has assisted many countries in the development of the methodologies and techniques that made possible their successful application.

- One of the most critical aspects of PIM programmes is the training of the leaders of the WUAs and of their technical staff, where applicable. There is considerable agreement that such training is needed but considerable divergence in how this training should be undertaken. The following section of the paper illustrates some training approaches followed in a number of countries.

- It is important in this stage to develop manuals and other technical tools (such as computer software) that technical staff can refer to when operating the system. In this respect it is most important to collect the experience of the agency that for years has been managing the irrigation system. Dissemination of such manuals together with some in class training is very important to ensure proper operation of the system. A number of computer packages are also available to reduce the administrative burden and to accelerate processing of information related to water distribution. FAO has developed one such package called SIMIS (Scheme Information Management Information System) which is distributed through national training courses in interested countries. Other aspects that need attention in this stage are those related to the actual development of the programme. Questions like: Who will be introducing the programme to the farmers?; How farmers will be informed of their new roles?; Who will be promoting the election of the leaders of the WUA?; etc., need to be answered in a detailed and specific manner. In the case of the Philippines most of these responsibilities have been entrusted to trained farmers organizers that have proven very useful in these tasks. Wijayarathna and Ver-

million (1994) report that their cost was US\$ 6-7 per hectare in the communal systems and less than US\$ 1 for the national systems.

Training of leaders and technical staff of WUAs

The most common instrument in capacity building is training, although not the only one. Training programmes have been utilised in connection with PIM programmes with varying degree of success. One common perception of the training needs for WUAs is that they must learn the management of the system following the pattern that the irrigation agency has maintained for many years; there is nothing more erroneous than this notion. No matter how well irrigation agencies have done their jobs, WUAs want to do differently or at least they want to do it "their way". Therefore, the assumption that the staff of the irrigation agency knows best what type of training is needed is generally wrong. The training needs of the WUAs should be identified by themselves, however, they often do not have a clear perception of what is the most urgent needs and in what way training could help to solve them.

The Indonesian case

The experience with the "starter projects" (FAO/DLRD 1993, and M. Smith, 1994) that was carried out in Indonesia was a positive one. The training programme was divided into a series of five sessions spread over a period of two years. The most important and perhaps most innovative part of the programme was that the first session was the identification of problems by the leaders farmers of the WUA. They were accompanied by a technical person that, through questions, brought the attention of farmers to the problems that they may not have clearly understood. Nevertheless at the end of the problem identification phase the farmers had to prepare a water management action plan. Such a plan would include physical improvements of the system but also the training needs of the group were clearly identified. However in order to provide training and technical support, agricultural officers had to be trained first as due to their strong professional orientation towards agriculture their knowledge on water management matters were insufficient. Therefore their skills had also to be upgraded. The benefits of this training and improvement programme were very substantial as production per hectare increased by 20-30% raising farmers incomes by Rp. 400 000 per hectare per year.

The Mexican case

Similar approaches were used in Mexico (FAO, 1996) to identify the training needs of the leaders and technicians of the Association and also proved to be important in identifying areas of training that were not suspected to

be important before the survey. However, here it is necessary to make a distinction between the two situations: in the case of Indonesia all the associations were of the farmer management type while in the case of Mexico they were of the contracted management type and therefore not only the training needs of leaders of association had to be identified but also of the technical staff, which were essentially different.

A mayor effort was made to provide training on Management Principles for the Presidents of the associations and the General Managers. the idea behind this effort was the need for introducing the concept that a WUA was something more than a place where some expenditures had to be made (in operating and maintaining the system) and incomes are received from the farmers water fees. The WUA was an "enterprise" that could render extremely useful services to its affiliates. Therefore the general principles of managing enterprises were introduced in courses. Two types of courses were developed: one of short duration (2 weeks) where only some general principles were given and another of longer duration (3 months) where principles and techniques were provided. One form of capacity building that has proven extremely effective in this context is the exchange of experiences among the leaders of WUAs. Farmers tend to learn more easily from other farmers than from technicians or government staff. Innovative solutions adopted by a WUA are more widely spread through these exchanges than if introduced in a training session. An alternative to these exchanges that may be somewhat expensive as transportation and accommodation is involved, can be the video registration of these experiences and its dissemination in other groups. This is a viable alternative but is certainly less effective than the direct contact between the WUAs concerned.

COST OF TRAINING PROGRAMMES

One question that is often asked with regard to these training programmes is whether they are economically justifiable. The question is relevant and cannot be answered without some provisos.

The economic impact of training is in general very difficult to measure as training increases knowledge and skills which once achieved are difficult to translate into productivity increases.

Nevertheless some general orientations can be given. Any training session is made of three component:

i) salaries and allowances of the trainers, ii) the cost for hiring the training facilities (room, equipment, etc.) and iii) the cost of the participants (food, lodging, transport, and their time).

If the training is undertaken at the village level component, ii and iii tend to be small and the cost per trainee is in the order of US\$ 2-8/per day.

The number of days required to provide the necessary knowledge required vary greatly depending on many circumstances, but a reasonable average may oscillate between 5 and 15 days; therefore the total cost for trainee ranges from US\$ 10-120. This is a relative high figure but its benefits are suppose to spread over all the members of the WUA and therefore if referred to the hectare they are in the order of few cents or one or two US\$. It is difficult to imagine a more modest investment in irrigation.

The main limitation of the training programmes is not so much their cost but the difficulty of finding good trainers able to communicate with the farmers in an effective manner and provide the necessary knowledge in a practical and realistic manner.

Often the cost of training the trainers and developing good training material becomes one of the major difficulties of a training programme. This is often an expensive component "per se" but it is worthwhile to dedicate substantial resources to it as the success of the programme depends on the material and methodology selected. Nevertheless, these costs when spread over a large number of trainees is relatively modest. ●

REFERENCES

- FAO (1996) - Apoyo al Proyecto de transferencia y modernización de distritos de riego. Informe terminal. Resultados y recomendaciones del Proyecto.
- FAO/DLRD (1993) - On-Farm Water Management Development in Indonesia. Jakarta: Food and Agriculture Organization and Division of Land Reclamation and Development.
- Sagardoy J.A. (1994) - Lessons Learned from Irrigation Management Transfer Programmes. In Irrigation Management Transfer. Water Report No.5. FAO pp 39-46.
- Sagardoy J.A. (1995) - Impact of Irrigation Management Transfer in Papers from the Expert Consultation on Irrigation Management Transfer in Asia. FAO/RAP Publication 1995:31. pp 167-174.
- Sewrajsing J., Daud Brahmana and Syahrums Yunan (1991) - A Training and Development Methodology for Sustained Water Management Improvement in Small Scale Irrigation Systems. Proceedings of Regional Workshop on Improved Irrigation System Performance for Sustainable Agriculture. Bangkok 22-26 October 1990. Rome: FAO.
- Smith Martin (1994) - Training and Extension in On-farm Water Management: Case Study from Indonesia. A paper prepared for the FAO Technical Consultation on Irrigation Extension in West Africa, December 1994, Accra, Ghana.
- Turrall H. (1995) - Devolution of Management in Public Irrigation Systems: Cost shedding, Empowerment and Performance. ODI. Working Paper No 80.
- Vaidya Y.L. (1995) - Irrigation Management Transfer in Nepal, in Papers from the Expert Consultation on Irrigation Management Transfer in Asia. FAO/RAP Publication 1995:31. pp 35-47.
- Vermillion D.L. (1996) - Analytical framework for Irrigation Management Reform. IIMI.
- Wijayaratra C.M. and Vermillion D.L. Irrigation management turnover in the Philippines: strategy of the National Irrigation Administration. Report No. 4. *Short Report Series on Locally Managed Irrigation*. IIMI, Colombo.
- Xueren Chen (1994) - Overview of Irrigation Management Transfer in China. In Irrigation Management Transfer. Water Report No. 5. FAO. 1995, pp 103-116.

VOLETE ABBONARVI A MEDIT ?

- ABBONATEMI A «MEDIT»*
(Italia: L. 98.000)

Ho effettuato il pagamento

- con versamento sul c/corrente postale n. 366401 intestato a Edagricole S.p.A.
- con assegno allegato non trasf. intestato a Edagricole S.p.A.
- mandatemi a casa c/assegno postale: pagherò l'importo al postino + spese P.T.

Inviatemi gratuitamente: catalogo riviste Edagricole
 catalogo volumi Edagricole

Cognome Nome

Via N.

Cap. Città Prov.

Firma

Ritagliate e spedite a:

Edagricole S.p.A. - Cas. Post. 2157 - 40100 Bologna

Per maggiori informazioni:
Tel. 051/492211 int. 22 (servizio abbonamenti)
Telefax 051/493660

* Gli abbonamenti vengono messi in corso a pagamento avvenuto, in qualunque periodo dell'anno. È possibile acquistare fascicoli arretrati dell'anno in corso (salvo disponibilità) a prezzo doppio di copertina. I prezzi comprendono IVA e spese di imballo e spedizione.

DO YOU WANT TO SUBSCRIBE TO MEDIT ?

- I WANT TO SUBSCRIBE TO «MEDIT»*
(Foreign countries: surface mail L. 110.000
air mail L. 115.000)

Remittance

Subscriptions come into force after remittance is received. The publisher will send a pro-forma invoice and the payment can be effected by cheque remittance or bank account (Credito Italiano, Bologna Branch Office, Account n. 19300 - Ag. 4).

Send me free: Edagricole Magazines Catalogue
 Edagricole Books Catalogue

Surname First Name

Address

Post Code Town Country

Signature

Cut out and send to:

Edagricole S.p.A. - P.O. Box 2157 - 40100 Bologna I

If you want more information:
Telephone 3951/492211 extension 22 (subscription service)
Telefax 3951/493660

* Subscriptions are intended on a calendar year basis. Consequently if the subscription application is received late in the year we shall send all the issues published up to that date.