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DGIS

PROJECT FOR THE DEVELOPMENT OF A
COMMUNITY PARTICIPATION COMPONENT
IN THE TANZANIAN RURAL WATER SUPPLY PROGRAMME

DRAFT INTERIM REPORT

Alastair T. White

September 1981

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Alastair White

Interim Project Manager

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1. SUMMARY

This report describes progress to date and presents the proposed future strategy for the project.

Chapters 2 and 3 contain the more analytical part of the report. Chapter 2 discusses the features of the current situation in Tanzania which are relevant to the development of greater community participation in water supply, including an examination of what is already being done in this sphere. Chapter 3 presents possible models for the future expansion of the scope of community education and participation.

Chapters 4 and 5 are concerned more with the activities and tactics of the project itself. Chapter 4 describes what has been done in the first stage of the project, which is now nearing completion. This includes sociological studies by BRALUP, a workshop held in Dar es Salaam in July 1981, the preparation for the field testing stage of the project, and the promotion of proposals for community participation in a wider sense. Three visits were paid to Tanzania: 11th February - 11th March 1981, 26th May - 10th June 1981 (particularly to prepare for the Workshop), and 7th - 21st July 1981 (during which the Workshop was held). A further visit is proposed for 20th October - 10th November 1981, with the field testing stage to commence in January 1982. The future strategy is discussed in Chapter 5: the important questions are the choice of region for field testing and the arrangements under which this second stage of the project will take place.

The CEP model which is recommended for field testing is that of an extension or promotion unit. In the initial stage in any region this unit would have about 6 members, and this is the optimum size for the field test in one region.

A project manager will be appointed to carry through the field testing and final stages of the project, i.e. from January 1982 for eight months (an extension from June to August 1982 is required).

The project has already contributed substantially to the promotion of community participation in water supply in Tanzania, particularly through the impetus generated by the July 1981 Workshop. However, there are a number of other initiatives being developed in various regions and supported by various donors: there is a strong need to relate the field testing stage to these other initiatives and for national coordination in which the IRC project can play a role.

2. THE SITUATION AT PRESENT

2.1. Introduction

There is widespread recognition of the need and the scope for increased community participation in the rural water sector in Tanzania. The need is seen as particularly pressing by aid donors in relation to the maintenance of the supplies they have helped to construct.

The increased interest in the subject has led to:

1. The inclusion of proposals for community participation in the Water Master Plan or Implementation Plans being drawn up for:
 - a. The Lake Regions (Mwanza, Mara, Kagera) with the support of SIDA.
 - b. Iringa, Mbeya and Ruvuma Regions with the support of DANIDA.
 - c. Rukwa and Kigoma Regions with the support of NORAD.
 - d. Mtwara and Lindi by the Finnwater project supported by Finland (also UK and UNICEF), as well as
 - e. Morogoro, by DHV Consulting Engineers in relation to the Morogoro Wells Construction Project supported by the Netherlands.

2. The creation of a post of sociologist in the Water Master Planning Coordination Unit, to be filled in November 1981. The position will entail national coordination of community education and participation planning. The Water Master Planning Coordination Unit forms the secretariat of both the National Action Committee for the International Drinking Water Supply and Sanitation Decade and the Tanzanian Water Development Coordination Board. It has been proposed that a Committee on Community Participation should also be formed for which the sociologist of the Water Master Planning Coordination Unit would act as secretary.

It is thus in a framework of other initiatives that the present project is being developed. The Bureau of Resource Assessment and Land Use Planning of the University of Dar es Salaam (BRALUP) has also had an interest in rural water supply and in community participation for a considerable period.

The IRC project is intended to contribute to the process through:

1. Development of ideas and specific proposals for increased community participation (embodied for example in the present report).
2. Support for BRALUP in the holding of a workshop at which ideas and proposals for community participation have been discussed by social researchers and project implementors (held in July 1981).
3. Organization of field testing of a model of community education and participation in one region; evaluation of that pilot project and presentation of recommendations for future development of community education and participation on the basis of the experience gained.

2.2. Background

During the last decade the Netherlands Government has given substantial assistance to the development of rural water supplies in Tanzania. In accordance with the Tanzanian policy of concentration of assistance from each donor in particular regions, Dutch assistance in the field of water supply has been largely to Shinyanga and Morogoro Regions. In Shinyanga a Water Master Plan has been completed. This was followed by a project for the construction of shallow (and medium depth) wells, carried out by DHV Consulting Engineers between 1974 and 1978. This was the first large-scale project for shallow wells in Tanzania. In Morogoro, a domestic water supply plan was prepared. DHV has been implementing a shallow wells project since late 1978, and also a piped water supplies project since early 1980. In late 1980, DHV began also the preparation of a plan for a National Shallow Wells Programme. It was generally agreed that community participation should form an important part of future work in this field, and that plans for community participation should be included in the Programme.

At the same time, the International Reference Centre for Community Water Supply and Sanitation has been developing a Community Education and Participation Programme. Starting in 1977, this work has so far resulted in the publication of a comprehensive literature review, of a practical guide for national-level planning in the field, of a monograph on concepts and methods of community education and participation, and other reports; the

inclusion of a community education and participation component in a technical project (the Slow Sand Filtration Project); and in 1981 the initiation of an Inter-regional Community Education and Participation Project.

The IRC Project for the Development of a Community Participation Component in the Tanzanian Rural Water Supply Programme has been funded by the Netherlands Government under the National Shallow Wells Programme. The goal of the Project is to provide technical support to operating agencies for community water supply and sanitation in Tanzania for developing and field-testing a community education and participation component. The specific objectives are:

- assessment of the need for and the aims of a community education and participation component,
- development of practical models for such a component,
- their field testing including the development of organizational structure,
- appraisal for implementation in future programmes.

2.3. The need for community participation in rural water supply

For developing countries in general, the advantages of including community participation as an element of water supply programmes have been listed ¹⁾ as follows:

1. More can be accomplished when the energies of the people are harnessed.
2. Services can be provided more cheaply.
3. Participation has an intrinsic value for participants: people should be able to participate actively in the processes which affect them.
4. Participation in one project can be a catalyst for further development efforts, since the organization will be set up and the stimulus created.

¹⁾ White, Alastair T., adapted, 1981 (bibliography C.50)

5. Participation will lead to a greater sense of responsibility for the projects; this, together with direct involvement of community members, in operation and maintenance, will lead to more effective and continuous service.
6. Participation guarantees that a felt need is involved.
7. Participation ensures that things are done the right way, that the supplies constructed will be better adapted to the people's needs.
8. Participation allows and encourages the use of indigenous knowledge and expertise.
9. Participation can help free the local population from dependence on outside professional experts.
10. Conscientisation: participation in efforts to bring about communal improvements can help people better to understand the nature of the constraints hindering their escape from poverty.

Not all of these positive effects can be expected, of course, to operate in any single participatory programme, but they can be borne in mind in the design of a programme.

In Tanzania, two particular areas of concern have led to calls for increased community participation:

1. Concern over maintenance. It is thought that water supplies are failing at almost the same rate that new supplies are being completed. While 40% - 50% of the population are 'covered' by water projects ¹⁾ in the sense that they are included in the original design populations for the projects, which have at some time been built, it is estimated that only 13% - 20% are actually at any one time taking their water from these modern supplies ²⁾: the others have broken down either temporarily or indefinitely. The maintenance and repair capacity of MAJI (the regional water engineers) falls far below the need. There are immediate problems of financial and bureaucratic difficulties in obtaining spare parts,

¹⁾ Official MAJI figures.

²⁾ E.g. DHV, National Shallow Wells Programme, Chapter 2, "Possibilities for Shallow Wells in Tanzania", draft, September 1981, p. 12, where it is stated that information from RWE's shows that only 1/3 to 1/4 of the piped supply schemes may be operating satisfactorily (bibliography C.11).

adequate transport etc. There may also be problems of incentive and motivation for this work at regional level. More fundamentally, the relative neglect of maintenance is clearly related to the high level of dependence on external aid in the water sector: it has been relatively easy to obtain external funding for new projects, but not for the maintenance of old ones since it is expected that this 'non-developmental' expenditure will be borne by the national recurrent budget. Also, there appear to be more grass-roots (or 'political', at regional and district level) pressures for new projects than for the adequate maintenance of existing ones.

Another factor in the poor maintenance performance has been the increasing cost of operating and maintaining pumped supplies using imported (diesel) fuel, as the majority of existing supplies do. The policy is now to use cheaper solutions wherever possible. This also creates greater opportunities for community participation in maintenance. Indeed, it is now suggested in some quarters that the community should assume responsibility for maintenance. There are practical difficulties in going so far, which will be discussed in subsequent sections of this report; but it is in the context of shallow wells and other relatively simple technological solutions that the active involvement of the local community in maintenance activities can make the most significant difference to the continued operation of the supplies.

2. Concern over a lack of adequate communication and dialogue between local communities and those implementing water projects intended to benefit them, with the result that the projects do not meet their needs. This concern is voiced in particular by the social scientists who have undertaken field research and evaluation of rural water supplies ¹⁾. At the local level there appears to be a lack of appreciation by technical staff of the value of the observations which villagers make, or could make if given the chance, concerning the way in which a project is planned and constructed. Simple mistakes are made in design or

¹⁾ Mujwahuzi, Tschannerl, Bantje, Ausi, Konter, Therkildsen and Laubjerg (see bibliography)

execution, which could have been avoided if villagers' knowledge had been taken into account (local knowledge of terrain, pastoralists' knowledge of problems caused by concentration of cattle at water points, etc.). The lack of regard for village opinion is reinforced by the way in which most projects are decided upon and controlled: fundamentally from higher levels of the administration.

2.4. Organization of water supply provision in Tanzania

2.4.1. The decentralized administrative system of Tanzania means that rural water supply provision is highly regionalized, with the central ministry MAJI having a coordinating role (urban supplies are now the responsibility of a separate parastatal organization). The Regional Water Engineers are responsible to their regional authorities (through the Regional Development Directors), and the recurrent budget for water supply provision is determined at regional level, together with part of the development budget. However, the situation is complicated by the fact that MAJI has the responsibility for 'national' projects, and that these include all the large externally-financed water projects. These account for some 90% of all development expenditure for water.

2.4.2. These 'national' projects, like the Morogoro Shallow Wells Project, are usually located in one region. The policy is to concentrate the aid of a particular donor country on a particular region or regions. For most regions, a donor country as funded during the 1970's a Water Master Plan for the region, executed by a consultancy group from the donor country, and has subsequently funded an implementation project related to the proposals made in the Plan. Implementation is also by a consulting organization, often the same one, with varying degrees of cooperation and involvement of the Regional Water Engineer. Also varying from region to region is the extent to which the water proposals form part of an integrated regional development plan (through which, in some cases, the same donor gives other aid to the region). The approximate current situation is described in Table 1 (not checked for formal accuracy) ¹).

¹) Note on Sources: A variety of sources were used for this table. Basic data from WHO/World Bank Cooperative Programme: Rural Water Supply Sector Study, 1977, and from DHV: Promotion of Shallow Wells in Tanzania, 1980, were supplemented by data from project reports for particular regions and from personal communications.

Table 1: Status of donor support for rural water supply programmes

REGION	DONOR COUNTRY	STATUS
SHINYANGA	Netherlands	Shinyanga Water Supply Survey completed by NEDECO in 1973. Shinyanga Shallow Wells Project executed by DHV (1974-1978 (721 wells constructed) with cooperation of RWE's department and from HQ in same compound. Project continued under fully Tanzanian responsibility 1978 - date (another 279 wells built up to February 1981). Maintenance of the now 1,000 wells reasonably assured though with difficulties. DHV is to replace original Shinyanga handpumps with a new model as sturdier and requiring less maintenance. No other project.
MOROGORO	Netherlands	Morogoro Domestic Water Supply Plan, covering the northern half of the region only, completed by DHV in 1980, while a gravity Plan Study was also completed in 1980. Morogoro Wells Construction Project, with capacity to build about 250 wells per year, initiated by DHV in Northern Morogoro in May 1978. Morogoro Piped Water Supplies Project initiated by DHV, also in Northern Morogoro, in March 1980, for implementation in villages where shallow wells are not feasible. These projects carried out quite separately from RWE's department, hitherto. But Morogoro Region accepted responsibility for maintenance of the shallow wells, with financial help from the Netherlands, in Februari 1981 ¹⁾ . A construction unit, with capacity for 125 wells per year, was handed over to the RWE in July 1981 ¹⁾ . It is uncertain how this division of the work will result in practice. Since the end of 1980 the Morogoro South Water Supply Survey is being implemented by DHV.
MTWARA and LINDI	Finland	Water Master Plan completed by Finnwater Consulting Engineers in 1977. Implementation by Finnwater started January 1978: shallow wells are constructed where feasible, otherwise other systems (boreholes, piped

¹⁾ Information presented to the BRALUP/IRC Workshop, July 1981, by H.G.A. van de Graaf, Advisor, Regional Administration, Morogoro Region.

REGION	DONOR COUNTRY	STATUS
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systems. 863 shallow wells built in the first 3 years, up to April 1981. Construction work is now separate from RWE's department, but the intention is to transfer it gradually in 1985-1986.

MBEYA
IRINGA
and
RUVUMA

Denmark

Water Master Plans are being prepared while some implementation activities are proceeding simultaneously. A DANIDA Steering Unit oversees:

- (1) Preparation of Water Master Plans by the consultants CCKK (started January 1980);
- (2) Implementation, currently of 8 gravity schemes and one pumped scheme, by the Regional Water Engineer's Departments with direct and close DANIDA support in obtaining materials, etc.;
- (3) A socio-economic study for the Water Master Plans, by social scientists of the Centre for Development Research, Copenhagen. These are interim arrangements until the Water Master Plans are ready. Then, DANIDA proposes the formation of an Implementation Unit in each region, additional to the RWE's department but working closely with it. RWE would be directly responsible for maintenance and for construction of minor schemes, and would continue to receive direct procurement assistance from DANIDA, as would the Implementation Unit. DANIDA also proposes shallow wells wherever possible, otherwise other cheap solutions, avoiding complex treatment or powered pumping wherever possible.

MWANZA

Sweden/
World Bank

Water Master Plan completed in 1977-1978 by Euroconsult. Implementation Plan, laying emphasis on cheaper solutions especially shallow and medium depth wells, completed by VIAK in 1980-1981. In Mwanza, it says, there is particular potential for medium-depth wells (10 - 30 metres). Sweden will support implementation of these proposals. In addition, the World Bank supports the RIDEP (Regional Integrated Development Project) Mwanza Shallow Wells Project, carried out within the RWE's Department but by a separate team including 2 Dutchmen who previously worked with DHV in Shinyanga or Morogoro. The project started in 1980 for construction of

REGION	DONOR COUNTRY	STATUS
		shallow wells and rehabilitation of existing boreholes over 5 years. The construction capacity of the project is larger than the originally envisaged 540 wells over 5 years, but the World Bank's condition that villages must pay 25% of the cost (interpreted as 25% of 24,000 Tshs, or 6,000 Tshs) has held back implementation since villages are reluctant to do so.
MARA	Sweden	Water Master Plans and Implementation Plans completed as for Mwanza. Sweden will support implementation of these proposals, to begin very shortly. As in Mwanza, implementation by RWE.
KAGERA	Sweden	Water Master Plans and Implementation Plans completed as for Mwanza. Discussions under way on Swedish support for implementation.
DODOMA	Sweden	Water Master Plan prepared by MAJI, with draft completed in 1975. No implementation plan as in the Lake Regions. Swedish support through the RWE's Department. No "national" project.
SINGIDA	Australia	No water master plan. Australian support began with drilling of boreholes and supply of diesel pumps and windmills, in 1975. (In Singida, wind is adequate for 8 dry months but inadequate for remaining 4 wet months, for which a separate borehole was made with diesel pump.) The "Tanzania-Australia project" is implemented separately from the RWE's Department. Since 1979 it has also been executing a Shallow Wells (sub-) Project, and up to April 1981, 61 shallow wells had been constructed; these are now favoured for most villages while township and institutions will continue to receive boreholes with diesel and/or windmill pumps.
RUKWA and KIGOMA	Norway	Water Master Plans are currently being prepared by Norconsult (an Interim Report was presented in March 1981: a draft final report is expected in late 1981). NORAD has agreed to start implementing the Plans through the RWE's departments, by setting up an Implementation Unit. The findings of the

REGION	DONOR COUNTRY	STATUS
		WMP "show that shallow groundwaters are generally not available in exploitable quantities anywhere within the Rukwa and Kigoma Regions". WMP proposals therefore concentrate on augmentation and rehabilitation of existing schemes (200 villages), new piped schemes (150 villages), deep boreholes with handpumps (100 villages), and spring protection (50 villages); only 30 villages can be supplied with shallow wells ¹⁾ .
ARUSHA	U.S.A.	No water master plan. USAID is supporting village water supply provision in 3 districts within the Arusha Regional Integrated Development Project. This is carried out by the RWE's department, within which one U.S. professional is coordinating the activity under the RIDEP project. Trials of different types of handpump are taking place, including the Majengo pump developed by the Arusha Alternative Technology Project. Since the early 1970's USAID has also funded the very large and comprehensive Masai Range Project, of which water for cattle is a major part.
KILIMANJARO	(Japan)	A Water Master Plan has been completed as a part of an integrated regional development plan (1977). Implementation status unknown. Region has relatively high coverage by existing piped systems.
TANGA	West Germany	Water Master Plan completed in 1976. The only village supplies recently built with external support are those forming part of the expensive, mainly urban-oriented Handeni Trunk Main Project. The donor appears to have taken no interest in cheaper solutions for rural areas. A shallow wells construction programme was started in 1979 within the Regional Water Department and in the context of the regional integrated development plan supported by West Germany; but it has received inadequate funding and few wells have been built.

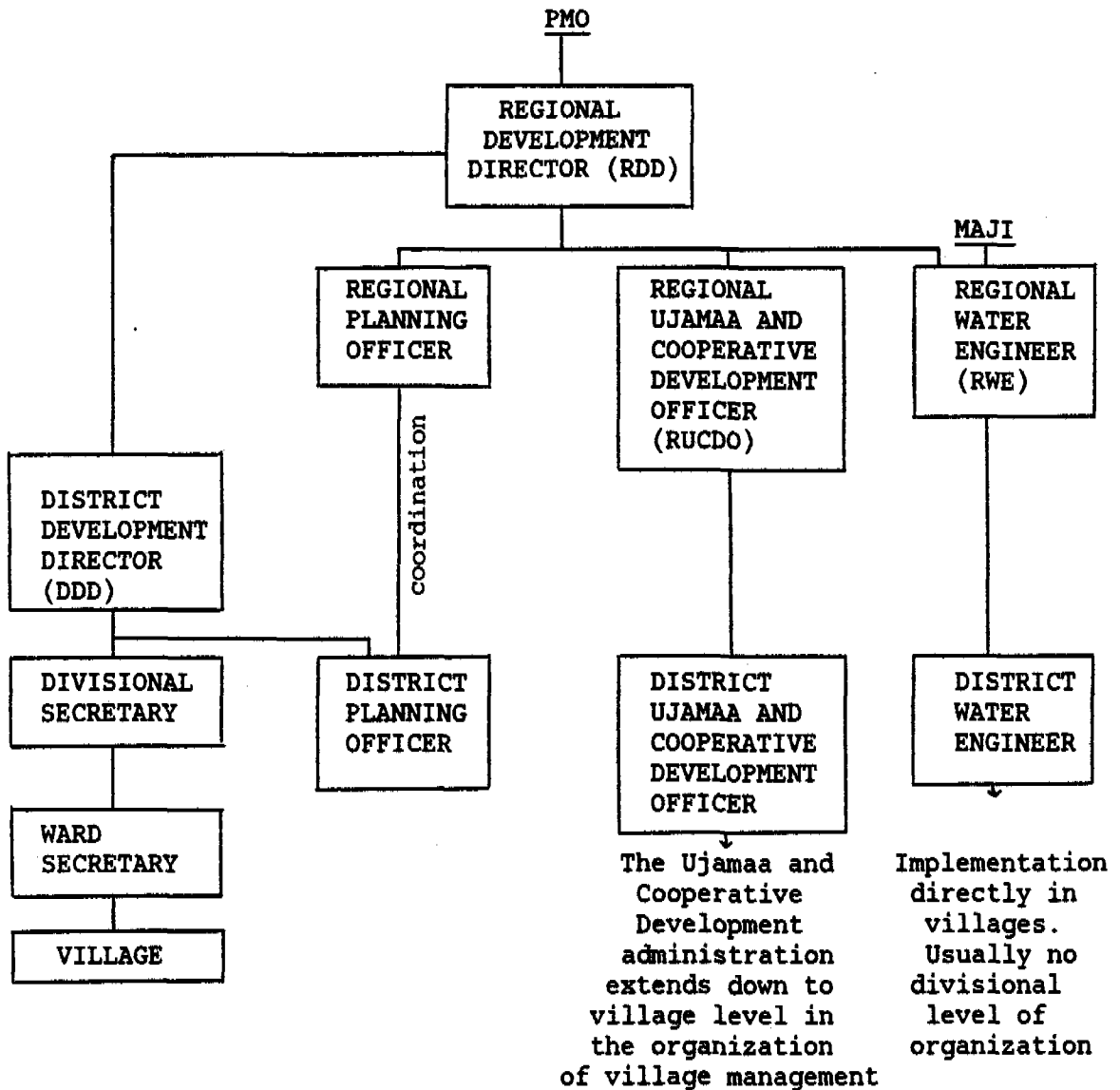
¹⁾ Norconsult AS, 1981 (bibliography C.33)

REGION	DONOR COUNTRY	STATUS
COAST (and DSM)	Canada	WMP completed 1979/1980. (Writer has no knowledge of current implementation status.)
TABORA	World Bank	WMP completed 1979/1980. A shallow wells programme was started in 1979 with financial help from the regional integrated development plan but has suffered delays ¹⁾ .

2.4.3. The organogram on page 20 represents the organization of regional administration in relation to water, prior to the re-organization of the Prime Minister's Office in July-September 1981.

The effect of the re-organization of the Prime Minister's Office is to create a new Community Development Department, replacing the Ujamaa and Cooperative Development Department. The exact form of the changes were still being discussed in July-September 1981 and are therefore unknown to the writer at the time of writing. The role which the new Community Development Department might play in the future in relation to water supply and community participation will be the subject of a later section of this report.

¹⁾ DHV, National Shallow Wells Programme, Chapter 2, draft, p. 9, September 1981 (bibliography C.11)



The allocation process for regional projects - the approximately 10% of rural water development expenditure outside the donor-supported 'national' projects - is as follows:

Villages make their plans yearly as part of regional budget preparation. This is done in consultation with district authorities (some observers report that even at this stage the real initiative is generally in the hands of the authorities). When a project such as a new water supply is requested, the request goes first to district level, where the requests are

coordinated by the DDD and reviews by the District Development Committee. They are then transmitted to the regional level, where they are coordinated by the RDD and Regional Management Team, a committee consisting of all the functional managers like the Regional Water Engineer. Priority project lists are prepared. These are then sent for final review by the Regional Development Committee, which is chaired by the Regional Commissioner and consists of Area Commissioners, RDD and DDD's and some of the functional managers including the RWE. Proposed regional schemes are reviewed by the Prime Minister's Office and the Ministry of Finance and Planning before submission to Parliament.

At district or regional level a village's water proposal may be channelled one of three ways (and the village may be asked for an opinion as to the most appropriate):

1. To the Regional Water Department (especially for bigger schemes).
2. To the PMO's Rural Construction Unit in each district, which can handle such projects as single hand-dug wells. However, this does not appear to have been an important means of water supply provision in recent years.
3. To the Community Development Trust Fund (HQ in Dar es Salaam), which spends about 1 million shillings on water projects annually. It funds and organizes projects: technical execution is generally by the DWE. See below, sections 2.6.2 and 4.4.4 for further discussion of the CDTF.

2.5. Self-reliance, popular participation, and village cooperative development in the Tanzanian socio-political system

2.5.1. Tanzanian and its President, Mwalimu Nyerere, are well known internationally for the policy of encouraging self-reliant cooperation for common benefit in the villages. The ideal future form of organization has been put by Nyerere as follows (extracts from 'Socialism and Rural Development', 1967):

"In a socialist Tanzania then, our agricultural organization would be predominantly that of cooperative living and working for the good of all. This means that most of our farming would be done by groups of people who

live as a community and work as a community. They would live together in a village; they would farm together; market together; and undertake the provision of local services and small local requirements as a community."

"Obviously such community activities would need to be organized, would need to have a 'manager' responsible for the allocation of tasks and their supervision. There would need to be a 'treasurer' responsible for the money earned and its administration, and a 'governing committee' which is able to take executive decisions in between general meetings. But all these people could come from among the community, and must do so if it is to be a real socialist unit. They would be members of the community, not outsiders, although at the beginning there may be an advantage in attaching to such schemes some technical and other advisers if the right kind of expert could be found."

"..... At the same time the committee would have to make proposals for the other work which had been decided upon - perhaps the digging of a trench for the future piped water supply, or the making of a new road, or the improvement of village drainage. These detailed proposals they would bring to the next village meeting, and once they had been accepted it would be the job of the (elected) officers to ensure that all members carried out the decisions, and to report to a general meeting any problems as they occurred."

"Viable socialist communities can only be established with willing members, the task of leadership and of government is not to try and force this kind of development, but to explain, encourage, and participate. For a farmer may well be suspicious of the government official or party leader who comes to him and says: 'Do this'; he will be more likely to listen to the one who says: 'This is a good thing to do for the following reasons, and I am myself participating with my friends in doing it'."

2.5.2. The fourteen years since the Arusha Declaration, the national charter for self-reliance and socialism, was adopted and the above was written, in 1967, have seen the following developments in the attempt to put the principles enunciated into practice:

1. In the early years following the Declaration (approximately 1967-1973), government encouragement was given to voluntary establishment of 'Ujamaa' villages. Encouragement took the form of persuasion and, increasingly, of incentives in the form of government handouts. 'Ujamaa' villages were those with at least some communal production, but as the government incentives became the main motives for their establishment, this became largely a token to fulfil the conditions for government support. There was also an increasing tendency to use more authoritarian methods in the establishment of Ujamaa villages, especially in some areas, departing from the spirit of the last paragraph quoted above.

2. A new policy was adopted in 1974, though it had been anticipated in some regions earlier. It was a policy of villagization, the concentration of the entire rural population in large villages (each with a population of 1.500 - 3.000) while communal production remained voluntary and, for the time being, was not so much emphasized. The process of moving the population into villages was accomplished very quickly. Nyerere comments: "Some few leaders did act without thinking, and without any consultation with the people who had to move. Therefore we did have cases of people being required to move from an area of permanent water to an area which is permanently dry But it is absurd to pretend that these cases were typical of villagisation. They did occur, and they were bad examples of leadership failure There is still a tendency for all levels of Government to act as if peasants were of no account." ') Villagization was presented as necessary to allow universal primary education, which was essentially achieved in 1977; and universal provision of clean water as well as other services; and to create the preconditions for self-reliant cooperation at a large enough village scale. In effect, free water supplies were promised as an incentive, and the policy of free water has been maintained.

3. Beginning with the Villages and Ujamaa Villages Act of 1975, the villages have been empowered and encouraged to generate and use their own funds. Villages are expected to run their own economic activities,

') Nyerere, pp. 42-43, 1977 (bibliography C.34)

especially to act as agent for the crop marketing organizations, to run a retail shop for the villagers (private shops in villages are no longer permitted), and to undertake some communal farming. The communal farming is for the generation of village funds for collective purposes, not for distribution among the farmers as in the ideal envisaged in 'Socialism and Rural Development': all peasants retain their own farms but are supposed to turn out on communal plots at some times each week to raise funds for the village.

4. Village managers were appointed from outside the village to organize the collective activities. This was started in 1978: by the end of that year about half (4,000 out of 7,839 villages) of the villages had a manager¹⁾. Villages also have a chairman, who is a member of the village (but whose election must be confirmed by the party, and who therefore has to try to satisfy both those 'above' and those 'below'), and a secretary, generally an outsider. Also, in most villages, a book-keeper and a shopkeeper. The village leaders and officers have generally little expertise¹⁾ and the system is open to considerable corruption since there is little effective check possible on their performance. Possibly, the system will be changed with the re-organization of the Prime Minister's Office and creation of the Community Development Department.

2.5.3. There are clearly problems with the system which has been developed. They are also related to the low prices paid to farmers for the agricultural cash crops marketed. One frequent result is that it is the administration which is more interested in the growing of a cash crop than the farmers. The village 'leaders' may become a conduit for party and government exhortation to higher production and harder work, and in this sense they may be seen as the bottom rung of the administration rather than as representative of the village. Any programme of community participation must keep the special position of the village leaders, between the local administration and the village, well in mind. Their structural position predisposes them to favour mobilisation of the population for collective effort - it is the 'raison d'etre' of that position; but it does not

¹⁾ Tanzania, Office of the Prime Minister, and Nordic Project, 1979 (bibliography C.40)

guarantee that they will be able to mobilize people effectively: generally, a more powerful, higher-level official would be able to mobilize the same people more effectively ¹⁾).

2.5.4. Nyerere's original proposal for future 'Socialism and Rural Development' clearly envisaged that water supply provision would involve community participation in the fullest sense, with community involvement in decision-making at all stages as well as in the labour of trench-digging etc. The emphasis also on self-reliance implied that small-scale, cheaper solutions were to be adopted in preference to schemes relying on large amounts of external capital.

This is not, by and large, how things developed in the water sector in the years following the Arusha Declaration. Most attention was directed to relatively expensive systems, and community participation was limited ²⁾. Before discussing the extent of community participation currently found in water provision, it is instructive to quote how President Nyerere has seen the gap between his teachings and the practice in this field ³⁾:

"A lot of work is being done on extending clean water supplies, which is now a high priority for the Party and the government - as well as for the people directly affected! Something like Tshs 100 million has been spent in each of the last 5 years ⁴⁾ on rural water supplies, and the self-help efforts of the people are now beginning to be marshalled in support of the work. However, we are not yet doing enough to train village people to maintain their own pumps and pipes; too often these break down after a short while, sometimes leaving the people worse off than before, because for the sake of cleanliness their well has been sealed up when the pump was installed. The resistance by our water engineers to the use of windmills

¹⁾ Ipyana, 1980 (bibliography C.23)

²⁾ Tschannerl, 1973; 1979 (bibliography C.42)

³⁾ Nyerere, pp. 15, 28-29, 1977 (bibliography C.34)

⁴⁾ I.e. 1972-1976. The Tshs 111 million allocated to rural water supplies in the development budget of 1976-1977 accounted for 3.6% of total development budget allocations (Reference: WHO/World Bank Cooperative Programme for United Republic of Tanzania: Rural Water Supply Sector Study, 1977. Full discussion of budgetary allocations, and requirements to meet announced targets for 1981, are given therein.)

continues to be absolute but quite impossible to understand! It is a kind of mental block."

"At the root of this whole problem is our failure to understand, and to apply to our own activities, the concept of 'self-reliance'. We are still thinking that big schemes, and 'orthodox' methods will solve our problems. We do not approach a problem by asking how we can solve it by our efforts, with the resources which we have in front of us. This applies from the village level to the Ministries; but the latter are most responsible. For when villages have a problem they ask for advice. And they are rarely shown how they can solve it within the village without outside assistance, or even given the training which would enable them to do so afterwards. Indeed, local initiatives are often scorned, as not being 'modern' enough. When the people build a dispensary with traditional materials they are told it is not hygienic; they are rarely if ever shown a few alterations and special care from day to day could make it satisfactory."

"The fact is that we are still thinking in terms of 'international standards' instead of what we can afford and what we can do ourselves. And we think of getting external assistance for simple projects, instead of reserving it for the really major projects which we could not undertake without it, - like the Uhuru Railway, or the Kidatu Hydro-electric scheme"

"Further, some costs of government could be reduced if we helped the people in villages and towns to do more things for themselves. Training village members to do minor repairs and to service pumps, for example, would be better and cheaper than relying on the District Engineer's staff for the work; other village members could be trained and then made responsible for the accounts, and the management." ')

') Nyerere, p. 39, 1977 (bibliography C.34)

2.6. Community participation in water supply in Tanzania: current practice

2.6.1. Participation in planning and decision-making

Already described above (section 2.4.3) is the process by which 'village planning' can lead to requests for water projects which are considered by regional authorities. It seems that in practice one of the main factors in regional decision-making concerning which villages are to receive water through regional projects is whether a feasibility study has been done: village requests are often simply for 'a water supply' without further specification, and a project which is known to be feasible is likely to be preferred. This means that a very important stage of decision-making is that of sending a survey team to particular villages to carry out such studies, and this decision appears to be taken generally within the Regional Water Department. Water Master Plans, which often contain what are in effect pre-feasibility studies for each villages in the region, change the pattern to the extent that priority lists can be drawn up on the basis of more objective data and therefore enable the use of more refined criteria. They are used extensively in the 'national' projects supported by external donors. This procedure, desirable though it is on other grounds, does of course leave the local community without a role in taking an original initiative for the project.

One may assume, perhaps, that if the criteria used in allocating priorities emphasise 'worst-first' principles, the communities selected will be highly delighted to welcome the supply and cooperate in its installation despite not having been involved in the original decision; whereas if the criteria emphasise cheapest-first principles (e.g. maximum number of people covered with limited funds in the shortest time) projects will often be located where people have easy access to traditional sources, and the same enthusiasm and cooperation cannot be expected. Current practice emphasizes cheapest-first solutions implicitly wherever the number of people covered is taken as the main indicator of success.

Current practice, except in the World Bank-supported project, is to supply domestic water (and even water for cattle) free except where individual household connections are made. Thus, all rural water supplies are free, both to the individual user and to the village as a whole, except for village contributions in labour and materials to construction and in isolated cases village contributions to operation and maintenance (see below). Government policy is to maintain the commitment to free water, the promise of which was an important element in persuading the rural population to accept villagization around 1974 (see above, 2.5.2, paragraph 2). However, a clarification which was made by the PMO on the occasion of the BRALUP-IRC Workshop in July 1981 (see below, section 4.3) interprets the commitment as meaning only that individual households should not be asked to pay for their domestic water from public standposts, wells etc. It leaves open the possibility of villages' being required to make a financial contribution, as stipulated by the World Bank for projects it supports.

A consequence of providing water free to villages is that the village is not asked to measure benefit against cost in deciding whether to accept a supply or choose one type or level of supply over another. The village is automatically in the position of accepting any type of supply promised, (provided only that it does indeed operate and supply water, as preferable to no supply at all) and of preferring if possible a higher level of supply (since the village will not pay the additional cost). And if some villages in the neighbourhood have been given piped supplies, other villages may be dissatisfied to be offered 'merely' shallow wells.

Thus the village is not involved in deciding upon the type of supply. Nor is it involved very much in deciding upon the functions to be fulfilled by the system's design, or the details of that design itself. As Nyerere puts it: "There is still a tendency for all levels of Government to act as if the peasants were of no account The truth is that despite our official policies, and despite all our democratic institutions, some leaders still do not LISTEN to people. They find it much easier to TELL people what to do." ') In the water field, at the extreme this leads to cases in which water projects have been built which have served no water

') Nyerere, p. 43, 1977 (bibliography C.34)

whatsoever, because the designers or technicians have failed to take account of a problem on the terrain which local people were trying to point out to them. Such cases are described in detail by Tschannerl ¹⁾, and others have been heard from other sources ²⁾. The technicians at district level are not very highly trained; they do not have the same direct interest in the success of the project that the local people do; and they tend to give too much weight to designs and plans on paper as instructions from superiors which should not be varied.

Less extreme, but more numerous, are the cases in which the system does provide some water but does not fully meet the requirements of the local population which has not been consulted as to its requirements. Sometimes, this may be a result of a policy decision, e.g. to supply only one or two shallow wells to villages which need at least six, in accordance with the objective adopted in 1976 'to provide a source of clean, potable and dependable water within a reasonable distance of every village by 1981 as a free public service' (this reformulation of the objective was itself a result of the fact that by 1976 it was clear that the original formulation adopted in 1971 could not be met, namely 'a piped water supply will be provided to the rural areas so that by 1981 all Tanzanians will have ease of access to a public domestic water point': this is now to be achieved by 1991). Similarly, it may not be possible to meet villages' requests for what may be regarded as 'trimmings' such as laundry facilities, if the basic objective is to supply the whole rural population with some clean water source as soon as possible. There is a danger, in increasing consultation with the villages concerning their needs, and in the situation where supplies are free, of giving 'everything' to some favoured communities and leaving others with nothing.

However, often current practice leads to the situation where the water issuing from a tap or well is insufficient, queues form waiting for the trickle of water while others necessarily have recourse to contaminated sources, and yet it appears to be felt that the Water Department's task is fulfilled because water is provided.

¹⁾ Tschannerl, 1973; 1979 (bibliography C.42)

²⁾ E.g. Parkipuny, 1975 (bibliography C.36)

2.6.2. Participation in construction

'Self-help' labour in construction is the most widespread form of community participation found in current practice in Tanzanian water supply.

It is used almost exclusively for unskilled work, primarily trench digging. There is little or no attempt to use it as a means of training people in construction skills or for future maintenance of the water system.

When it is adopted, the practice is for the technical staff of the Regional Water Department or external consultancy organization implementing the scheme to call upon the local political authorities to mobilize the people for the work required: mobilization of and communication with the population are not part of the role of water agency staff. Mobilization may be carried out by authorities ranging from the Regional Commissioner down to the Village Chairman, but the higher the authority the more participation can be expected in terms of numbers of people and hours worked¹⁾. It appears that the village chairman is generally not a very effective mobilizing agent.

The unskilled labour force which turns out as a result of the mobilization is then directed and supervised by the technicians and foremen of the water agency. But in this situation the agency has less control over the volunteers than it would over paid workers. Complaints are that work may be slack, or workers turn up late or want to go home early. It is said that many people may come the first day, perhaps more than the number of tools brought by the agency for the work; then on subsequent days there may be too few, in part because people felt they were surplus to requirements the first day. In short, this form of organizing self-help labour suffers from problems of coordination.

One response of the Regional Water Engineers and those in charge of the national projects has been to pay those who perform 'self-help' labour a small amount, one quarter or one half the minimum wage. This allows more control, and makes it easier to call upon a small number of people when

¹⁾ Ipyana, pp. 66-67, 1980 (bibliography C.23). See also Mogella, 1981 (bibliography B.7)

only a small workforce is needed for a job. It presumably also makes it easier for the village chairman to arrange for the workers to be employed, obviating the need for hortatory 'mobilization'.

In some regions and projects, the full minimum wage is paid. This is apparently left to the Regional Water Engineer or project management of national projects to decide. There is, of course, much more scope for using unskilled labour on a large scale (therefore, for using self-help labour in current Tanzanian conditions and practice, as explained above) when some types of water supply are being constructed, by comparison with other types. Gravity piped schemes rely on extensive trenches; at the other extreme, boreholes without a reticulation system may require little unskilled work. The cheapest solution, hand-drilled shallow wells as used in the Morogoro Shallow Wells Project, require a small number of workers for a few days: the practice of the project has been to use volunteer labour for the survey drilling, but to pay minimum wages to those engaged in the main drilling of the well.

The Community Development Trust Fund requires self-help labour for all its projects, and has apparently been successful in doing so on the basis of a patient participatory approach, requiring background work which is not usually undertaken by those working within the government service or for the external consultancy engineering organizations. Also, the CDTF success owes much, no doubt, to the fact that it deals only with villages which have requested projects in the knowledge that a self-help labour contribution would be required. It is also said to be due in part to the fact that CDTF emphasizes the voluntary nature of the financial contributions made by individuals outside Tanzania to fund the projects.

2.6.3. Participation in operation and maintenance

Seeing that community participation in (or indeed entire responsibility for) maintenance is viewed in some quarters as essential to the continued functioning of rural water supplies, and therefore as a necessary condition before more supplies should be constructed, it is distressing to note that the attempts which have so far been made in this direction have clearly failed.

However, this failure appears to have been attributable to the fact that insufficient attention and resources were devoted to the attempts to make them succeed.

In Dodoma and Singida Regions around 1975-1976, the responsibility for providing an operator for the (borehole-pumped) water schemes was transferred to the villages. Villages were also, in some cases, required to come to the regional or district headquarters to fetch the (free) fuel for their pumps. The operator was either to be paid by the village or relieved from work duty on other village community activities ¹⁾. Yet within a short period this form of organization broke down. Villages could not or did not pay, even for the journey to pick up the fuel. In 1981 all the operators are back on the regional/district authority payroll, either as permanent or temporarily employed staff ²⁾.

In the Shinyanga Shallow Wells Project, DHV set up a decentralized maintenance system before handing over the project in 1978 (having previously handled maintenance directly). As the Final Report puts it, after making the point that shallow wells are ten times cheaper than piped supply systems and can be installed more quickly:

"For some time to come it will also be the most reliable method as it is easier for villagers to learn how to maintain and operate a shallow well than is it for them to maintain and operate motor-driven, piped water supplies." ³⁾

"A decentralized set-up was chosen in order to limit transportation costs. The responsibility for good maintenance now lies with the Village Water Committee, which appoints two pump attendants per village or per well. These pump attendants are trained in preventative maintenance and simple repairs and receive instruction on keeping the well surroundings clean."

- ¹⁾ WHO/World Bank Cooperative Programme, p. 39 and annex 30, p. 163, 1977 (bibliography C.51). On the requirement concerning fuel: Mujwahuzi, 1978 (bibliography C.31).
- ²⁾ Interviews with water staff in Dodomo and Singida, February - March 1981.
- ³⁾ DHV for Tanzania, Shinyanga Region: Shallow and Medium Depth Wells, Final Report, Part 1, p. 19, 1978 (bibliography C.19)

"At district level a maintenance office was built and a District Maintenance Officer appointed who is paid from the district's recurrent budget: it is his task to check on the village maintenance, to help with the larger repairs and to see to the provision of spares as well as to keep records on all wells in the district. He is responsible to the Regional Water Engineer where he can obtain the spares required and can request help for major repairs. The District Maintenance Officer has a motorcycle available."

"In this way maintenance costs per well can be reduced from some Tshs 500 to 750 per check to Tshs 350 per check. As half of the costs are transport costs and salaries a further reduction in maintenance costs could be brought about by placing the responsibility for well maintenance with the villages themselves. Apart from providing some free labour, the villagers would then have to contribute no more than Tshs 1 per head/per year for well and pump maintenance." ¹⁾

DHV has also published a detailed list of the daily and monthly tasks to be carried out by the pump attendant and the tasks of the maintenance officer ²⁾. In Shinyanga, the pump attendants were provided with a box of simple tools and a cap. However, no definite arrangements were made for the villages to pay them or recompense them in another way for their work; nor, of course, were they paid by any agency external to the village. It is clear that they (at least the great majority) ceased to perform the tasks undertaken very rapidly, after a few months. "One of the well attendants was interviewed and he said he did not like the job because he was not paid. He wanted to be employed as a Government employee. The villagers including the well attendants look at the project as 'Government's.'" ³⁾

At Shinyanga DHV also made an attempt to stimulate villages' sense of responsibility for their shallow wells by formally handing over certificates of ownership. Hilda Ausi comments:

¹⁾ DHV (op.cit.), p. 89, 1978 (bibliography C.19)

²⁾ Van de Laak, F.H.J.: "Organization and Maintenance" in Tanzania, Ministry of Water, Energy and Minerals: Morogoro Conference on Wells, Proceedings, pp. 35-38, 1980. Cf. also DHV: "Shallow Wells", second edition, pp. 151-154, December 1979 (bibliography C.18)

³⁾ Ausi, p. 147, 1979 (bibliography C.4)

"These certificates as can be read from the format did not create any sense of ownership, nor motivate people to contribute self-help for the maintenance of wells. Due to this failure the Regional Development Director's Office made a second attempt, and a directive was issued that each village should contribute Tshs 50 or US\$ 6 per year as caution money and villages which would fail to contribute would not have their wells maintained."

"As per July 1979, during the research period, none of the villages had paid the Tshs 50. One village chairman at Banemi informed that the people do not want to pay the subscriptions, though the amount of money demanded per household is very small. A few people interviewed said: 'We will pay'. On this issue the District Maintenance Officer confirmed that the response to the directive was very poor (when he has funds available he maintains the wells), without caring that the villagers have paid or not. He expressed his fears that if the Government will not meet maintenance costs in time, a large number of wells will stop functioning." ¹⁾

In at least one other shallow wells project (the Australian project at Singida), even an arrangement whereby someone has been nominated by the village chairman to report faults has tended to break down after a few months.

The Finnwater Mtwara-Lindi Water Supply Programme trains 2 pump attendants per village for shallow well maintenance, in one-week courses. "Any salary or bonus for the village shallow well attendants will be the responsibility of the Village Government." ²⁾

Here a greater success has been reported: "Experience has been done (sic) already in several villages that the villagers pay the salary of the water pump attendants. The payment is done either in hard cash or in kind. The response has been very encouraging." ²⁾ However, it must be pointed out that in this project the construction phase is still in full progress in

¹⁾ Ausi, p. 146, 1979 (bibliography C.4)

²⁾ Mogella, C.A., p. 10, 1981 (bibliography B.7). Cf. the projet's experience in piped water supplies: "Some villages do already now pay the fuel costs and the pump attendants' salary". Pietila, p. 6, 1981 (bibliography B.8)

nearby areas to those where maintenance is required, and maintenance back-up is still provided by the construction groups, with their adequate resources. The intention for the future is to form four mobile maintenance groups covering the two regions, and the 'normal maintenance of hand well pumps will be transferred to villages by 1983. This requires planning and implementation of an educational campaign in villages in cooperation with political decision-makers '). In other words it is fair to say that the system has not really been tested yet.

The Community Development Trust Fund also provides for the training of villagers to maintain the water systems, such as shallow wells, which are constructed under its auspices. A few young men from the village are sent for training to the Arusha Alternative Technology Project for 1 or 2 weeks. This is said to work satisfactorily, but no evaluation has yet been done. (It is hoped that some form of evaluation can be arranged under the present project, see below, section 4.4.4).

2.6.4. Community education for maximum health benefits from water supplies

Current practice separates health education and sanitation entirely from water supply provision.

The only exception of any significance is DHV's production of a set of seven posters to be looked at and read in sequence and which tell the story of the installation of a (hand-drilled) shallow well. The message is that contaminated water causes stomach illness, therefore the village needs and should cooperate in the drilling of a well, and that the well should then be protected against contamination by keeping away animals, stopping the washing of clothers nearby, taking the waste water some distance away in a shallow trench, and planting a low thorn hedge around a neat and tidy well. These posters have received very wide circulation and have been reproduced in a bulleting which is sent to all villages. In the villages where shallow wells are to be drilled by DHV or DHV-trained teams, they are used to

') Pietila, 1981 (bibliography B.8)

introduce the project and are stuck on the walls of the party offices. The effect is reported by Mr. van de Laak of DHV as follows, referring to the Morogoro project in 1980:

"(.....there appear to be no real technical maintenance problems, so far) On the other hand, when visiting the wells, one is often struck by their surroundings, which are often very badly kept, if at all. Spill water, sometimes bad smelling, is standing near the well, gutters are clogged, the grass grows man-high along the well, etc. It is obvious that the village maintenance system does not work well yet, if it does at all."

"Fortunately, the understanding that well surroundings have to be kept clean, is spreading. This is attributed to a better information of the villagers by the project staff. In Kilosa one of our surveyors has roused the interest in and has explained the problem of well maintenance to the participants of a seminar of village chairmen and ward secretaries, which proved quite effective. Moreover, a series of posters appear to greatly influence the attitude of the villagers towards the wells and their surroundings. In the future even more emphasis will be put on this kind of educative information." ')

This is explained in more detail in an appendix to the Fourth Progress Reports of the Morogoro Wells Construction Project, July 1980, in which the posters are also reproduced. In June 1980, a check was made of 100 shallow wells, those constructed between the start of the project (December 1978) and June 1979:

"During this wells check it became very clear that our posters play an important role in educating the villagers how to operate and maintain the well and its surroundings because in those villages where our posters were seen hanging on the walls of CCM buildings and schools, the villagers had recently cleaned the surroundings of the wells and extended the gutter to allow the waste water to drain away freely. In some villages shambas were being irrigated on a small scale with the waste water and two wells were

') Van de Laak, 1980 (bibliography C.29)

found surrounded and protected by thorn bushes. Especially in the Kilosa areas, we were surprised at the attention that had been given to the surroundings of the wells by villagers. In this connection it is interesting to mention that during a seminar for village managers from the Kilosa District, held at Ilonga some months ago, one of our surveyors held a lecture on shallow wells and their maintenance. In villages in the area(s), where our wells were not yet explained with posters, the situation around the wells was quite sad."

It is clear from this that even a small effort to communicate with the community can have disproportionately big results: it illustrates how completely this communication is generally neglected.

On the other hand, it is also an illustration of the fact that water agency personnel in Tanzania (and this applies to nationals as well as expatriates) see the goal of communicating with the villagers as being limited to the better functioning of the installed water system as such, and the means of communicating with the villagers as being a top-down flow of information and instruction. There is concern to avoid the contamination of the water delivered by the well, but no thought for (or no sense of responsibility for doing anything about) the probably much more serious contamination of the water after it is taken from the well as a result of poor hygiene. Didactic methods such as posters and lectures at seminars for village managers are not complemented by methods which allow more feedback of information and ideas from the villagers.

Health education (beyond the protection of the water supply itself) and rural sanitation are the responsibility of other ministries, those of Health and of National Education. There is no coordination with these ministries over health education in relation to water. Tanzania has, however, put considerable emphasis on rural health education and on popularizing the construction and use of latrines. The Adult Education effort has been particularly strong since about 1969, when every primary school was required to operate as a centre for adult education in addition to offering primary education to children. It has been seen as directed at the broad masses of the population, and at education for self-reliance. It is modelled on President Nyerere's ideas.

In 1973, an adult education campaign under the title 'Mtu ni Afya' (Man is Health) was launched, which has received considerable international publicity in adult education circles. It was the third of a series of radio study group campaigns, but the first to achieve the mass involvement for which it is known - about 2 million people through 75.000 study groups. The main objective was to educate the people on the prevention of some of the common diseases such as malaria, dysentery, hookworm, schistosomiasis and tuberculosis. Study groups were formed in each village, their leaders being given training and literature to enable them to elaborate on the material contained in the radio programmes to which the groups listened. An important feature was that action was to be taken by the groups immediately after the broadcasts, where needed in their villages. Of all the actions suggested, the digging of latrines was the most widely adopted. "In addition to the construction of latrines, the campaign seems to have had a strong effect on the provision of covers in latrines and the use of them A great many latrines are built because people are told to build them or because it is a kind of status symbol to have one. But this does not mean that the latrines are used. There are strong beliefs in many parts of Tanzania against using latrines. In some areas it is felt that feces of fathers and children, particularly fathers and daughters should not be mixed. In still other areas the wide expanse of bush seems to be God given and natural as opposed to the use of a small house. The results therefore on question 7 (i.e. of the evaluation) are important. The overall rate of improvement of the number of latrines being used is 123 per cent." ')

The 'Mtu ni Afya' campaign has been the model for further campaigns on food production and on afforestation; it could be the model for a campaign on water (see section 3.4.2).

The Ministry of National Education organises adult education through the Division of Adult Education. The Institute of Adult Education, part of the University of Dar es Salaam, plays a central role in the preparation of the

') Hall, pp. 104-105, 1975 (bibliography C.21). There are several publications by Budd Hall on the campaign; see also Kassam, pp. 50-60, 1978 (bibliography C.26) on the radio study group campaigns in general; also Grenholm, 1975 (bibliography C.20).

radio study group campaigns as in other adult education activities. Campaigns involve, of course, close coordination with a number of ministries whose areas of responsibility are affected, and in the 1973 campaign with the Ministry of Health.

The Ministry of Health has a Health Education Unit with about six trained health educators (trained in Nigeria where there is a university course). The unit orients the health education work of the Regional and District Health Officers, whose functions cover all preventive health services, including also immunisation and environmental sanitation; and, at primary health centre level, of the Health Assistants. The Unit participated centrally in the preparation of the radio study group campaigns mentioned (on health and on food). The Principal Health Officer at the Ministry of Health coordinates environmental sanitation in rural areas, including latrine construction. Currently under way is a \$ 1,500,000 Rural Sanitation Project at Wanging'ombe in Iringa Region, financed by UNICEF and with a timetable from November 1980 to January 1989. It is a demonstration project, using four different types of latrine (direct and off-set x finite-life and permanent), but concentrating on promoting the off-set permanent latrine (Alternating K-VIP) 'to overcome the current difficulties with the existing pit latrines'. The Health Education Unit is also cooperating in health education within this the major externally-supported project in the field; however the project does not appear to be emphasizing health education but rather the technical aspect.

For urban areas, the Ministry of Lands, Housing and Urban Development (ARDHI) is responsible for sanitation. Pioneering work on latrines for urban fringe areas has been done by the Low-Cost Sanitation Unit of this Ministry, in cooperation with IDRC (still in the experimental stage) ').

') USAID/WASH has two current projects in the field of environmental sanitation, relevant in the first place mainly to urban areas. They are described in two documents prepared following a preliminary field trip in February-March 1981: WASH: Tanzania: (1) Health and Environmental Monitoring Project (HEMP), recommendations for project paper design team; (2) A National Environmental Sanitation Education Master Plan, a preliminary review. These projects, like the Low-Cost Sanitation Unit, result in part from recommendations of the IBRD's TAG group.

Finally, it should be mentioned that in rural areas at every level from the ward (group of about 6 villages) down through the village to the 10-cell (the unit of very approximately 10 households into which the entire population is organized), one person is appointed as "bwana afya", in charge of health. However, it does not appear that they are very well equipped to be local health promoters at present, and are not very active. Nevertheless, this is a structure of which advantage could be taken by giving them some training, in their wards.

The Ministry of Health is reviving a plan for Village Health Workers in each village. This plan will be discussed below, as a possible element in a model of community participation in water supply. It is not a current reality: some training of village health workers was carried out in the years before villagization, about 1972-1973, but they do not appear to be working on any significant scale, so the new system, for which training will begin shortly, is a new beginning.

3. ALTERNATIVE COMMUNITY EDUCATION AND PARTICIPATION MODELS

3.1. Preliminary observations

Structures are needed which will fulfil three different tasks: a one-sided emphasis on any one of these tasks is an inadequate approach. The tasks are:

1. To ensure a representation of the community's interests, that due weight is given to the community's needs, and that the community is actively involved in planning and decision-making concerning its water supply and related facilities.
2. To educate the community concerning the ways in which health can be improved through water which is clean not only at the point of provision but at the point of ingestion, and through related improvements in hygiene and sanitation.
3. To organize community contributions to the joint task of providing the community water supply, at the stage of construction and more crucially at the stage of operation and maintenance.

From the point of view of some of those involved in the initial provision of water supplies, the only important aim is to obtain the community's cooperation in maintenance; it is even suggested that the community could assume all responsibilities for the maintenance of shallow wells with (imported) handpumps.

Current experience concerning community contributions, particularly to maintenance, is not very good (see section 2.6.3). This problem cannot be solved, however, by sending an expert educator or sociologist to the village to change the attitudes of the people ¹⁾. Attitudes are formed over longer-term experience. To achieve favourable attitudes towards contributing to the maintenance of a supply, it will at least be necessary to involve the community from an early stage in planning the supply and ensuring that it meets their needs. However, it may be that in many

¹⁾ As seems to be implied in the section "Education and Public Relations" on p. 7 of the DHV document: "Morogoro Wells Construction Project, Extension of the Project after 31 December 1980", March 1980 (bibliography C.12).

villages there are other factors involved, not easy to overcome even by joint planning of the supply. The problem is probably in these cases not so much the lack of favourable attitudes towards the water supply, but the lack of a form of organization in the village which can transform a general attitude into specific incentives for individuals to carry out jobs required. In simple terms, it is unrealistic to expect some villagers to be unpaid pump attendants, while in many villages it is difficult to organize a village payment to pump attendants because either (1) the village does not yet have a smoothly-functioning financial system generating sufficient funds to do so, or (2) payment by a village to an individual member of that village generates disagreements over how much the work is worth, etc. which may be exacerbated by personal tensions within the small society of a village. The only easy solution is payment from outside the village (though this may well be through the village, so that the village is formal employer); however, this does of course put the financial burden back on the national budget. One way out of the dilemma, which will be proposed below, is that the village health workers, now to be trained by the Ministry of Health, should be made responsible for well maintenance (or that of other simple water systems) as one of their tasks. They are to be paid by government through the village; there need be no additional financial burden on anyone.

3.2. The extension or promotion unit

In this model of community participation and education, it will be the task of a separate unit of specialist promoters to educate the community and to organize its participation in the provision and maintenance of its water supplies. Community education will include health education in the fields relevant to water-related diseases, i.e. hygiene and sanitation as well as looking after the water source itself. The rationale for including this element of health education, despite the fact that health education is also the responsibility of the health officers and health assistants of the Ministry of Health, is that coordination with the Ministry of Health on these aspects at the time that water supplies are being discussed in the villages would not be easy: the health personnel have other things to do. But these aspects should be discussed in the villages at the same time as

the discussion of the water supplies if the health objectives of the water improvements are to be fully understood by the community, and therefore realised through their cooperation and changes in their hygiene and sanitation practices.

An extension or promotion unit has been proposed as a central feature of the plans for community participation by both the two groups which have covered this area in connection with water master plans. These are the VIAK consultants of Sweden who prepared implementation plans for the Lake Regions (Mwanza, Mara, and Kagera: see Table 1, section 2.4.2); and the DANIDA-supported Socio-Economic Group from the Centre for Development Research, Copenhagen, currently working in Iringa and Mbeya (DANIDA SEC group). These contributions will be drawn upon heavily in the following discussion ¹⁾. The unit is called a "promotion unit" in the VIAK proposals and an "extension unit" in those of DANIDA SEC group, but the functions to be fulfilled are similar.

3.2.1. The size of the unit

The unit should be started in a region with a complement of about six promoters, small enough to develop an 'esprit de corps' yet large enough to have some impact on the problems faced. Later, depending also on the availability of recurrent funds, it will be desirable to have one promotor per division, but at this stage the divisional promotor should be able to take on also some maintenance work.

At first there will be a regional team leader and a promotor in each of the districts. The team leader will help initiate activities in each village, while the district promotor will be responsible for regular education and liaison from ward to regional level, but in this model the promotion work in the village is handled directly by the unit rather than by other authorities.

¹⁾ They are reported in: VIAK AB, 1981 (bibliography C.48). The detailed proposals are in Appendix 7.4 of the annexes for each of the three regions. BRALUP/CDR, 1981 (bibliography C.7), Appendix 1: Rural Water Supplies: Villagers' participation, priority, design and quality criteria. Also Laubjerg and Therkildsen, 1981 (bibliography B.5).

It is suggested that the regional team leader should be burdened with as few administrative duties as possible that would keep him/her at regional HQ, but should be as mobile as possible in support of the village work. Collection of information for upward transmission should therefore be kept to a minimum, and it is not proposed that there should be a separate information or evaluation officer or secretary. (These feature in the VIAK proposals.)

3.2.2. Administrative attachment of the unit

The major options are the establishment of the unit within the Community Development Department being set up within the Prime Minister's Office, or within the existing Regional Water Departments. Other possibilities include answerability to the central Ministry of Water and Energy, perhaps through the Water Master Plan Coordination Unit, or some form of dual responsibility.

Given the current reorganization of the Prime Minister's Office and the new creation of the Community Development Department, it has not been possible yet to discuss with it whether the formation of a separate (PMO) regional unit for water is seen as feasible. The arguments in favour of this solution are put by Laubjerg and Therkildsen as follows:

"It already has a strong political backing that will enable the extension unit to withstand the pressure from technical personnel unfamiliar with participation and to argue the case of villagers against such pressure. The administration of this office also extends down to village level. A third advantage of this attachment is that the Ujamaa and Cooperative Development Officer (the predecessor department) has considerable experience in community development work - including mobilization of women's projects. The proposed re-organization of this office, to create a Community Development (Department), is an additional argument in favour of our proposal." ')

') Laubjerg and Therkildsen, p. 3, 1981 (bibliography B.5)

Even if the unit is located in the Community Development Department of the PMO, however, there would still have to be the closest liaison with the technical personnel of the Regional Water Department. The main argument in favour of locating the Unit within the Regional Water Department itself is the ease of communication with the technical divisions.

The essential thing is that the unit should be accorded sufficient weight: at the most practical level, to ensure that its essential transport equipment is kept in working order and available to it; and beyond this, to ensure that its representation of village needs is respected. Within the Regional Water Department, the weight given to the unit would depend on the Regional Water Engineer. If this solution is chosen, therefore, it is essential that the model should be established first in regions where it would have the full support of the Regional Water Engineer.

It would also be possible to establish the unit first within a regional shallow wells project (Morogoro, Shinyanga, Mwanza). There would be both advantages and disadvantages in the narrow focus this would imply on one technology and one main problem (maintenance of handpumps and the surroundings of wells). Certainly, community participation and education are required in relation to other technologies also. Establishment within the Morogoro Shallow Wells Project would presumably require agreement with the Regional authorities on the future of the unit when the project is handed over to the Regional Water Department. In Mwanza, too, there is a unique situation resulting from the World Bank's stipulation that villages should pay 25% of the cost of wells. A unit established within that project would have to devote its efforts to obtaining this form of community contribution (it is understood that one person is already employed on this task).

3.2.3. Role of the unit

It is proposed that the unit should see its role as covering the entire rural population of its region, rather than being in relation to specific existing water supplies and projects for new supplies. Liaison should be maintained with all the villages in the area (i.e. by the district promotor

with all the villages in his district, to the extent possible - that is why a divisional promotor is eventually necessary, covering about 30 villages per division). In this way, the unit's staff will maintain as thorough as possible an acquaintanceship with the water situation in each village, and the interest shown in the village for improving it.

The unit will then work most actively in those villages where:

1. there is the greatest need;
2. a possibility of taking action to meet the need exists; and
3. some interest is shown in doing so,

and also in villages which are to be covered in larger-scale programmes anyway.

The 'possibilities for action' should include every possible combination of village self-help and assistance from the Regional Water Department or national projects. The unit should not be concerned only with selecting, mobilizing and organizing village contributions to the regional or national water projects, but also with encouraging villages to undertake their own improvements, whether of traditional sources or, especially in the more advanced areas, to bring up their improved sources to a higher level. It will also be concerned, of course, with the maintenance of water sources and this should include traditional sources as well as improved ones.

It is also proposed that the unit's role be defined in terms of the broad objectives of water supply improvement: (1) reducing the time and effort spent in obtaining water, and (2) improving the health of the people by reducing water-related disease, as well as (3) ensuring, wherever possible, that water can be provided for economic purposes as well as domestic ones from the same scheme (water for cattle and even for minor irrigation where these uses do not conflict with domestic requirements). It is defined more narrowly, say in terms of the elicitation of community contributions to the construction and/or maintenance of water supplies provided by MAJI or other external agencies, there is likely to be less interest on the part of the villagers (who will see that it is not their needs which are being met, but those of the agency); and opportunities will be missed for fulfilling overall development goals at little additional costs.

3.2.4. Specific tasks: planning stage

When it is proposed that a project should be carried out in a particular village to improve its water system, whether by the improvement of a traditional source or the construction of a new supply, the unit will:

1. Establish a village water committee (or work with an appropriate existing committee which accepts the function of a water committee); this committee will organize village contributions, and should also be active in health education. The unit will liaise primarily with this committee and keep it fully briefed.
2. Call a village assembly to discuss the project:
 - financial aspects: it is important that the meeting should leave no doubt about the costs which will fall upon the community including for subsequent maintenance;
 - community contributions in labour and materials needed during construction;
 - alternative technical schemes where there is a feasible choice; in general, the community should be enabled to opt for a more expensive scheme offering a better level of service or offering water for economic purposes, provided that the additional cost is borne by the community or by those who will gain economically;
 - additional facilities (the same applies);
 - selection of sources (taking account of local knowledge);
 - siting of facilities - it is important to discuss this in village assembly to avoid the suspicion or the reality that village "leaders" are covertly arranging for the siting most convenient to themselves;
 - how the project will be organized.
3. Sound out informally the views of village members in general concerning the project. In informal dialogue and, if necessary, group meetings,
 - make known the health hazards of a polluted water supply;
 - present information on the likely pollution of the existing supply;

- demonstrate, wherever possible, the pollution of the existing supply (using such aids as measuring devices or even a microscope);
 - stimulate community discussion of the benefits and costs of an improved supply (and of various possible alternatives where they exist);
 - ascertain whether the benefits will be shared equally (e.g. will all villagers have closer access to the improved supply than to traditional sources), try to ensure that all do benefit, and where this is impossible, discuss arrangements for bearing costs fairly according to benefits and ensure there is no cause for resentment among a section of the community; take conciliatory or other appropriate action in case of disagreements.
4. Draw up project plans and agreements with the Village Water Committee and the Regional Water Department. There may need to be negotiations where, for instance, the village requires water for cattle or additional facilities, over the size and form of contribution to be made by each side. Negotiations may also be required where there are differences of view between the village and technical staff concerning siting etc. For instance, it is reported that in one shallow well project, "the consultants chose a distance of 1.5 km as a standard distance (to locate the well from the village) in an attempt to avoid excreta disposal pollution to the wells." ¹⁾ In such cases, where technical criteria are established which are based on the current habits of the population, there should be a thorough discussion with the villagers concerning the dangers, and, as on all questions, there should be flexibility toward the community's viewpoint as expressed when all the relevant factors are understood. It may well be that the health of villagers (as well as their convenience) would be better served by locating the wells closer to the village in the case sited, because villagers will not have recourse to polluted old sources.

¹⁾ Ausi, p. 131, 1979 (bibliography C.4)

3.2.5. Specific tasks: implementation stage

The unit will support the Village Water Committee, which will be responsible for the mobilization of the villagers for self-help labour; and the unit will liaise between the village and the Water Department. The tasks will include:

- establishing a timetable of detailed activities,
- ensuring appropriate allocation of responsibilities to groups and individuals,
- solving practical problems arising during this stage,
- ensuring that commitments taken on by all parties are fulfilled.

In establishing the timetable of activities and ensuring that commitments are fulfilled, particular care will need to be taken that the self-help labour performed by the villagers is closely coordinated with the provision of materials etc. by the Water Department. The unit will have to ensure, for instance, that the Water Department is ready for its part before, for instance, trenches are dug.

It is suggested by the DANIDA SEC group that work should begin by the villagers constructing a store, that MAJI should then transport all construction materials to the village store, and that they should become village property at this point. Only then should construction proper begin. This could overcome problems of lack of coordination and also ensure that the sense of community ownership and responsibility is engendered.

Where semi-skilled construction work is required, the unit will liaise between the Water Department and the Village Water Committee over the training of village members to perform this work, supporting the Committee in its selection of individuals.

3.2.6. Health Education Tasks

As an important activity parallel to the construction and inauguration of a new water supply, the unit should also undertake a health and sanitation campaign in the village, in conjunction with the Village Water Committee

(or a Primary Health Committee, if it exists; another alternative, where a Primary Health Committee exists, is to have this Committee take on the functions of the water committee also from the beginning of the project). The tasks of the promotor, working together with the Committee, are:

1. To build up, in consultation in the community, a detailed knowledge of the ways in which customary behaviour needs to be changed in the areas of water use, hygiene, and sanitation, by bringing together the expert's knowledge of the potential routes of disease transmission (for which the promoters will need training), with local person's knowledge of local circumstances and behavioural habits.
2. To spread, throughout the community, the knowledge that has been built up, i.e. improve the general understanding of the relevant processes of disease transmission and the ways it could be reduced.
3. To increase each community member's motivation to reduce disease transmission in these ways.
4. To facilitate such actions in any way feasible, e.g. by the provision of materials.

In other words, the campaign should not be simply one of exhortation, say, to build and use latrines, but should involve explanation and discussion of which improvements in hygiene and sanitation may be desirable and why. Recent findings in other countries suggest that particular attention needs to be paid to hand-washing and to the practices around the defecation of young children too small to use adult latrines.

3.2.7. Specific tasks: operation and maintenance stage

The extension or promotion unit will arrange for the appointment by the village of a village maintenance team (2 or more pump attendants or whatever is needed), for their training (possibly by the unit itself, or by other MAJI personnel), and for their supervision by the Village Water Committee (with technical guidance by the unit or by MAJI maintenance personnel).

The unit will also be responsible for ensuring that agreement is reached and then adhered to over the payment of a part-time salary (or a fee for

work done) by the village to the maintenance team. This is expected to be a difficult task but one which is crucial to maintenance if any reliance is to be placed on village involvement in maintenance. The alternative, as suggested elsewhere, is that the village health workers to be trained by the Ministry of Health and paid from regional funds through the village should be made responsible for maintenance. In that case the unit will liaise with the village authorities and the Ministry of Health over the smooth functioning of that system.

The unit will also give training and guidance to the maintenance team (village operators or pump attendants) on health and sanitation aspects. It will also follow up the health education campaign outlined above (3.2.6), stimulating further village activities where necessary in the field of environmental sanitation or changes in hygiene practices.

The unit will check on the operation and maintenance of the supplies, in close cooperation with the district maintenance unit. It will arrange for village reporting of faults beyond the capacity of the village maintenance team. It will be responsible for conveying village views on the operation of the water system to the Water Department, and will where necessary press for repairs to be carried out.

3.2.8. Selection of personnel for the unit

The staff of the extension or promotion unit should be skilled both in community development or adult education work and also have at least basic technical knowledge concerning the types of water schemes with which they will be concerned. Since few individuals will be found who have experience already in both fields, there are 3 possibilities:

1. To appoint existing adult education or community development personnel, giving them some training in relevant water technology. Probably a very short initial training followed by a programme of on-the-job training by MAJI maintenance and other personnel, will be sufficient.
2. To appoint existing water staff, giving them training in adult education and community development, together with training in health, hygiene, and sanitation.
3. To start a specific training course for water promoters.

Probably, alternative (3) will be desirable in the long run if promoters are to be trained for the whole country and particularly at division as well as district level. However, in the initial stage alternative (1) seems the most attractive, since it is the attitudes toward working with villagers which are of most importance, and these are most likely to have been acquired gradually over previous training and experience, whereas the more factual knowledge of water systems could be more easily absorbed in a relatively short course. The DANIDA SEC group also proposed this solution.

The head of the regional promotion or extension unit should be an experienced community development or adult education worker or a senior social scientist. Enthusiasm to take a direct part in promotion activities in the villages is essential.

The training of the unit's personnel in health and health education can be carried out by the Health Education Unit of the Ministry of Health, at regional level.

3.2.9. Manpower and funds required

1. Initial stage, in one region:

Guesstimated
Annual cost in Tshs

Staff

Head of unit	57,500
4 promoters, one per district (assumes 4 districts in region)	163,600
driver / assistant	<u>19,000</u>
	240,100

(it would be possible to carry out a pilot programme in only 2 or 3 districts of a region, therefore with only 2 or 3 promoters).

Transport equipment

1 landrover (depreciation and running costs)	130,000
4 motorcycles	100,000

transport	470.000

transport	470,000
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Office space

One small office required at regional level;
district promotor to work form DWE offices

Other equipment

10,000

Tools for village pump attendants
Simple water quality testing equipment
Equipment for use in meetings ')

Tshs	<u>480,000</u>
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2. Replication of pilot project throughout Tanzania:Staff

1 national coordinator

(this role could be taken by the sociologist(s) of the Water
Master Planning Coordination Unit if the organization is by
MAJI; if it is by PMO, a separate appointment is desirable)

19 regional heads of units (Dar es Salaam region excluded)

70 district promotors

19 driver/assistants

Transport equipment

20 Landrovers

70 motorcycles

Fuel + vehicle maintenance

Funds required: say 19 x estimate for each regional unit:

Tshs 9,121,900

') Possibly: a generator for light for evening meetings;
a microscope for demonstrating water pollution.

3. Full extension desirable in one regionStaff

Head of unit	57,500
4 district promotors	163,600
12 divisional promotors (assumes 12 divisions in region)	156,000
1 driver/assistant	<u>19,000</u>
	396,100

Transport equipment

1 Landrover	130,000
4 motorcycles	100,000
12 bicycles (this means of transport may, however, be inadequate in some divisions)	<u>50,000</u>
	Tshs 676,100

These requirements may be multiplied by 19 to arrive at national figures for a fully operating programme. The appointment of divisional promotors should, however, reduce the maintenance costs falling upon the regional maintenance departments, since they would carry out smaller repairs (while the village will carry out preventative maintenance tasks). If this gain is ignored, however, the total cost for a fully operational nationwide programme would be estimated as Tshs 676,100 x 19 = Tshs 12,845,900 say Tshs 13 million. The comparison of cost-effectiveness should be based first on the comparative cost of repair/replacement of water supplies which, under this system of community participation, can be kept in good order. It could be said to be higher than this, however, if the gains in health through community education on hygiene and sanitation are also taken into account.

Guesstimated costs are based on the following monthly salaries - these figures must be regarded as very approximate:

Head of regional extension unit	Tshs 3,500
Qualification: university degree in sociology or equivalent, with experience and managerial skills	

District promoters	Tshs 2,500
Qualification: adult educator with experience	
Driver/assistant	Tshs 1,000
Divisional promotor	Tshs 600
Plus maximum monthly nights-out allowances:	
Head of unit	Tshs 1,000
District promotor	Tshs 700
Driver/assistant	Tshs 500
Divisional promotor	Tshs 400

Vehicles:

The lifetime of a landrover may be assumed as 2½ years. If the investment cost is Tshs 125,000, the annual cost may be taken as Tshs 50,000 with no allowance for interest. Running costs may be taken as Tshs 80,000 p.a. for a total of Tshs 130,000 ¹⁾. No comparable figures for motorcycles are at hand: we may perhaps assume the cost of 4 motorcycles as Tshs 100,000 by comparison.

3.3. Other approaches alternative to an extension unit

3.3.1. Expansion of the role of the maintenance team

The role of the regional MAJI maintenance teams could be expanded to include some of the functions listed above for the extension unit, especially a much increased liaison with the community over maintenance (as in 3.2.7 above).

The maintenance team should then be strengthened by the appointment of divisional maintenance officers in every division. The Shinyanga Shallow Wells Project under Tanzanian management has recently experimented in this direction. In this project, five divisional maintenance officers

¹⁾ These figures are based on cost calculations in DHV: National Shallow Wells Programme, Chapter 3 (draft), pp. 53 ff., April 1981, (bibliography C.11).

have been appointed, one in each of five divisions (not covering the whole region), whose tasks is to visit each of the wells regularly about once a month for checking and minor maintenance. They are instructed to involve villagers in ensuring cleanliness around the well.

The next step, which has been contemplated at Shinyanga, is to have the maintenance team supervise villagers who would be responsible for the simple maintenance functions. The team could also extend its health education activities to all aspects of water-related disease. There would seem, incidentally, to be a particular case for employing in this case female division maintenance officers - they would be more likely than male maintenance officers to be able to approach appropriately the task of health education in the villages, working in particular with the women of the village.

The drawback of extending this approach to all types of participation is that it would impose too large a burden on a maintenance staff whose primary function and whose training are largely technical.

However, the maintenance teams already exist, albeit undermanned, and the involvement of the existing organization would obviate some problems of creating new posts. In that case, the other aspects of participation would have to be covered in other ways (see in particular section 3.3.3, 3.4.1 and 3.4.2 below).

3.3.2. Community Development Department, but not a special unit

The regional staff of the Community Development Department of the PMO might undertake the tasks as listed above for a promotion or extension unit, but as a part of their duties in respect of other community development projects, and not specifically by the designation of some staff members as a unit for water projects.

It is difficult to comment on the wisdom of such an approach or on the details of the way it might operate, because it has not yet been possible to discuss it with the new Department.

It would be essential that water was seen as one of the most important parts of the work, and that an adequate staff existed to give it sufficient attention. A priori, this would seem perhaps feasible if the staff were responsible for limited other types of work (or for a very limited geographical area each), but not if they were heavily burdened with work, for instance, on all types of social and economic development projects in a number of villages.

One possible advantage of this solution is that there would be no institutional commitment on the part of the extension/promotion staff to water as against other needs which villagers might think of as higher priorities. The activities undertaken might better reflect these priorities, though there should still be an effort to inform every community on the dangers of polluted water and the possibilities for water improvements.

One possibility is that a section of the Community Development Department in each region and district should be responsible for the promotion of water and sanitation together with other social development projects (health, education, perhaps also all project to benefit the economic as well as social status of women). These concerns would be handled separately from those oriented to production, marketing, village shops etc. or to village management or cooperatives.

The specific tasks of the social development section in respect of water promotion would then be the same as described above for the promotion unit (sections 3.2.3 - 3.2.7). The section would work directly at the village level.

If, on the other hand, it were decided that the Community Development Department should work mainly through district, divisional and ward level political and administrative authorities it is difficult to envisage that participation will take different forms from those which it has taken in the past, i.e. primarily the mobilization of unskilled labour in construction. That is the way in which participation is understood at those levels, and it would require major changes in the operation of the whole local political and administrative system, not just in relation to water projects, for this to be altered.

3.3.3. Mobilization of regional, district, and lower-level authorities by MAJI

An informal proposal was made by the Manager of the Shinyanga Shallow Wells (put verbally to the present writer in May 1981) that, in addition to strengthening the maintenance team in the way outlined in section 3.3.1 above, community participation in maintenance and in the construction of new wells could be promoted through a series of seminars. These would start with a one-day seminar at regional level to which the Regional Commissioner, the RDD, functional managers etc. would be invited. There would then be similar seminars at district level (2 days each), division level (3 days each) and ward level (5 days each; 2 neighbouring wards might be combined for this purpose).

The ward level seminars would be attended by village officials from each village in the ward and also by 2 'operators' to be designated by each village to maintain the village's wells and handpumps. Villages with no improved wells or an inadequate number would be mobilized through these seminars to hand-dig their wells while the Shallow Wells Project would supply cement rings, help dig the last part (i.e. where water obstructs the work and pumping is needed to clear it), and provide the handpump. Digging might be expected typically to take over 2 dry seasons.

Payment of per diems to all those attending the many seminars was deemed essential, and a rapid estimate put the total cost of the seminars at Tshs 832,000. This seems excessive and a major drawback of the proposal. It also seems likely that the capacity of the Shallow Wells Project to respond to village activity on the scale suggested might be inadequate without the formation of an extension unit within it anyway.

A similar form of mobilization would be possible in other areas where shallow wells are feasible on a large scale, but similar reservations apply. It seems also inappropriate that a major expense should be that of motivating people to attend meetings which are, anyway, in the interest of their communities. It may be valuable to experiment in arranging seminars at lower cost - say at ward level only, for a shorter time, and/or with low per diem payments.

3.4. Other options additional to an extension unit

While the approaches listed under 3.3 have been suggested as alternatives (which could be adopted instead of of the promotion or extension unit which is here presented as the most promising alternative), the following are seen as important and desirable options to pursue in addition to an extension unit. They could conceivably be put into operation in the absence of an extension unit, but it is suggested that they be regarded as complementary to it.

3.4.1. Village Health Workers as operators of water supply

Two village health workers are, under the current plans of the Ministry of Health, to be trained and employed in each village. They will be one male and one female. They are to be employed and paid by the village, but the payment will come from the regional budget. Their tasks are defined as primarily preventive.

The option we propose here is that they should also be given the responsibility of looking after the village's water supply, not only unimproved sources but including also the simple maintenance of handpumps, standposts etc. - i.e. all the tasks usually asked of part-time village operators or pump attendants. They would also be responsible, of course, for health education in relation to water.

The purpose, as mentioned above, is to overcome the problem that it may be impossible, in practice, to ensure that all villages, or even a majority, make a payment to an operator from the village's own funds, on a continuous basis and without great expenditures in transport costs for visits to solve problems between villages and their operators. It may be noted that the integration of water supply with Primary Health Care accords with WHO policy. The main difficulty, in Tanzania, is the fact that they come under the responsibility of different ministries.

The present writer approached the Ministry of Health with this proposal. It was greeted positively by the Head of Manpower Training, who is responsible for drawing up the curriculum for the training of the Village Health Workers, which is to begin shortly.

He agreed that the operation and maintenance of simple water supplies could be added to the curriculum. There is a practical problem, however: the training given would need to be varied according to the specific type(s) of water supply found in the villages from which a batch of trainee village health workers come. There is no possibility, as with the rest of the curriculum, of writing training material which would be applicable throughout the country.

Moreover, the VHW training material is currently under final revision: it is too late to add extensive sections on this topic. Insufficient interest has been generated so far. (The Head of Manpower Training, Ministry of Health, was invited to the BRALUP-IRC Workshop in July 1981; he said he would try to attend for one day at least, but did not. The writer made the proposal at the workshop, but it was apparently new to most participants.)

It would be expected, if the village health workers are made responsible for operation and maintenance of the water supply, for the male VHW to take charge of preventive maintenance, along with his projected responsibility for environmental sanitation. The female VHW would be expected to ensure cleanliness around the well or standpost, and take charge of health education among women as water users, in connection with her responsibility for mother and child health care. However, we suggest that the same training should be given to both village health workers and the division of tasks worked out between them in each village.

The question may be raised whether the village health workers will have time to look after water supplies along with their other functions. This of course depends on (1) the amount of work involved in caring for the water supply - how many supply points, of which type, at what distances, etc., and (2) the population of the village and hence the amount of time needed for other health care tasks. There may be a problem in larger villages, say over 2,000 population, where the two VHW's are the only source of health care.

However, what is required for the maintenance of simple water supplies is often not very time-consuming on a regular basis - this is one reason why villages are reluctant to pay their operators for what appears to be very

little work. Even for pumped supplies, it should be possible for a village health worker to oversee the operation of a pump while providing health care at a clinic on the same site, providing that the demand for health care (number of patients) is light. (This is not applicable, of course, where the pump is located at a distance from the village.) In practice, such an arrangement might discourage the practice of leaving pumps running while the operator goes about private business elsewhere.

3.4.2. A national radio study group campaign on water

A radio study group campaign could be mounted along the lines of the 1973 "Man is Health" campaign, the 1975 "Food is Life" campaign and the current campaign on afforestation. The Institute of Adult Education has been approached and has confirmed that, from its point of view, this is a practical proposition. There is a place for another campaign in the series.

The campaigns appear to be highly cost-effective, measuring the effect in terms of the numbers attending study groups or in terms of the actions undertaken in the villages as a result of the campaigns. The "Man is Health" campaign costs, other than those mobilized from the recurrent budgets of the institutions taking part, were borne by SIDA with a grant of US\$ 210,000 only.

The campaigns require extensive preparation, during about 1 year prior to the transmission of the series of radio programmes to the listening groups. Group leaders are trained (75,000 in the "Man is Health" campaign) requiring the training of trainers in various stages. Study materials are prepared, both for the group leaders and for individual listeners. The campaigns are coordinated by the Institute of Adult Education, but require the full participation of the ministries relevant to the topic (for the content of the textbooks and radio programmes etc.) of the Adult Education Division of the Ministry of Education (for organization throughout the country, training of group leaders etc.) of the Prime Minister's Office, the Party, and Radio Tanzania.

The purposes of a new campaign on water would be:

- (1) To spread information concerning water-related diseases, leading to:
- (2) Greater demand for improved water supplies especially in villages where access to unimproved sources is not a problem, and
- (3) More care to keep water clean in the home, and generally to improve hygiene and sanitation practices;
- (4) To increase the motivation for maintaining and improving water systems;
- (5) To suggest specific actions which can be taken by villages with or without the aid of Regional Water Departments or projects, to improve their water systems.

There is interest in a radio campaign within MAJI, but it has not been considered on the scale of the series of radio study group campaigns (but rather as a question of general publicity for the value of improved water systems). The Health Education Unit of the Ministry of Health has expressed willingness to cooperate in a new campaign, as it did in the previous ones.

4. ACTIVITIES UNDERTAKEN DURING INITIAL PROJECT EXECUTION,
February - July 1981

4.1. Introduction: method of work

The activities undertaken in the period February - July 1981 correspond to items A and B of the draft workplan (Project Profile, IRC/CEP/80.5, November 1980, section 3). No project representative has been permanently in Tanzania during this period. 3 field missions have been carried out.

A(1) Basic assessment and planning of the project, was carried out in February - April 1981 through a first mission to Tanzania (11th February - 11th March 1981) and a follow-up mission to Norway, Sweden, and Denmark (23rd - 30th March 1981). Both missions were carried out by Alastair White, while Paul Kerkhoven participated in the Tanzania mission during the period 3rd - 11th March 1981. The results of the mission are described in the report, IRC/CEP/TA.01, April 1981 by Alastair White and Paul Kerkhoven.

During the first mission a field trip was made through 12 regions and informal interviews were held with regional and district level government officials and with village chairmen, secretaries and other members of village councils; it also included participation in a MAJI-SIDA meeting held in Arusha to discuss the follow-up of regional implementation plans of the water supply in the Lake Regions. Several externally-aided projects were visited. In Dar es Salaam and Dodoma, interviews were held with national government officials, national research institutes and foreign aid organizations.

A(2) Partial Evaluation Study of a Completed Project, and

B(1) Social Feasibility Study for Alternative CEP Models, were undertaken by BRALUP with support from IRC. Discussions were held with BRALUP on these studies during the first mission and two further missions (26th May - 10th June and 7th - 21st July 1981). The main

part of the fieldwork was undertaken by BRALUP in the period between the first and second IRC visits, in March - April 1981 (see 4.2 below).

- B(2) Development of Alternative CEP Models (incorporating also B(3)). Both BRALUP and IRC directly have undertaken to play a part in the development of alternative models. This is to form part of the BRALUP report on the studies mentioned above, drawing also upon research undertaken by other researchers attached to BRALUP. In addition, the interim project manager has developed proposals, primarily on the basis of interviews with social researchers (in Tanzania and in Scandinavia during the visit mentioned above) and with project implementation staff in several regions of Tanzania (during the first mission and in Morogoro during the second mission also). These proposals have been presented in increasingly detailed form in the first mission report (IRC/CEP/TA.01, April 1981, Chapter III), in a paper for the BRALUP-IRC Workshop in July 1981 (to be published in the proceedings of the workshop; also Annex C of this report) and in this report itself (Chapter 3).

- B(final stage) National Workshop on Village Water Supply and Community Participation. The BRALUP-IRC Workshop was to review the strategies developed under B(2) and recommend models to be field tested. It was held in July 1981, at which time the BRALUP studies were available only in the preliminary form of a paper by Dr. J.H. Konter (to be published in the proceedings; also Annex D of this report). The workshop did not in practice examine in detail the models which were presented, but it did agree on common ground in the form of workshop resolutions (see below, 4.3). Among those most actively involved, it was agreed that an ad hoc committee would meet periodically to review progress and take further initiatives towards increased community participation in village water supply (see Annex B for participation).

4.2. Sociological studies undertaken by BRALUP

The first important activity of the project was intended to be the research by BRALUP, consisting '1) of:

1. A social feasibility study for a community education and participation strategy in Morogoro region at household, village and district/regional level.
2. An analysis of the existing sociological studies undertaken by scholars attached to BRALUP in various regions (i.e. in addition to the above study in Morogoro) 2).

The results of this research were to have formed the basis of the development of alternative CEP models for field testing in the second stage of the project.

'1) As stated in the Report of the First Mission to Tanzania under the project, 11th February - 11th March, IRC/CEP/TA.01, April 1981, page 5.

2) Several studies by scholars affiliated to BRALUP have recently been undertaken with similar goals. They are:

- (1) J. Lomøy and K.J. Ronningen, of the Department of Geography, University of Trondheim, Norway, with Dr. Kauzeni of BRALUP: a socio-economic study in Rukwa and Kigoma Regions in connection with Norwegian support for the water sector in those Regions. A joint questionnaire was prepared and pre-tested in Rukwa, then Dr. Kauzeni led the fieldwork in Rukwa while Mr. Lomøy and Mr. Ronningen did so in Kigoma. This study was being written up during 1981.
- (2) The DANIDA SEC (Socio-Economic) Group, which is a result of collaboration between DANIDA, and the Centre for Development Research in Copenhagen; the researchers are also attached to BRALUP. The team is led from Copenhagen by Dr. J. Boesen of the CDR. The field research is led by Mr. O. Therkildsen in Iringa and Mr. K. Laubjerg in Mbeya: their first results were being analysed in 1981 while their work continues. A third team member, a Tanzanian (Mr. Kapinga) began work in Ruvuma Region in about June 1981.
- (3) Ingvar Andersson and Carolyn Hannan-Andersson of the University of Lund, Sweden. Their study, starting in Kilimanjaro Region in 1981, is to be extended to Mwanza, Shinyanga and Singida also.
- (4) Mr. C. Mogella of the University of Dar es Salaam has completed in 1981 a short piece of research in Mtwara-Lindi in association with the Finnwater Project and BRALUP.

So far the only result of this research which has been made available is the paper given by Dr. J.H. Konter of BRALUP at the workshop in July 1981, entitled "Propositions for the discussion of the socio-economic feasibility of village participation in the planning, implementation and maintenance of a modern water supply". This paper summarizes the findings of a feasibility study carried out at village level only. Interviews were held with village leaders in 40 villages. A copy of the paper is attached (Annex D). The full report is still awaited. It appears, however, that it will not be as comprehensive as was initially agreed.

IRC has not been able to exercise any effective control over the BRALUP studies, because of the way in which the studies became a part of the IRC's project. The studies had been agreed between BRALUP and the Netherlands Ministry of Foreign Affairs before the IRC project was funded by the same Ministry, and field work for the studies had begun before the first IRC mission to Tanzania in February 1981. However, during that mission the scope of the studies was agreed at a meeting held at the Netherlands Embassy in Dar es Salaam on 4th March 1981 and it is this scope which has apparently been subsequently reduced by BRALUP.

4.3. The BRALUP-IRC Workshop

The workshop was held at Rungwe Beach Hotel, Dar es Salaam, from 14th - 16th July 1981.

The proceedings of the workshop will be published by IRC jointly with BRALUP. The workshop was well attended, bringing together for the first time the representatives of the various organizations concerned, to discuss community participation. About 30 persons took part (see annex A for list). Given the wide variety of background of the participants (social scientists, administrators and engineers) much of the workshop was necessarily devoted to the search for agreement on broad approaches, and the main achievement of the workshop may be seen as that of carrying further the impetus toward the adoption of community participation nationally.

Ten papers were presented by participants, and they will be published with only minor editing in the proceedings (the list of papers is enclosed in the bibliography, section B).

Of particular significance for future development was the paper by the DANIDA-supported Socio-Economic Group (K. Laubjerg and O. Therkildsen from the Centre for Development Research, Copenhagen) which contains a suggested model for an extension unit, further elaborated from an earlier version published in their Quarterly Report of February 1981.

The present writer also gave a paper with suggestions for alternative CEP models - these have been presented in greater detail in the present report. The mood of the workshop was not, however, to discuss alternative models in detail. The idea of the extension unit did receive broad agreement, but even on this point there were those who said that it could result in bureaucratic proliferation and that the need is to make existing committees or organizational structures work properly. It might have been desirable for the meeting to have to come to more specific discussions and agreements, but this was not possible to achieve. The disparity of views represented was probably too large.

Agreement was reached on guiding principles, rather than on the detailed forms of organization to be adopted. A follow-up meeting to the workshop was held at MAJI headquarters on 20th July 1981, at which the resolutions passed at the workshop were finally formulated as follows:

Res. no 1 An essential prerequisite for community participation is that people are made aware of their rights as well as their responsibilities.

(The meeting also agreed that in order to achieve this,
 - the rights and responsibilities have to be defined, and
 - a mechanism for informing the people of their rights and responsibilities has to be designed and established.)

Res. no 2 PMO should be in charge of community participation, and regional and district technical departments should be responsible for providing support at village level.

- Res. no 3 There must be a much broader approach to rural water supply. Rather than focusing only on domestic supply, village water requirements for other economic purposes like livestock and small scale irrigation, should be taken into account in planning village water supply with the villages.
- Res. no 4 The additional cost of providing a supply above a basic minimum level should be borne by the community opting for that higher level of supply, and the cost of water supplies for economic purposes should be borne by those benefiting economically.
- Res. no 5 For a community participation programme to be effective, transport and other back-up support should be provided by MAJI and PMO.
- Res. no 6 Where action is to be taken over village water supply, appropriate village water committees should be initiated, and the participation of women in village water management should be emphasized.
- Res. no 7 In the construction phase of village water supply, education should be emphasized and training diversified to village level to ensure proper operation and maintenance.
- Res. no 8 Monitoring and evaluation should be part and parcel of water supply projects, and the community must participate in these activities.
- Res. no 9 In order to assist the Government and beneficiaries, a campaign should be carried out on rural water supply, sanitation and health. The campaign should be followed up periodically.

The specific proposals contained in resolution no 2 and in resolutions 3 and 4 should be particularly noted.

The strong support at the meeting for the major role to be played by the PMO may be related to the announcement, just before the Workshop, of the reorganization of the PMO and the creation of a Community Development Department. But it also reflects pessimism about the capacity of MAJI (the Regional Water Departments) to undertake the task with the vigour it requires.

4.4. Discussions with Tanzanian governmental and semi-governmental bodies

4.4.1. Ministry of Water and Energy, MAJI

The project was welcomed first by the Acting Principal Secretary, Mr. D. Bushaijabwe, and later by the new Principal Secretary, Mr. A. Janguo. The writer attended a MAJI-SIDA meeting at Arusha, 20-21 February 1981, and was able to present the project to the meeting. A number of remarks favourable to community participation or particular elements of participation were made by MAJI personnel at the meeting and in subsequent contacts. However, community participation tends to be seen by many MAJI personnel mainly as a matter of self-help labour in construction, and perhaps of village financial contributions.

Mr. Ragnar Schonborg, head of the Water Master Planning Coordination Unit, has been strongly supportive of the project. The Unit, which will have seven Nordic staff (it was started as a Nordic project) and an equal number of Tanzanian counterparts, was in formation in 1981 and the sociologist from Sweden, Mr. Per Brandström, is to take up his post in November 1981. His role will be in the coordination of community participation, and hence closely connected with the present project. The writer has kept in close touch with him, particularly at the time of the BRALUP-IRC workshop which he attended.

During the first mission in February - March 1981, it was suggested by Mr. Schonborg that the Tanzanian sociologist to be appointed as counterpart to Mr. Brandström in the WMPCU might also be made project manager for the IRC project. This possibility was pursued in discussions with MAJI. However, two practical drawbacks emerged:

(1) There is no obvious candidate with the requisite personal qualities as well as qualifications within MAJI, and appointing a candidate from outside MAJI would be more difficult - it might also have less long-term advantages if he or she did not stay with MAJI.

(2) The head of the Planning Division within MAJI raised the question, should not the candidate be appointed within that Division instead of the WMPCU. The WMPCU is within the Project Preparation Division, and there is a sensitive issue as to its sphere of responsibility. With seven expatriates, it will clearly have a concentration of skilled manpower which would make confinement to a narrow interpretation of coordinating water master plans extremely wasteful of talent. But it is not clear where its responsibilities and those of the Planning Division should be, or are, bounded.

In view of these difficulties, no counterpart was selected at the time originally envisaged (i.e. to enable his/her participation in the BRALUP-IRC workshop) and it now seems essential to appoint a project manager from outside Tanzania after all. (Possibilities of Tanzanian candidates from outside the civil service have been canvassed but without result - suitably qualified persons are too busy on other work to take on a temporary job of this kind.)

Another question which has been discussed with MAJI has been that of the region where the field testing will take place, i.e. the location of the major phase of the project. Doubts were expressed over Morogoro Region, e.g. by the Principal Secretary during an interview on 11th July 1981. The project was presented to the Regional Water Department of Morogoro (the RWE and his senior staff) at a meeting in May 1981. Their reaction was non-committal: not as welcoming as the attitude of several other Regional Water Engineers met, in particular, during a visit to several northern regions as part of the first mission in February - March. (See also below, 4.4.2)

The manager of the Shinyanga Shallow Wells Project, Mr. Kashoro, has expressed interest in having the field testing phase conducted in relation to his project, though he has also made other proposals (3.3.1. and 3.3.3. above) and has reservations on the involvement of an extension team in

health education beyond questions of safe use of water: he thinks the Ministry of Health personnel whose responsibility this is would feel slighted.

The Regional Water Engineer of Mwanza, Mr. Lumelezi, made the proposal that the field testing should be in that Region, and mentioned a number of institutions there which could help in various aspects of the training required. The enthusiasm for community participation in Mwanza, and specifically for an extension team, is, however, probably related to the requirement by the World Bank that villages should pay Tshs 6,000 per well and the fact that it is difficult to persuade them to do so (see section 2.4.2, table 1).

4.4.2. Regional Administration, Morogoro Region

Contact was made first with the Acting Regional Planning Officer during the first mission in March 1981, at which time the Regional Development Director was unavailable. It was clear already then that with the uncertainty which exists concerning the handing over of the Shallow Wells Project to the Regional Administration (Regional Water Department), there would be no enthusiasm in the Regional Administration for setting up a pilot project for community participation, except perhaps within the DHV Project so that it could be taken over along with the rest of that Project.

In May, during the second mission, it was possible to visit the Regional Development Director and also the Regional Planning Officer, together with the Dutch advisor Mr. Van de Graaf who made the introductions on this occasion. The RDD complained that he had not been informed in advance (!) but said that he would read the proposals and give a reaction. (Nothing has been heard directly since, but indications are negative according to indirect reports or rumours.) The RDD expressed doubts over Morogoro being used as an experimental (guinea-pig) site, and about projects being imposed on the region. Clearly, this sensitivity is due to a history of different cases. There are also tensions of a personal nature as well as between institutions (DHV and the Regional Water Department) which would make working in Morogoro Region more delicate and difficult than elsewhere.

4.4.3. The Prime Minister's Office

Contacts with the PMO have not been as frequent as with MAJI because of the location of this ministry's headquarters in Dodoma. (A visit to Dodoma for more detailed discussions is planned in October 1981.)

The following contacts have been made:

- (1) With Mr. Semwaiko, Commissioner for Regional Planning and Control, at the MAJI-SIDA meeting in Arusha, February 1981.
- (2) With Mr. Kinyunyu, Assistant Commissioner, Regional Planning and Control, at Dodoma in March 1981 and in Dar es Salaam in July 1981.
- (3) With Mr. Mkesso, then Assistant Commissioner, Ujamaa and Cooperative Development (in charge of community development and the social advancement of women) in Dodoma in March 1981.
- (4) With Mr. Mutaborenwa, Assistant Commissioner, Regional Planning and Control, at the BRALUP-IRC workshop in July 1981. Mr. Mutaborenwa came from Dodoma to attend the workshop.
- (5) With Mr. Bulegi, Commissioner for Ujamaa and Cooperative Development, in Dar es Salaam July 1981.

These contacts have all been positive: the PMO has welcomed the project and expressed its concern to increase popular participation. The cooperation of the PMO has been offered in general terms. More detailed discussions have not been possible because of the reorganization which has taken place within the Ministry.

Prime Minister's Office Reorganization: The Community Development Department

It was announced in July 1981 that within the Prime Minister's Office a new Community Development Department (or sub-ministry) is to be established by the reorganization of the existing Ujamaa and Cooperative Development Department.

On 20th July, Mr. Bulegi explained that the personnel of the new Department would be decided in the following week and by the end of August it would be fully formed and ready to discuss the CEP project. He welcomed the Project,

saying that the new Department is the appropriate body to carry out the work. He recommended that the IRC should come for discussions in Dodoma (PMO HQ) in September or October.

Mr. Mutaboyenwa presented the decision at the BRALUP-IRC workshop. The workshop agreed that community participation should be organized through the new Department, which will be responsible for community mobilization in general and can be expected to attach due priority to participation in water supply. If units were established within Regional Water Engineer's Departments, it was felt likely that in many regions little importance would be given to them and they might not be able to accomplish very much.

The workshop did not come to a conclusion as to whether, within the new Department, a special unit should be set up to be responsible for water. On this question, views were expressed both for and against.

4.4.4. Community Development Trust Fund (CDTF)

The CDTF receives funding from voluntary agencies overseas and organizes projects throughout Tanzania: it participatory approach, and the water projects carried out through CDTF generally involve greater community participation than those of government. CDTF spends about Tshs 1 million annually on water projects, out of about Tshs 30 million for all types of projects.

No evaluation has yet been done on this work of CDTF on water supply with community participation. It was suggested that such an evaluation might be carried out in association with the present project and undertaken by Miss Joanne McGuckin, a graduate student in anthropology at the University of Sussex who has begun her field research in Tanzania in August 1981. She intends to study community participation on one village and may do so in relation to the field testing phase of the IRC project - this would provide an independent assessment or at least a source of additional data for evaluating the project. A prior brief evaluation of the CDTF work in the same field would seem a valuable initial exercise. The funding of her overall research work is from a British research studentship grant, but she may need to cover small additional expenses for carrying out an evaluation of the CDTF work (e.g. for travel in one or two regions).

The Community Development Trust Fund has offered to assist the IRC project in a major way by making available a CDTF project officer for the field testing period of the project. It may, in practice, be a matter of only part-time involvement while he continues to work also on CDTF projects in the same region, but this question remains open for further discussion when the region is finally chosen.

If this offer is taken up, it should be possible for the IRC project manager to divide his or her time between the supervision of field testing at regional level and national coordination (especially with other regions where community participation methods are being adopted), while the CDTF project officer can take a major role in field testing - in training and then leading the small team of promoters. A regional extension unit head will be required in any case, if the work is to continue after the experimental period, but the involvement of a CDTF project officer will bring more experience to the project.

4.4.5. Ministry of Health (AFYA)

The discussions over the possible involvement of the Health Education Unit in the training of the promotion team in health education, and also in any national radio campaign, have been mentioned above (sections 3.2.8, 3.3.3). The Unit is interested in participating in the IRC project in any way possible, but it is a small unit and the staff are already, apparently, rather fully extended.

The discussions on the possibility of including the maintenance of water supplies in the curriculum and duties of the Village Health Workers, as a basic solution to the problem of village participation in maintenance, have been mentioned in section 3.4.1.

Contact has also been made with the Health Planning Unit and the Principal Health Officer (with the latter, on the question of low-cost sanitation in rural areas).

4.4.6. Ministry of Lands, Housing, and Urban Development (ARDHI)

Contact has been made with the sociologists of the Low-Cost Sanitation Unit (working in urban fringe areas) and the Sites and Services Division. Their knowledge and expertise is relevant for the present project. There was some informal discussion with one of them on his possible transfer to work on the present project, but he is interested only in a permanent position, which we cannot guarantee.

4.4.7. Institute of Adult Education

The discussions on the possibility of a national radio study group campaign on water, on which the Institute would play the leading role, have been mentioned above (section 3.3.3).

The highly experienced Director of the Institute at the time of the first mission, Dr. Yusuf Kassam, has left the Institute for a position in Canada. His successor is, however, also interested in the possibility of a campaign on water.

4.4.8. Small Industries Development Organization (SIDO)

and

Arusha Alternative Technology Project (AATP)

The possible role of each of these organizations in training for handpump maintenance and manufacture, and in manufacture itself, was discussed with them.

SIDO outlined in particular a possible scheme under which handpumps and similar equipment could be manufactured by private small entrepreneurs within the industrial estates being established by the organization in various regional centres.

AATP, which has been attached to SIDO, sponsors the manufacture of items of appropriate technology in villages, but this work has been limited to some villages near Arusha. The discussion with AATP centred on the feasibility

of a multiplication of "daughter" training centres using AATP designs and principles in other regions. They could train village groups in the manufacture and maintenance of very simple types of handpumps, for instance. However, this type of development was not seen as having sufficient support in Tanzania currently to be a practical option to pursue. The future of AATP itself is in question following the end of its original funding by SIDA through SIDO in June 1981.

4.4.9. Wood and Bamboo Pipe Project

This project is supported by the CCM ¹⁾ as an experimental project to develop a viable technology. There is collaboration with the Centre for Alternative Technology at Delft University. The problem is to develop cost-effective and safe ways of preventing termites and fungi from attacking the pipe. Calculations by the Delft callaborators indicate that the technology shows promise of being more cost-effective than the alternative (plastic pipes) when due weight is given to foreign exchange costs of imports ²⁾.

This is not a village-level technology, however. The project has about 5 teams of skilled workers, each with a lorry, to construct the supplies. There is no greater community involvement than in projects using plastic pipes.

The project's success to date has clearly been largely due to the energy and enthusiasm of its founder, Mr. Lipangile; to the political support it has received at times when its viability has been questioned ³⁾ and to the technical input from its expatriate collaboration.

¹⁾ Chama Cha Mapinduzi, the official Party.

²⁾ Van den Heuvel, 1981.

³⁾ E.g. in WHO/World Bank Cooperative Programme, Annex 21, 1977.

4.5. Discussions with Other Organizations

The following other institutions have been kept informed of the progress of the project:

1. Tanzania National Scientific Research Council.
2. UNDP representative in Dar es Salaam.
3. UNICEF Dar es Salaam.
4. DANIDA Steering Unit and Embassy of Denmark, Dar es Salaam.
5. SIDA (especially programme officer, water sector, Dar es Salaam).
6. NORAD, Dar es Salaam.
7. Embassy of Finland, Dar es Salaam.
8. Nordic Project for Cooperative and Rural Development in Tanzania.

4.6. Discussions with Organizations in Europe

The Netherlands Ministry of Foreign Affairs, which funds the project, has been kept informed of progress through discussions in The Hague and with the Embassy staff in Dar es Salaam.

DHV Consulting Engineers has also been kept informed of progress through discussions both in The Netherlands and in Tanzania.

In the Netherlands, others contacted are: (1) NOVIB (Mr. Ruisenaars), especially concerning the Community Development Trust Fund, which NOVIB supports, and the possibility of a NOVIB-supported evaluation of CDTF work in the water sector, and (2) Delft University Centre for Appropriate Technology (Mr. Van de Heuvel) in connection with the Wood and Bamboo Pipe Project.

In addition, a visit was made to Norway, Sweden and Denmark in March 1981, for discussions with those who had carried out socio-economic studies on water in Tanzania (at the University of Trondheim, at Uppsala omission and with Mr. Per Brandström who is to take up the post of sociologist with the Water Master Planning Coordination Unit. Visits were also included to SIDA and to Prof. Lasse Krantz of the University of Stockholm who has been involved with the establishment of the WMPCU.

5. FUTURE STRATEGY OF THE PROJECT

5.1. Introduction and Decisions required

The future phases of the project (see project document IRC/CEP/80.5) are:

C. Preparation for field testing the CEP models

D. Field testing and process evaluation

E. Project evaluation and reporting

These activities will be carried out basically as proposed in the project profile; some operational points remain to be decided and are discussed in this chapter. It now appears likely that the field testing will take place in only one region. That is to say, the 'renovative' option discussed under D(2) will not be undertaken as an additional activity, though there will be a 'renovative' element in the CEP model tested, in the sense that community participation in the maintenance of existing facilities will be included as well as in the construction of new water supplies.

There has been a delay at the end of the initial period of the project (covering workplan items A (Identification) and B (Development)). This has been due to three main considerations, viz. the delayed reporting of the BRALUP studies; the reorganization of the Prime Minister's Office; and the fact that the sociologist of the Water Master Plan Coordination Unit - a key appointment for the future of community participation - is to take up his duties only in November 1981 and it will be necessary to extend the project by three months (to end August 1982) without requirement for additional funding.

Decisions are required in the near future on the following:

1. Appointment of a project manager for the field testing and remaining stages of the project.
2. The region in which field testing will take place.
3. The way in which a (promotion or extension) team is to be established for field testing; including funding and recruitment.

4. The form of collaboration with other organizations during the field testing stage.
5. The CEP model(s) to be field tested.
6. The comparative emphasis to be given to field testing in one region vis-à-vis national coordination and promotion of community participation.

Most of the above issues are highly inter-dependent, but they will be discussed in the above order.

5.2. Project Manager

It is hoped to appoint a project manager for at least a six-month period starting in January or February 1982. It may be difficult to find suitable candidates for this type and length of assignment, but should be feasible using informal channels.

As discussed above (section 4.4.1.) the option of appointing as project manager the Tanzanian counterpart sociologist in the Water Master Planning Coordination Board can no longer be considered feasible.

Interviews are being held with some candidates for the post.

5.3. Region for field testing

5.3.1. Morogoro

The decision whether the field testing can take place in Morogoro (see also 4.4.2 above) involves also the relationship to the DHV projects there.

It is proposed that during a further visit to Tanzania in late October - early November 1981, discussions should be held again with the Regional authorities and with DHV: the question of the regional authorities' reservations can then be cleared up.

The option of working through the Regional Water Department in Morogoro does not appear promising. It is questionable whether the Department would give sufficient support to a community participation extension unit, and in particular to the maintenance team upon whom an extension unit would need to be able to call for the larger maintenance jobs. At least this is doubtful during the longer term, even if it were achieved during an experimental period.

A second option might be to involve the regional staff of the PMO's Community Development Department. It would then be essential that this staff could call effectively upon the Regional Water Department for the larger maintenance jobs. This option can be explored during the coming visit, both at Morogoro and at PMO headquarters in Dodoma.

A third option, certainly the easiest to get established, would be to work in direct association with the DHV Shallow Wells Project (perhaps also the Piped Water Supplies Project). Then the question of technical support for maintenance would be solved - during the field testing period. One problem is that this would not then be a field test under usual Tanzanian conditions, and in particular there would be no guarantee that any success achieved would extend after the withdrawal of DHV from responsibility for maintenance.

Another problem is that the participatory methods would be introduced towards the end of a project which has so far been implemented in a different way. The villages with wells have not been called upon to contribute significantly to their construction or to their maintenance. They are unlikely to be very positive towards proposals that they start contributing now especially if they perceive that maintenance will still be done even if they do not contribute. The elements of a participatory approach which involve doing more for the community (taking their needs and wishes into account from the beginning) will be lacking. In short, an attempt to persuade villages to undertake responsibility for existing shallow wells in Morogoro could easily fail, but it would not have been a test of community participation techniques since these demand (a) active involvement of the community from the planning stage and (b) a clean sheet

as far as the bargaining situation of the agency is concerned: "We will help you if you also help yourselves" not "Please help yourselves instead of us helping you".

Other regions in which field testing could take place include:

5.3.2. Shinyanga

See 4.4.1 above (also 3.3.1 and 3.3.3). Here the project would also be in relation to shallow wells largely already constructed, and some of the same doubts apply. However, the institutional tensions are absent and, at community level, there is in a drier area more interest in the water supply.

Mr. Kashoro, though having his own different ideas as described in sections 3.3.1 and 3.3.3 would also be willing to work with an extension unit option.

It might be said that there is less need for a community participation programme in Shinyanga than in many other regions, particularly in relation to maintenance, since this is being handled both by the maintenance organization and by DHV's replacement of existing pumps with a sturdy model.

5.3.3. Rukwa and/or Kigoma

Here the Norwegian consultants Norconsult, having drawn up the Water Master Plan and being now about to implement it, have made a strong plea for the involvement of experts in community participation in the implementation. The project manager, Eric Ravdal, made the appeal at the BRALUP-IRC workshop: "We want a tool by which next week we can start a community participation programme. On our programme for the next phase we have a sentence, 'Village Mobilization and Participation', but it is not our task to carry it out".

Hearing of the IRC project, he asked the Principal Secretary of MAJI, couldn't Rukwa be the pilot region? He also addressed the same question to the BRALUP-IRC workshop, saying that he had the support of the regional authorities.

A special situation exists with regard to Rukwa because Norconsult had approached BRALUP earlier, and Dr. Kauzeni of BRALUP undertook a socio-economic study there (in about April 1981) - this was the reason he took no part in writing up the studies done with Dr. Konter in Morogoro for the IRC project. Dr. Kauzeni is from Rukwa and has some political weight there. It is possible that he might be able to mobilize the various levels of authority for a model of community participation through existing authorities, in a way which could not be done in an expatriate project. This situation probably does not apply to Kigoma.

5.3.4. Mwanza and/or Mara

SIDA intends to support the implementation of the VIAK plans, which include a promotion unit, in these regions, and would be very ready to cooperate in an IRC field testing there. As mentioned in section 4.4.1, the Mwanza RWE specifically proposed that field testing should be in his region. A successful testing in Mwanza would be easily replicated in the neighbouring Lake Region of Mara and possible also Kagera.

Field testing in Mwanza would necessarily also be in association with the World Bank - supported Shallow Wells Project, and here there is the complication that that project is obliged to ask villagers to pay Tshs 6,000 per well installed with IBRD support. This situation is not typical and therefore the field testing, if it involved persuading villages to make the payment, would not be relevant for the rest of Tanzania. However, the Shallow Wells Project has already appointed one person to handle this task, and it might be that the field testing could avoid this problem, say, by working with projects funded by SIDA.

5.3.5. Arusha

There would probably be few problems in doing the field testing in Arusha (the villages, not the Masai range areas). The RWE and the USAID staff member in his department showed interest. It could be said, however, that Arusha is a relatively well-off area and the field testing should be undertaken in a more 'typical' region.

5.3.6. Iringa, Mbeya, Ruvuma

The DANIDA Steering Unit has expressed openness towards collaboration. In these regions the Unit will in any case support the implementation, of the extension unit model as worked out by the DANIDA Socio-economic Group. It might be better to liaise with what is being done there than to take part in it.

5.4. Funding and recruitment of field test personnel

Field testing of almost any model will require the funding of that model, well beyond the resources of the IRC project itself. The model of the extension or promotion unit requires the employment of a team of 5 or 6 promoters (for a region) or at least 3 or 4 (if the field testing takes place in only part of a region). They will also require expenses, at least for transport.

In an eventual national programme, these recurrent expenditures would have to be met in the same way as those for maintenance, i.e., presumably out of the recurrent budget (there is of course a case for donors paying these recurrent costs of project they have funded, since the availability of funds only for development costs leads to over-spending on development projects, which cannot all be maintained out of Tanzania's own resources).

For the present project, anyway - the limited period of field testing of a CEP model - it will not be feasible to obtain funding from Tanzania's recurrent budget. The field testing must be carried out with the support of one of the existing donor-financed projects or else these costs for an

extension team and its transport (or any other model) will have to be met separately. If the field testing were carried out in one of the regions where other (Scandinavian, for example) donors support water supply development, there would probably be little difficulty in obtaining the necessary funding as part of that support. If the field testing is carried out in Morogoro or Shinyanga, Dutch funding will be needed for these costs. The next question is: would the funding and hence the recruitment be only for the six months period of field testing, or would it be for a longer period in the expectation that the work will be continued in some form in the region or area where the field testing has taken place? For how long can it be guaranteed?

Recruitment of an able extension unit leader will presumably be easier if a longer period of employment can be guaranteed, and the same may be true of the the promoters themselves.

Another possibility might be the secondment of staff from other institutions, just for the six months period. Apart from the team leader (from the CDTF, see section 4.4.4 above), this has not been explored. It would presumably be difficult.

5.5. Form of collaboration with other organizations

While any extension unit will eventually be a part of an existing Tanzanian government agency or donor-sponsored project, the IRC project itself will be independent. The training and supervision of the extension teams during the field testing period could therefore be undertaken by IRC in a capacity of advice or else of administrative control. The part played in training by any other organizations, such as the Health Education Unit of the Ministry of Health, will be recompensed from the IRC budget for the project.

5.6. CEP models to be field tested

It is suggested that the extension unit model be adopted for the field testing, since there is a sufficient consensus that it is a valuable approach. An alternative might be to hold further meetings and consultations to decide between alternative models, but this would take time without being likely to lead to any greater agreement than was achieved at the BRALUP-IRC workshop.

Further discussions will, however, be held in October-November 1981 with the new Community Development Department of the PMO. If this Department prefers a different model, there will be a need to reconsider.

5.7. National coordination

While the field testing of an extension unit model is being undertaken in one region, the IRC project will also:

- (1) liaise with and advise in conjunction with the Water Master Planning Coordination Unit, the community participation activities being undertaken in other regions by other agencies.
- (2) promote community participation at the national level, by presenting proposals etc.
- (3) promote, in particular, the additional options discussed in sections 3.4.1. and 3.4.2. above, namely the training and employment of Village Health Workers as operators of water supplies, and a national radio study group campaign, insofar as these continue to seem feasible and valuable options.

5.8. Timing

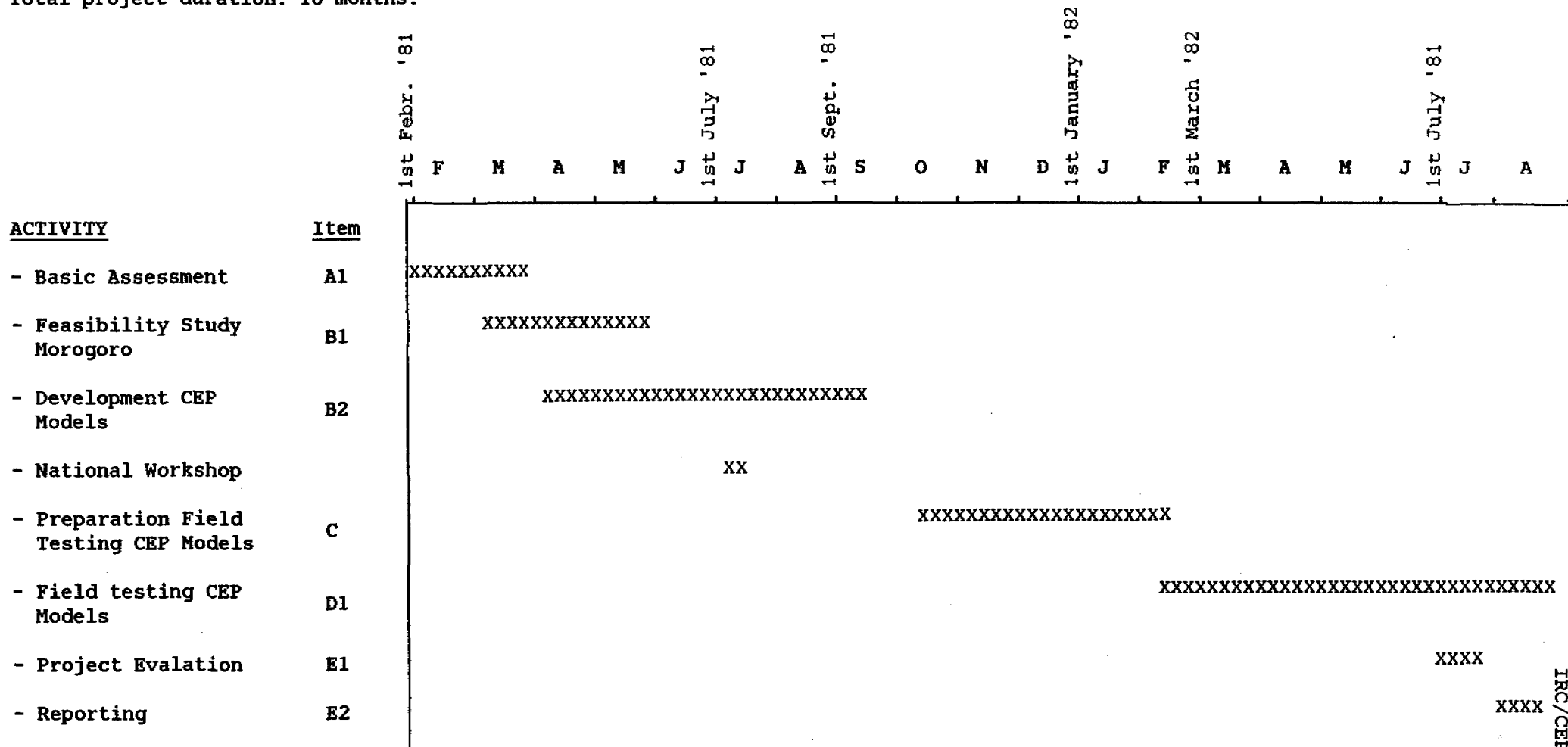
A further visit to Tanzania is planned for October 20 - November 10, 1981, for discussions primarily on arrangements for field testing as mentioned above. This will be undertaken by Alastair White.

The project manager will be appointed in November 1981, to take up the post in Tanzania in January 1982. The field testing team will then be assembled. Training for field testing will begin as soon as the team is assembled. It is to be hoped it can take place in February-March 1982 and actual field testing begin during the same period (i.e. the latter part of the training to be in the field after the work itself has begun). Field testing should last six months before project evaluation and reporting, but if it is necessary these activities could begin before the end of the six months period.

A revised bar chart is presented.

BAR CHART of the Tanzania Community Education and Participation Project

Total project duration: 16 months.



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ANNEX A

BRALUP-IRC Workshop on "Village Water Supply and Community Participation",
Dar es Salaam, 14 - 16 July 1981

List of participants

ANDERSSON, Ingvar	Department of Political Sciences, University of Lund, Sweden
ARTHANARI, M.	Financial Systems Advisor, MAJI
BANTJE, Han	BRALUP
BRANDSTROM, Per	Department of Social Anthropology, University of Gothenburg, Sweden
COOPER-DAWSON	UNICEF, Dar es Salaam
Van GIJN	Water Resources Institute, MAJI
Van de GRAAF, Hans	Planning Advisor, Regional Administration, Morogoro
HAYES, Dr.	Visiting (US) Professor, University of Dar es Salaam (public health physician)
HERLITZ, Gilles	SIDA, Dar es Salaam
JAKOBSON, Oddvar	UNDP, Dar es Salaam
KAUZENI, Dr.	BRALUP
KONTER, Jan	BRALUP
Van de LAAK, Frans	DHV, Morogoro
LAUBJERG, Kristian	Centre for Development Research, Copenhagen
LAURITSEN, Niels	DANIDA Steering Unit
LOMØY, Jon	University of Trondheim, Norway
MASCARENHAS, Prof. A.C.	BRALUP
MKUCHU	Regional Water Department, Morogoro
MOGELLA, C.	BRALUP
MTAVANGU, C.K.	Health Education Unit, Ministry of Health
MUTABORENWA, A.J.	Prime Minister's Office
PIETILA, Pekka	Finnwater, Mtwara-Lindi Project
RAVDAL, Eric	Norconsult
SCHONBORG, Ragnar	Water Master Planning Coordinator, MAJI
SHIRIMA	MAJI

ANNEX B

Meeting at MAJI Headquarters, follow-up to BRALUP-IRC Workshop,
20th July 1981

It was agreed that the participants should form an ad-hoc committee which will continue to further the foal of increased community participation.

List of participants

Present: M. Arthanari	MAJI
T.F. de Swaan	Netherlands Embassy
J. Furengren	MAJI
G. Herlitz	SIDA
A.C. Mascarenhas	BRALUP (chair)
R. Schonborg	WMPCU (notes)
H.G.A. van de Graaf	Morogoro Region
A.T. White	IRC
Absent: M.J. Mutaborenwa	PMO

For the resolutions of the workshop, as finalized by this meeting, see under section 4.3 of text.

ANNEX C

Background paper for the BRALUP-IRC Workshop on Village Water Supply and Community Participation, Dar es Salaam, July 1981.

AIMS, ACTIVITIES, AND ORGANIZATIONAL OPTIONS FOR COMMUNITY PARTICIPATION IN RURAL WATER SUPPLY IN TANZANIA

by Alastair White

The aim of this paper is not to present ready-made plans, but in the light of the goals which might be pursued through community participation, to go through some alternatives for a participatory programme which seem theoretically feasible. I hope for a practical discussion among those who know Tanzania, so that the workshop can take a collective view about the options which are feasible and appropriate here, in as much detail as possible.

1. GENERAL AIMS TO BE SOUGHT

The main goals which one might aim to accomplish through community participation in Tanzania range from the more immediately practical to the long-term development of people rather than things. They might be listed as:

1.a. Ensuring continued maintenance

Maintenance is given too little attention in most countries, perhaps because publicity and therefore prestige is attached to new projects. In Tanzania this situation is exacerbated by the fact that external aid has, in the past, been available for financing and expertise in installing new water facilities, often over-sophisticated ones, on the understanding that Tanzania's water authorities would be able to maintain them with relatively little financial or technical assistance.

Even now, though the awareness of the danger of over-sophisticated solutions has grown, and attention is focussed on systems not requiring fuel, there is still a dilemma given the uncertainty of future maintenance: is it still correct to focus on the target of full coverage by 1991, implying a heavy direct commitment by (and to) external firms which have the capacity and enjoy favourable conditions for meeting the target? Or should attention be turned now overwhelmingly to building up the Tanzanian capacity for maintenance, and new supplies be limited to those which the Tanzanian water authorities can execute (and can be assured resources to execute) at the same time as maintaining all existing supplies?

In a dilemma which is as stark as this, the hope is being expressed that contributions from the community can basically solve the problem of maintenance. Ideally, in this view, simple water systems could be constructed and handed over to the villagers, and the dilemma would disappear. In practice, it is recognized that a MAJI maintenance team would be required to do the bigger jobs, but the more that can be done without calling upon it, the better.

1.b. Lower construction costs for the water authorities

This applies primarily to gravity schemes. On other cases, the savings from self-help labour are relatively small on projects undertaken by water departments (not villagers' own projects). In Malawi, gravity schemes have been built recently for an average of \$ 8 per capita served, by making extensive use of self-help labour. There are a number of exceptionally favourable circumstances there. Nevertheless, if such figures could be even approached in geographically favourable areas of Tanzania, a greater priority could be given to cheap gravity schemes. As it is, "according to some estimates of regional water engineers, the average cost saving obtained on piped schemes if all unskilled work is done by self-help amounts to only around 15% for gravity supplies and 8% for pumped supplies under the current mode of operations."

1.c. A better match between community needs and agency provision

Many cases are reported where villagers cannot (or cannot conveniently) get clean water from a supply because of deficiencies in design and execution (see in particular Mujwahuzi 1978 ¹). One answer might be that this is simply incompetence and the need is for improved training. It is fairly clear, however, that many of the problems could also be solved if existing staff discussed needs and problems, including technical problems, with the villagers and respected their views.

Beyond this, however, is the need for plans to take into account the villagers' expressed needs for water for various purposes. Where water is needed for economic use (e.g. livestock), the details need to be fully discussed (the villagers are the experts in what the needs are and the men in particular will be willing to contribute to construction and maintenance). Similarly, it is essential to discuss with the women, who are the experts on the use of domestic water, what are their needs and to solve potential problems over taste, colour, etc. which might lead to a good source being rejected for drinking.

1.d. Greater health benefits than from water provision alone

One of the two reasons for providing improved water (and in many situations the other, greater convenience, does not apply) is to improve health, but providing water alone will have little effect if the water is contaminated after it leaves the supply point and if the same diseases continue to be transmitted by other routes. There is a need to change hygiene and sanitation practices, and in my view to do this in conjunction with the provision of water supplies rather than by relying on the work of other departments. In particular, when people are mobilized around the introduction of a supply, they can take collective decisions and actions over hygiene and sanitation. Thus there is a need for a community health education component in any schemes for community participation, and the component should follow participatory principles (dialogue, not one-way flow of information and exhortation).

¹) Mujwahuzi, Mark: "A study of rural water supply in Dodoma District", BRALUP Research Paper No. 57, 1978.

1.e. Interim improvements on unimproved sources, upgrading of improved ones

Before the authorities can provide water to every village, there is much that local communities could do to improve existing sources with only a little help and guidance (materials to build a parapet around a well, or technical help with protecting a spring, for example). There is a question whether villages will accept the idea of doing anything like this, when they have been promised a "better" solution by government; when men would have to do the work whereas women might see more benefit or when it would result only in improved water quality which is not a need strongly felt by villagers in contrast to improved access. But a lot would probably depend on how proposals were presented to them.

Better-off villages might, on their own initiative and responsibility, undertake upgrading of supplies (e.g. extending a pipe network around the village). Again some help would be required. This could be the main way in which supplies are improved beyond current minimum criteria, at least pending the completion of 100% coverage.

1.f. Enhancement of village cooperation

Community participation is not simply a means to a short-term technical goal, but a way in which people can become less dependent on outsiders by working together. This is central to Tanzania's policy for the villages. It implies that community participation in water supply should be pursued in a way which gives maximum opportunity for village cooperative initiative, and works hand-in-hand with programmes for developing village and cooperative organizations. It means seeking opportunities to use these, e.g. not only for administering and maintaining the water supply but also for manufacturing by village craft or industrial cooperatives.

1.g. Development of villagers' skills and capacities for self-reliance

Water systems introduced by government or foreign experts tend to use technical solutions which villagers cannot easily be trained to understand. This is one reason why maintenance fails, and one response is to seek a "maintenance-free" handpump, for example. But even the best pumps break

down in the end, and another answer is to ensure that the village capacities are developed, by adopting intermediate technological solutions in which villagers can be easily trained - one or two steps above their current knowledge rather than totally incomprehensible without a long form of training that would equip the trainee for a job in town.

Of course, villagers will not want intermediate solutions if offered a choice between them and advanced technology: no-one chooses a smaller gift. Perhaps intermediate solutions are most useful in the context of interim improvements as discussed under 1.e. However, there is scope for experimentation. At the stage of construction, there is no such contradiction: villagers can well be trained in construction work.

2. ORGANIZATIONAL OPTIONS AT VILLAGE LEVEL

2.a. Committees

It is common ground that a committee is needed in the village to take overall control of the village water supply. This could be the Primary Health Committee, as suggested by VIAK ¹⁾ to ensure integration with other health-related activities. Or the water committee could be a sub-committee of the former. The DANIDA SEC group ²⁾ suggests, on the other hand, a "Users' Association" with a majority of women - or at least several women members. Perhaps in some places the Women's Association might itself form the water committee? The point is that women are likely to be more motivated to ensure things are done. Is there perhaps also an argument for giving a role to the statutory committee of the Village Council, the Education, Culture, and Social Services Committee?

¹⁾ VIAK for Tanzania, Ministry of Water and Energy: Implementation Plans, Rural Water Supply, Lake Regions. Final report draft, 1981.

²⁾ BRALUP/CDR Socio-Economic Water Master Plan Study Iringa Mbeya Ruvuma, Quarterly Report, DANIDA, February 1st, 1981.

2.b. Maintenance - who pays for what?

A more difficult question which needs to be faced squarely is that of the incentive for people to carry out maintenance tasks, and whether it can be expected that villages will pay for maintenance. A complicating factor is that maintenance activities range from cleaning up around the pump, prevention of vandalism, and notification of problems up through preventive maintenance of small repairs to major repairs and replacements. If villages are to be responsible for any payment for maintenance, it will not be easy to define exactly what they are responsible for, or to ensure that they don't leave the problem until it gets worse and becomes the responsibility of government.

2.b.i. The voluntary option is not promising. At first, a volunteer may be made to feel important and that his effort is recognised. At first, too, a volunteer may have come forward in order to get the training, or because he hoped it would lead to a paid position, or simply because the tasks were different and interesting. These effects wear off. There is one possible exception: women in particular may be prepared to undertake small tasks indefinitely, perhaps just in respect of one water-point which is near their house. In part, this may be because of the direct advantage they gain from the water themselves; in part, also, it is probably because their comparatively low status is relatively more enhanced, and the small recognition they get from doing the job is enough for them. Children may be used for some tasks for this reason too.

It may even be that women, if they would be selected and trained for even major maintenance tasks (against inevitable opposition) would be willing to carry them out voluntarily and for an indefinite time. As far as I know, this has not been tried. The open questions are (1) whether it would be possible to find women who would be supported by their husbands in carrying out this role - perhaps women without husbands could; and (2) whether they would be supported by the generality of other women - perhaps this would depend on the strength of UWT in the village.

2.b.ii. A village payment to a village member should in principle be easy, because the 1975 Ujamaa and Cooperative Villages' Act empowers villages to

generate and use their own funds. Eventually it is to be hoped that this will be the solution. For the moment, however, there are problems: not all villages have funds; the organization of village funds is not yet good; it is questionable whether a village will agree to make payment to a member for doing things villagers might consider were not serious work (the minor maintenance tasks in particular); and it is questionable whether a village which did agree would necessarily keep up regular payments without any disagreements arising between the operator and the village as his employer.

The idea of villages paying their own pump attendants was reportedly tried in Dodoma and Singida (in respect of powered pumps, and hence of full wages because they were supposed to man them full time) but it failed and these operators are again being paid by the regional authorities. It has also been reported for Dodoma (Mujwahuzi, 1978) that some villages' pumps were inoperative just because the villages did not find the funds for transport of free fuel from the district headquarters.

If villages are to make payments to their members for maintenance jobs, then the type of payment must be decided:

- A separate payment for each job done. This might be most suitable if the operator is also trained for other jobs (such as to repair ox-ploughs) for which he charges individual villagers. But there is no incentive for preventive maintenance.
- A regular sum per month plus expenses for travel or spares.
- A contract for maintaining the installations, with all expenses to be met by the operator. This might maximize the incentive for preventive maintenance, but it could be difficult to finance the operator's larger expenditures.

2.b.iii. External payment to the village to pay a village member not a wage but an incentive basis on actual hours worked (as in 2.b.ii). This is the arrangement agreed for village health workers. Technical supervision would remain with MAJI staff, but the village would be responsible through the water committee for ensuring that the work was done (the village could of course dismiss the operator).

2.b.iv. Operation and maintenance by the village health workers is a very attractive option. AFYA plans to train and appoint one male and one female part-time village health worker in each village, the man to cover environmental sanitation as part of his job. Their responsibility could very well extend also to the maintenance of simple water systems such as handpumps, where there is not a regular need for very much work every day - the maximum would perhaps be about one hour, since other health work will require most of their time in what is envisaged as a part-time job anyway. The attraction is that this cadre is already paid for, and supposed anyway to work in the intimately related areas of sanitation, hygiene, and preventive health. It will probably be seen as most appropriate if the male village health worker carries out most actual maintenance (technical side) while the female is responsible for the inferior duties - ensuring that the surroundings are kept clean etc. - but preferably the training should be identical so that both can perform both tasks.

(I understand that the manual for training the village health workers is currently being finalized, so that if this option is to be adopted, it may be necessary quickly to add material on water supply maintenance; but in any case, the details of training would have to vary according to the type of water supply in each area, and supplementary materials would then have to be prepared for each region.)

2.b.v. Independent maintenance artisans or cooperatives. The VIAK proposals suggest a Ward Maintenance Officer whose cost is carried by the villagers - it is not clear whether MAJI is to have any role employing or supervising him. It is, anyway, possible if villages are to assume any financial responsibility for maintenance, for them to pay an artisan at ward level for his services, and/or for bigger jobs to be done by a cooperative at division or district level. They would charge villages for their services, or charge the village a regular amount and be responsible for ensuring that the water keeps flowing (they might come to an arrangement with someone living near each tap or handpump to keep an eye on it). Actual sale of water to individuals, however, does not conform either to Tanzania's policy or broader social goals, not to the aim of keeping down costs; also, it would result in some people preferring to use polluted sources.

2.c. Mobilization of self-help labour

Mobilization is apparently now done by "political and administrative officials" (Tschannerl, 1979¹). The DANIDA SEC group proposed that the Extension Unit attached to MAJI (see below) should be instrumental in the mobilization through the water committee ("Users' Association").

One of the reasons why self-help labour has probably been less effective than it might be is that it has been treated as unskilled manpower only. Perhaps this will only change if the technical staff (not a separate extension staff) are involved more closely with the villagers, taking part in mobilization and also in training villagers to carry out semi-skilled tasks such as constructing tanks - even if this required extra time.

2.d. Health education activities

What is needed in the village if practices are to be changed, is informed discussion in a health committee which should include women and ordinary villagers as well as the more educated (e.g. a teacher), concerning which practices can and should be changed. There can then be a collective decision to change these practices, and mobilization by the committee encouraging people to do so.

To get an informed discussion, it will probably be desirable for the staff of the extension or promotion unit (see below) to bring a technical knowledge of disease transmission (water-related) to the group and for them to start the discussion. This means they must be trained in appropriate techniques of health education.

A complementary approach would be through a national radio campaign on water: the committees would receive study materials and listened to radio broadcasts, and organize other groups to do so too (see 3.c).

¹) Tschannerl, Gerhard: "Rural water supply in Tanzania: is politics or technique in command", see bibliography C.42.

3. ORGANIZATIONAL OPTIONS AT REGIONAL AND NATIONAL LEVEL

3.a. An extension or promotion unit

A unit, separate from other MAJI departments at regional level, is suggested both by VIAK and DANIDA SEC group. A new unit without any other tasks would presumably give the necessary priority to dialogue with the community, and could develop the necessary expertise more effectively than technical staff. The DANIDA SEC group's proposal is that the Unit's staff should be drawn from the Adult Education Office, so presumably having this expertise already. Technical staff might not be able to represent the views of villagers so effectively to senior personnel.

The most obvious locus of the Unit is under the Regional Water Engineer, to be integrated with other MAJI work. Other options include answerability directly to the RDD, to the Regional Ujamaa and Cooperative Development Officer or a future Ministry of Community Development, or to a unit at MAJI headquarters.

The VIAK proposals for the Lake Regions go into some detail on the organization of a promotion unit and regional level with one or two extension workers in each district.

3.b. Increased extension work by construction and maintenance personnel

This is a possibly cheaper alternative to setting up separate extension units. It would be necessary to change the mode of operation of these departments to a considerable extent. Presumably it would be the maintenance team's task to form and liaise with water committees in the villages and carry out health education. One possibility would be the appointment of (preferably female) divisional maintenance officers. She would make a regular round of the villages in the division in rotation, checking on the wells and also convincing the water committee to sustain health education work. Such a cadre might require only a short initial training but be given further in-service training later.

3.c. A National Radio Study Group on Water, Hygiene and Sanitation

A campaign broadly on the lines on the Health (Mtu ni Afya, in 1973), food (Chakula ni Ukai, in 1975) and the current afforestation campaign could be mounted on the subject of water. Study groups would be mobilized in every village to read specially prepared materials, listen to radio broadcasts with group leaders who are given special training to explain and amplify the broadcasts and written materials, then to take whatever actions suggested in these materials they find appropriate in their villages. A series of 10 - 20 weekly sessions could cover:

- domestic water, including making interim improvements to unimproved supplies (e.g. protecting wells), rules to avoid contamination of surface waters used for drinking, rainwater catchment, dug wells; protection of improved supplies;
- cholera, schistosomiasis, diarrhoea, scabies: how different water-related diseases spread and how they can be prevented; the role of clean water sources, of keeping water clean, of hygiene (special emphasis on handwashing with soap);
- sanitation, extending as appropriate the lessons of the low cost urban sanitation project to the countryside; special emphasis on latrines for children;
- water for livestock;
- small irrigation and vegetable growing (including also the use of surplus runoff from pumps etc.).

3.d. Small-scale manufacture of materials and equipment

The Small Industries Development Organization could play an important role in coordinating production by small independent producers and cooperatives, for instance of handpumps.

ANNEX D

Paper presented at the BRALUP-IRC Workshop on Village Water Supply and Community Participation, Dar es Salaam, July 1981.

PROPOSITIONS FOR THE DISCUSSION OF THE SOCIO-ECONOMIC FEASIBILITY OF VILLAGE PARTICIPATION IN THE PLANNING, IMPLEMENTATION AND MAINTENANCE OF A MODERN WATER SUPPLY

by J.H. Konter

1. Villages without a modern water supply

1.1. Data collection

The data in this discussion paper were collected by interviewing village leaders in 20 randomly sampled villages in Kilosa and another 20 villages in Morogoro district in March 1981. Among those 40 villages, 7 villages in Morogoro district and 3 villages in Kilosa district did not have any modern water supply.

1.2. Village efforts towards a modern water supply

Among the 10 villages which did not have a modern water supply, 5 villages sent a delegation to district or regional headquarters requesting a modern water supply. Moreover, one of those villages seemed to have asked for equipment in order to start themselves, and the remaining 5 villages which did not send a petition for a modern water supply, were ready to offer unpaid labour for the installation of such a water supply.

1.3. Preferences for a special kind of water supply

In almost all the villages, leaders did not know much about the different possibilities of a modern water supply and of course they were not supposed to know which systems of a modern water supply would be technically and economically feasible in their villages. Consequently almost all villages opted for any modern water supply stressing the shallow wells which are best known in the area. Only one village had an exclusive preference for a gravity supply.

1.4. Reasons for having a modern water supply

When asked for which purpose leaders would like to have a modern water supply, the leaders in all the villages but one wanted a modern water supply for irrigation, cattle breeding, building and industry and in the last instance for domestic use. Only one village wanted a modern water supply for domestic use only. However, one must bear in mind that almost all persons who were interviewed, were men. Consequently if one wants to introduce a modern water supply for domestic use, women in the villages should be consulted and mobilized. On the other hand a modern water supply for agricultural and industrial use will strongly appeal to men.

1.5. Village contribution towards a modern water supply

In the 10 villages without a modern water supply, village leaders were prepared to contribute labour free of charge towards the installation of a modern water supply. Moreover, all villages but one were prepared to pay a monthly contribution in cash. 3 villages were prepared to pay Tshs 480 per month, 4 villages Tshs 300 per month and 2 villages Tshs 150 per month whilst 1 village was not prepared to pay anything; this was the same village which wanted a modern water supply for domestic use only. Consequently one has to bear in mind that villages may not be prepared to give a cash contribution towards a modern water supply if this supply is installed for domestic use only. The more a modern water supply can be used for agricultural and industrial purposes, the more cash villagers may be

prepared to pay for it. Again one has to bear in mind that this is the attitude of men. As soon as women have their say another picture may emerge.

1.6. Village proposals for raising a cash contribution

In the 10 villages which have no modern water supply, leaders were asked how they intended to raise the money for a cash contribution towards a modern water supply. 3 villages had no idea at all but among the remaining villages some villages intended to raise the money via agriculture, others via a crop-levy, beer-levy or cooperative shop and 1 village intended to raise money by providing transport facilities.

2. Villages with a modern water supply

2.1. Functioning of modern water supply

Among the 30 villages which had a modern water supply, 22 villages had shallow wells whilst one of them had shallow wells and a gravity water supply, 6 had a water supply via an engine pump and 2 had a gravity water supply. Of the 30 villages only 18 stated that they were satisfied with the modern water supply, 3 expressed a clear dissatisfaction and the other 9 did not give any comment.

2.2. Village efforts towards a modern water supply

Among the 30 villages, 23 villages contributed towards a modern water supply by paid labour. Moreover 5 of them provided labour free of charge also and one village contributed by paying cash. 4 villages provided all the labour free of charge and 3 villages did absolutely nothing. Moreover, 13 villages contributed towards the planning of the new water supply by indicating possible water-points.

2.3. Complaints about the modern water supply

17 villages complained about frequent breakdowns of the modern water supply but more than 20 villages complained about the scarcity of water-points and the distance which had to be covered in order to reach them. Consequently 26 villages were still using the traditional water supply whilst only 4 villages made the complete change over to the use of the modern water supply.

2.4. Village contribution towards the maintenance of a modern water supply

Only 8 villages had a pump attendant. 5 of them were paid a salary of Tshs 480 per month; 1 was paid Tshs 450 per months and 2 pump attendants were paid nothing. However, the fact that those 8 villages had a pump attendant did not prevent frequent breakdowns of pumps: 7 of these 8 villages complained about frequent breakdowns.

2.5. Economic feasibility of a cash contribution by villages for a modern water supply

Among the 8 villages which paid a pump attendant only one had a cash income from a communal farm. Consequently those villages raise the money by obligatory or voluntary contributions of villagers. Moreover, one cannot assume that villages with a high income from communal shambas are prepared to pay a pump attendant.

Among the 40 villages in which the reseach was carried out, only 12 villages had communal fields from which they earned a cash income. 4 of those villages earned by these communal activities around Tshs 500 per year. Another 4 villages earned between Tshs 1000 - 2000 per year whilst the remaining villages earned around Tshs 7000, 10,000, 13,000 and 26,000 per year.

If villages would be prepared to pay a pump attendant Tshs 400 per month, only 4 of the 40 villages would be able to pay such a person by the earnings from a communal activities. Moreover it is doubtful whether villages would be prepared to pay money for a pump attendant from their

communal earnings as the task of a pump attendant entails little work and as the provision of water may not rank high among the priorities set by villagers.

Studies into the desired consumption patterns of villagers show that an increased money income would be spent on better food (not including water), clothes and housing. By a further increase of money income, investments would be made by them in order to boost production. Moreover, studies into the resettlement of farmers into concentrated villages in order to provide them with better public services, indicate that farmers prefer measures to raise their individual cash income to better public services.

3. Conclusions

3.1. Lessons from the past

All modern water supply systems in Tanzania were installed without much consultation of villagers. Consequently:

- Villagers were not asked for which purposes they would like a modern water supply.
- Villagers were not consulted on their preferences for a special water supply within the technical and financial possibilities.
- Villagers were scarcely consulted on the number and sites of the water-points.
- Villagers were not consulted on the possible techniques of drawing water from these water-points.
- As villagers were barely consulted on the provision of a modern water supply, they were not eager to provide labour free of charge or a cash contribution for a project which was more or less forced on them.
- After the installation of the modern water supply almost all villages continued to use the traditional water supply as well because
 - .. the water-points were too few or too far,
 - .. the quantity of water was not sufficient and sometimes the quality of the water was not good,
 - .. or the mechanisms of drawing water broke down too frequently.
- As villages were not consulted on the installation of a modern water supply, they did not show too much eagerness in maintaining this installation.

- The consequence of this development from above is a growing number of broken down water supply systems while one is going on to install new modern water supply systems which, however, are probably doomed to the same fate.

3.2. Strategy for the future: planning and implementation of a modern water supply

Villagers should be instructed about the possibilities and advantages of a modern water supply. They should be asked about their purposes for installing a modern water supply. On this point a distinction should be made between the wishes of the men and those of the women. The men might wish a modern water supply for productive reasons only in order to be able to gain more money, part of which they might be willing to pay off for the installation and maintenance of this water supply. For the installation of a modern water supply for domestic use only, women should be consulted as they are charged with drawing water for domestic use.

3.3. When villagers reach an agreement on the purposes for which they want a modern water supply, a village organization has to be set up responsible for working out together with a technical team what kind of water points are necessary in order to reach this goal. Probably a compromise has to be worked out between the wishes of the villagers and the technical and economic possibilities. As long as there is not much response from the villagers and as long as a compromise cannot be reached the village should be given ample time to reach a firm decision.

3.4. Whilst shaping the plans for a modern water supply villagers have to agree on their contribution towards a modern water supply. The size of their contribution could enlarge the technical and economical possibilities of water supply systems, number and location of water-points and techniques of drawing water.

3.5. During the planning and implementation period great care should be taken that the village is adequately served with water; if necessary even with more than one water supply system.

By serving villages inadequately with a modern water supply system, water-points will be too crowded, drawing equipment will wear out quickly, breakdowns become so frequent that villagers have to resort to the traditional sources of water supply for most of the time.

3.6. Last but not least villagers should be instructed about the input of labour and cash for the maintenance of the water supply they have chosen and organize ways and means of raising the necessary labour and money.

3.7. At the same time district and regional headquarters should be equipped with personnel, expertise, equipment and transport for repairs which cannot be done in the villages and on the national level there should be an organization which takes care of the training of personnel, and the fabrication of equipment for drilling wells and drawing water which can be sold to the regions, districts and villages.

3.8. In order to reach this goal a campaign should be launched from national to village level.

3.9. By this approach the target of providing all villages in Tanzania with a modern water supply in 1991, might not be reached. However, by the present way of implementation, villages are not adequately served with clean water, and by the time the last village in Tanzania is provided with clean drinking water, most of the installed modern water supply systems will have broken down.