

**ON FARM
WATER MANAGEMENT**

First National
Training Conference

Planning and Curriculum Development

Held at
OFWM Training Institute
Lahore
28th - 29th January 1984

A paper on

THE ESTABLISHMENT OF A NATIONAL WATER MANAGEMENT TRAINING POLICY

by Dr Harold Bergsma, PhD

Consultant: Consortium for International Development (CID/IDA Project)

Preamble

Extensive investments of capital in physical structures have improved the Watercourse systems in Pakistan and have created more efficient water delivery to farmers. There is the need now to give equivalent consideration to **human resource development** to bring about more efficient management of the water once it has been delivered. Wastes of water at the farm level remain very high. Proper methods of water use on the farms need to be improved. Maintenance systems for systematic channel and watercourse repair need to be institutionalised. Application of well known agronomic principles related to water use at the farm level, need to be brought to farmers' consciousness.

Needs which emerge as having received minimum attention by funding agencies, national and provincial agencies dealing with water management could be termed **human training needs**. Water users continue to be water abusers. Land users continue to be land abusers.

On Farm Water Management field workers are by and large concerned with physical aspects of the On Farm Water Management equation, that is, watercourse engineering, watercourse construction, water flow regulation and land levelling. Because of the physical nature of the delivery systems, persons with training in physical sciences and applied sciences in hydrology and engineering have assumed major leadership and control of On Farm Water Management delivery systems and the training related to these. Subsequently the emphasis has remained on the watercourses, the water and the land.

Considerable emphasis has been placed on the establishment of "Water Users' Associations". However, some provincial attempts have been ad hoc in nature, relatively unco-ordinated and focused on para-legal considerations relating to the **physical delivery system**.

Little emphasis has been placed on the use of these Water Users' Associations as a means toward the development of information dissemination agencies, utilising an agricultural extension model.

On Farm Water Management training institutes which have developed or are in embryonic form at this time, reflect the emphasis previously mentioned: that is, an outlook related to physical aspects of the equation of water delivery and land levelling. Only minor emphasis has been placed on the development of **curriculum** and on **training** related to extension methodology, management training, agronomic aspects of the use of water by farmers, the development of curriculum based on assessment of human needs on the farm, the needs of trainers of trainers, and needs of Water Users' Associations.

Minor emphasis has also been placed on the development of systematic evaluation schemes of this human resource. On the other hand an over-emphasis has been placed on evaluations relation to delivery "efficiency" of the physical systems presently operating, with very little concern about the impact of water on the fields as managed or mismanaged by people - the farmer. Out of these statements develops a list of needs which should be addressed by all agencies involved in water management in Pakistan.

Statements of need

a) There is a need to formulate a national policy for water management **training**. Training, or to use a better term, the **education of people** in basic principles of water use at all levels, should be considered a prime target.

b) There is a need to identify educational leadership which could devote itself to the formation of a curriculum related to all aspects of irrigation agriculture including aspects of extension,

agricultural and human motivation and programme management principles. This may involve the combination of various institutions, institutes and faculties in a co-ordinated fashion to establish a **joint training or joint planning unit**. The emphasis should be on **inter-agency** and **inter-disciplinary** collaboration with a view to establishing On Farm Water Management training benchmarks for future programme development and for future evaluative schemes. There is a need to establish a board or panel of experts who would serve from within their present assignments to assist with the definition of a policy recommending direction for On Farm Water Management training in the country.

c) There is a need to establish training targets in a systematic fashion based on established manpower requirements as opposed to training which develops for groups as a result of para-political considerations at local levels. The training targets should give consideration to:

- farmers;
- farm leadership;
- agricultural extension staff;
- irrigation systems maintenance personnel;
- administrative staff of the Government related to On Farm Water Management;
- agricultural research workers;
- **teaching staff at respective institutes who will be the prime agents for change.**

e) There is a need to establish training programmes for each of the above targets, based on objectives related to each group's unique characteristic and level of expertise and education. Ad hoc "curriculum patching" should be avoided from the outset as this develops into fragmented information passed to groups unrelated to specific need.

f) There is a need to assess the costs of such considerations carefully with a view to budgets established which are based on programme objectives being set.

These budgets should specify initial immediate target need related to training function as well as long term need statements. These could become points

of reference for funding agencies and proposal development. Economic monitoring and evaluation systems should be built into the budget and fund allocation process, and to the human resource manpower and concerns.

Finally, implementation of the above should include existing thrusts, already in place in On Farm Water Management training, with a view to incorporating functional aspects of these programmes, physical structures already existing, leadership which has developed and the momentum established through various programmes funded during the past ten years.

Summary statement

The human manpower development and training aspects of On Farm Water Management need to be given immediate consideration. The establishment of a top level board or policy recommending group is important. Out of this should filter a systematic programme devoted to training of various target groups with curricula specified according to the needs of each group. Basic agricultural principles should be the prime subject content thrust of such training.

Attention should be given to the continuation of curriculum development related to water management technologies.

Dr Bergsma then referred to three important points, amongst others, on the 'Agenda; yet to be considered:

- strengthening of existing OFWM training programmes;
- establishing a Joint Planning Unit;
- establishing a unified curriculum.

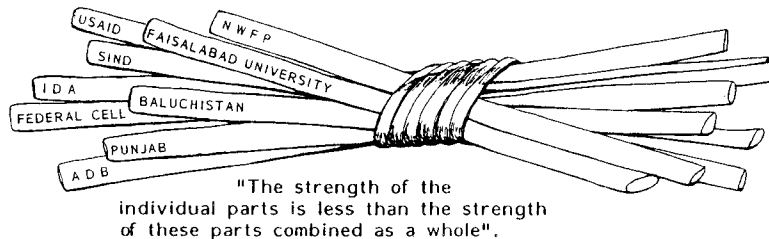
Introducing his position 'statement', he said that it had been derived from current discussions among OFWM leaders and was related to this concept of unity. The statement consists of 20 items for consideration by the conference.

The wording of some of the Agenda points has been amended, as agreed at the meeting.

broken or lost, but bound together by a common purpose they can neither be broken nor lost.

Discussions heard so far and

recorded have already shown there is a good measure of unanimity for the purpose of this conference; the more detailed work must now follow.



E Holt

"OVERARCHING STRUCTURES"

Introducing Dr Harold Bergsma, the Chairman said he was not only a Professor at New Mexico State University, but also a small farmer in his own right. He had been working as Training Adviser to the OFWM Training Institute for the last five months.

Before presenting his paper, Dr Bergsma referred the conference to an illustration of the concept of 'overarching'. This had been inspired by a beautiful building in Multan. If there was to be a Joint Planning Unit for Training and Curriculum Development in OFWM, it should, like the arch of a building, embrace and arch over the structure beneath. The keystone itself, holding the arch securely represents "national co-ordination, planning and unity". He spoke of developing strength through unity, co-operation and planning in the national, Provincial and Regional sense.

He spoke warmly of what he had found that had gone before in planning and training both at Faisalabad and in the Institute itself. There is a faculty that exists, a library and many, many services that had been performed in terms of manpower and development; some thousands of people have come through the Institute for various types of training.

A great deal has been done in terms of foundation laying, initial planning and the 'laying of course after course of bricks'. It has already been voiced that this is a timely occasion to consider national co-ordination, planning, unity, curriculum and trainers of trainers in a new structure.

To continue the analogy of the arch, even with the keystone in place, there will still be a lot of work to do in this new structure.

The largest group of people that at this moment require training appear to be the 'Technicians' as referred to by Graham Holt - some 3000 people who are needed as extension agents. Thousands and thousands of watercourses still need to be constructed and still more people will have, therefore, to be trained. He also referred to the reversing of the triangle to put the farmer on top at the apex with everybody else supporting him.

The same concept can be drawn for those needing training - with the trainees on top and all of the planners and trainers being the supporting system underneath. These levels of training ought to be in focus first of all.

A diagram illustrating the 'overarching' concept and containing the decision of the conference appears on page 27.

STRUCTURE

for Planning & Curriculum Development in On Farm Water Management

