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BRALUP
Bureau of Resource Assessment and
Land Use Planning

University of Dar es Salaam
Dar es Salaam, Tanzania

VILLAGE WATER SUPPLY AND COMMUNITY PARTICIPATION IN TANZANIA

July 1982

Report of a National Workshop held in
Dar es Salaam, Tanzania, July 14-16, 1981

Organized by the Bureau of Resource Assessment
and Land Use Planning, University of
Dar es Salaam, in association with IRC

Preface

A National Workshop on Village Water Supply and Community Participation was convened from 14th to 16th July 1981 in Dar es Salaam, Tanzania by the Bureau of Resource Assessment and Land Use PLanning, University of Dar es Salaam, in association with the International Reference Centre for Community Water Supply and Sanitation.

The Workshop was organized both in the context of BRALUP's growing involvement in the coordination of research on the topic, and of the IRC's Project for the Development of a Community Participation Component in the Tanzanian Rural Water Supply Programme. This Project is supported by the Netherlands under a bilateral aid agreement with Tanzania.

Abstract

"Village Water Supply and Community Participation in Tanzania, a report of a National Workshop held in Dar es Salaam, Tanzania, July 14-16, 1981", International Reference Centre for Community Water Supply and Sanitation, Rijswijk (The Hague), The Netherlands and Bureau of Resource Assessment and Land Use Planning, University of Dar es Salaam, Tanzania, V, 139 pp, October 1981.

This report summarizes the papers presented and the discussions held on the rationale for increased community participation in the planning, construction, operation and maintenance of village water supply systems, and the means by which such increased community participation can be introduced in Tanzania. It concludes with the resolutions which were agreed at the end of the workshop.

Keywords:

VDC:

BRALUP - The Bureau of Resources Assessment and Land Use Planning was established at the University of Dar es Salaam in 1967. It is a multidisciplinary research and training organization concerned with resources and development. Its mandate allows it both to initiate research activities and also to undertake them on behalf of the various government ministries, the university and other national and international institutions. Since its inception it has worked in the following main fields of interest - environment and land use, population and demography, hydrology and rural water supply, regional planning and rural development, food and energy issues. The availability of staff at any one moment determines the level of emphasis.
From its inception BRALUP has given high priority to the issue of rural water supplies. Since there are institutions to handle the more technical sectors, BRALUP has focused on the socio-economic issues of rural water supplies.
Research findings are presented in two regular series of publications - Research Papers which are automatically distributed to the main national institutions and the Research Reports series which are produced and distributed in limited numbers. From time to time, the BRALUP organizes conferences, workshops and other training programmes.
Additional information can be obtained from: The Director, BRALUP, P.O. Box 35097, Dar es Salaam, Tanzania, telephone number 49039.

IRC was founded in 1968 by an agreement between the World Health Organization (WHO) and the Netherlands Government. It is an independent foundation. IRC's main purpose is to promote and support the creation of safe drinking water and sanitation facilities in the developing world. IRC works through national institutions, agencies and regional centres in the rural and peri-urban areas of Africa, Asia and Latin America. The Centre cooperates closely with United Nations organizations, such as WHO, the World Bank, UNDP and UNICEF and with other member organizations in the UN Decade Steering Committee. In addition, IRC acts as WHO Collaborating Centre for community water supply and sanitation. It is assisted in its work by these organizations and by bilateral donors and institutions in the industrialized countries.
IRC's major programmes are in the field of: (1) Information Support and Services; (2) Technology Development and Transfer; (3) Manpower Development and Training; (4) Community Education and Participation, and (5) Programme Planning and Evaluation. Support is provided by means of guidance and training material, seminars and workshops, research and demonstration projects, as well as by general support to the development of national facilities.
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1. INTRODUCTION

There is increasing interest in Tanzania in the potential of community participation to overcome some of the problems encountered in providing water to the rural population, and this is coupled with the realization that the needs of the people are most likely to be met if government and external agencies work with the people to meet them. This approach is in conformity with Tanzania's policies of self-reliance at national and especially at village level. Hitherto, it can be said that these policies have not found systematic application in the way in which rural water supplies are provided.

The context is also one of increasing emphasis on the need to save costs, and particularly foreign exchange costs, through the use of water supply technologies which are inexpensive and which, in particular, do not require imported fuel for their operation. Thus, special attention will be paid to shallow and medium-depth wells with handpumps and to gravity schemes, while the potential of windpower, solar power, and water power (hydraulic rams) will be explored. One of the reasons for turning more to community participation is to reduce costs to the national budget, including both costs of construction and, perhaps more important, costs of maintenance. Maintenance costs can be reduced if the local community accepts responsibility for simpler maintenance tasks in relation to these simpler water supply systems. The question is not only one of cost: currently there is a general lack of maintenance, such that perhaps 50% of constructed schemes are inoperative.

To many of those concerned, however, the problems go much further than these budgetary considerations, and call for a more thorough re-examination of current practices and a closer involvement of the local population in planning as well as in implementation.

The purpose of the workshop was to bring together people with a wide range of experience in implementation or research on rural water supply in Tanzania, to address the question of community participation - for

the first time in such a forum. It was hoped that the participants, though starting from different perspectives, could come to a collective view on the forms of community participation required and the next steps to be taken.

It is likely that the next steps will include the establishment of programmes of community participation in several regions of the country. In some cases these programmes are recommended by water master plans or implementation plans recently completed or in preparation. These plans have been drawn up independently in different zones of Tanzania - blocs of regions in which aid to the water sectors from participar donor countries is concentrated. It was also the purpose of the workshop to provide an occasion whereby these particular proposals could be discussed and coordinated.

2. BACKGROUND

2.1. A Decade of BRALUP Reseach on Village Water Supply

The Bureau of Resource Assessment and Land Use Planning has been involved in research on village water supply since 1969-1970. In the early 1970's, BRALUP worked on the planning of water resource development in Tanzania as a whole and on particular water projects of large and medium size. BRALUP researchers also studied patterns of water use by the local population, and the socio-economic impact of the introduction of new supplies.

In April 1971, in conjunction with the Ministry of Water and Power, BRALUP organized a conference on Rural Water Supply in East Africa at the University of Dar es Salaam. More than 100 delegates attended, and 23 papers were presented. The proceedings were published as a BRALUP Research Paper[1)].

While some of this early research included sociological aspects, including the capacity of local institutions to mobilize self-reliant development, in 1973-1975 a research project was started with the explicit aim to investigate the means of making self-help a productive force in the development and supply of water to rural communities. It was carried out in conjunction with assessment of the impact of supplies built by self-help[2)].

In the late 1970's BRALUP researchers were involved in a base-line study for the evaluation of the socio-economic impact of the UNICEF-supported Wanging'ombe Rural Water Supply Project[3)], an examination of the condition of rural water supply schemes in Dodoma District[4)], and

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1) A bibliography of BRALUP publications on rural water supply is given in Annex 2. For the 1971 conference proceedings, see Research Paper No. 20.
2) Annex 2, Research Paper No. 37.
3) Annex 2, Research Paper No. 54.
4) Annex 2, Research Paper No. 57.

studies of the patterns of water use in relation to water supply planning[1)]. At this time also Professor Mascarenhas, Director of BRALUP, was engaged by the Joint Committee on Health Policy of UNICEF and WHO as the advisor of the JCHP study on "Water and Sanitation as a part of Primary Health Care".

In the most recent period (1980-1981), BRALUP has acted as a centre for socio-economic research in relation to water master plan preparation and implementation in various regions. In addition to its own staff, a number of external social scientists engaged in this work have been attached to BRALUP. Thus, work has been done for shorter or longer periods, or is ongoing, as follows:

- In Rukwa and Kigoma Regions, by Dr. A.S. Kauzeni and Messrs. J. Lomøy and K. Ronningen (the last two of the University of Trondheim, Norway). At an earlier stage, in 1977, Mr. H. Bantje also worked in Rukwa.
- In Iringa, Mbeya and Ruvuma, by Dr. M.R. Mujwahuzi and Messrs. O. Therkildsen and K. Laubjerg (the last two as a DANIDA-supported team from the Centre for Development Resaerch, Copenhagen led by Dr. J. Boesen from the CRD). Mr. Therkildsen is currently working in Iringa, Mr. Laubjerg in Mbeya; another researcher, Mr. Kapinga, has begun parellel work in Ruvuma.
- In Morogoro and Lindi, by Mr. C. Mogella (research related to the Finnwater project in those regions).
- In Kilimanjaro (initiated) and in Mwanza, Shinyanga, and Singida (proposed), by Dr. I. Andersson and C. Hannan-Andersson of the University of Lund, Sweden.
- In Coast and Dar es Salaam Regions, by Mr. H. Bantje (earlier, in 1978-1979).

2.2. IRC's Project for the Development of a Community Participation Component in the Tanzanian Rural Water Supply Programme

Since 1977, the International Reference Centre for Community Water Supply and Sanitation has been developing a Community Education and

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1) Annex 2, Research Paper Nos. 30 and 31.

Participation Programme. This work has so far resulted in the publication of a comprehensive literature review[1], of a guide for national-level planning in the field[2], of a monograph on concepts and methods of community education and participation in relation to water[3] 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-country Community Education and Participation Programme.

The IRC Project for the Development of a Community Participation Component in the Tanzanian Rural Water Supply Programme was initiated in February 1981. 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 methods of introducing greater community education and participation into their work in rural areas. The specific objectives are:

- assessment of the need for and the aims of a community education and participation compoment,
- development of practical models for such a component,
- their field testing in one region, including the development of an organizational structure,
- coordination with parallel initiatives in other regions, and nationally
- appraisal for implementation in future programmes.

The Project is scheduled for completion in 1982, with the field testing stage beginning in January-February 1982. After the completion of the Project, it is expected that the organizational structure for community participation established in the Project's pilot region will

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1) Van Wijk-Sijbesma, Christine: "Participation and Education in Community Water Supply and Sanitation Programmes - a Literature Review", IRC Technical Paper No. 12, revised edition, December 1981.
2) Whyte, Anne: "Guide for the Design of a National Support Programme for Community Education and Participation in Water Supply and Sanitation", final draft, April 1980.
3) White, Alastair: "Community Participation and Education in Water and Sanitation - concepts, strategies and methods", IRC Technical Paper No. 17, June 1981.

be continued, and that it will be replicated in other regions or that the lessons learnt will be applied in planning participatory approaches in other regions/nationally.

As part of the Project, BRALUP has undertaken a social feasibility study for a community education and participation strategy in Morogoro Region. A preliminary report on this study is reproduced here: the paper presented to the Workshop by Dr. J.H. Konter, "Propositions for the discussion of the socio-economic feasibility of village participation in the planning, implementation and maintenance of a modern water supply".

It was intended that detailed models should be developed on the basis of the research by social scientists attached to BRALUP, for presentation at the Workshop. This work had, however, not advanced sufficiently (much of the social research is still in progress): it was considered, however, that little was to be gained by postponing the Workshop until more detailed models had been prepared. The Workshop did have before it two papers presenting broad outlines of two participatory models: those by K. Laubjerg and O. Therkildsen and by A. White.

3. PAPERS PRESENTED AT THE WORKSHOP

ISSUES IN VILLAGE WATER SUPPLY AND COMMUNITY PARTICIPATION IN TANZANIA

by

Prof. A.C. Mascarenhas

When the first workshop on rural water supply was sponsored by the Economic Research Bureau/Bureau of Resource Assessment and Land Use Planning (BRALUP), more than ten years ago, there was no specific reference to community participation. The workshop in 1969 called Rural Water Supply in East Africa[1] was in preparation for the Rural Water Supply Conference which was to be held the following year[2]. The organizers of the workshop has four stated objectives; the acquaintance with various existing programmes of research and implementation in rural East Africa; the identification of common problems faced by the participants; the comparison of ideas and experiences dealing with the two problems and the drawing up of the agenda and the major issues for discussion during the 1970 conference[3]. Two out of the six sections of the workshop dealt with issues pertaining to the village or to community development.

However, a paper by Franz van de Laak discussed community mobilization and participation[4]. Writing about the Ndoleleji Water Development Scheme, he noted that it originated from the rural community centre and the agricultural scheme at Ndoleleji, in Shinyanga Region. Since the population suffered from the lack of water, it seemed that water could be used as a rallying point. The community seems to have participated by providing free labour, by having a communal farm or by a monetary contribution decided upon by the Village Development Committee. We have Mr. van de Laak with us today and because of his persistence we will no

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1) Warner, D. (ed.): "Rural Water Supply in East Africa, Proceedings of the Workshop on Rural Water Supply", BRALUP Research Paper No. 11, pp. 189, Dar es Salaam, 1971.
2) Tschannerl, G. (ed.): "Water Supply, Proceedings of the Conference on Rural Water Supply", BRALUP Research Paper No. 20, pp. 273, Dar es Salaam, 1971.
3) See Preface in Warner, op.cit.
4) Van de Laak, F.: "The Ndoleleji Water Development Scheme, in Warner, D. (ed.), op.cit.

doubt look forward today to hearing his views. Another paper by a Tanzanian, Mr. H.A. Mbelwa, on water supplies in the Kibaha villages, has a section on the villagers' participation in the well digging programme[1]. There seems to have been a campaign by the community development officer in Kibaha to promote improved water supplies. If a request was then received from the community leader, the extension staff from Kibaha Health Centre came with equipment to start the well. There were both technical and social problems faced by the extension staff. It is worth noting here that villagization was at that period still in its infancy.

By the time the conference was held in 1971, the attention of most of the participants had shifted to planning, policy issues and hydro-meteorology and hydrology were considered as fundamental to water development plans[2]. Once again, there was little evidence that community participation was a priority and even the recommendations from the conference are silent about the problem. However, a paper by Matango and Mayerle reveals that there were researchers who were concerned about community participation[3].

The two authors in evaluating opportunities and problems of self-help in rural water supply raise several very important questions. First, was the question about the best rural development strategy if the aim was the improvement of the village. Was the aim to make plan and impose them on the people or could development be brought about by giving some autonomy to local units such as the Rural Development Committees? They hint that the conflicts of the two principles might jeopardize development. The two authors come to the conclusion that there are convincing reasons for them to exploit the feeling of self-help. Secondly, that the education of people to understand their own situation will enable them to make the desired changes.

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1) Mbelwa, H.A.: "Water Supplies of Kibaha Villages at Coast Region, Tanzania", in Warner, D. (ed.), op.cit.
2) Tschannerl, G. (ed.), op.cit.
3) Matango, R.R. and Mayerle, D.: "The Experience with Self-help Water Schemes in Lushoto District", Tschannerl, G. (ed.), op.cit.

In the example from Lushoto, the regional administration released 5,495/= as well as one technician and a vehicle for the construction of ten shallow wells. It is interesting to note too that during the 1970's the Community Development Trust Fund financed some 700 water schemes each of which has a self-help element[1)]. Although today one seldom hears the word "self-help", nevertheless, many changes have taken place in Tanzania and this makes the issue of community participation even more relevant in the 1980's.

There are four background factors which have changed since the 1970s and are of fundamental importance in understanding the potential for community participation in Tanzania in the 1980s. First, is the fact that very soon all the 20 regions in the country will have a water master plan. From a technical side significant data base now exists on the hydrology and the hydrogeology of the regions. Since the gap in knowledge about water is being bridged, the technical problems in this field are not as severe as they were in the late 1960s and the 1970s. To give an example of the improvements, a hydrometeorological survey of South Western Tanzania, covering nearly 20% of the country, was started with NORAD assistance in the early 1970s and was only completed recently. However, a considerable amount of work still remains to be done - but the point is there has been progress. Secondly, the majority of people in Tanzania now live in some 9,000 odd villages and a tremendous hurdle seems to have been removed. While the logistics of providing water for people have been vastly simplified by villagization, the problems of implementation are still formidable - given that most of the resettlement was not based on any serious known water availability criteria. Thirdly, rural water supply still remains a developmental priority of the government and the party. This effectively means that there are many lessons which can be learnt from the last few years.

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1) Cheshan, (Lady) M.: "Community Development Trust Fund of Tanzania Village Water Wells Programme" in Warner, D. (ed.), op.cit.

Finally, and perhaps the most important fact is that administrative decentralization has been followed by villagization[1]. The logical and significance of this is that with the existence of village governments, the time has come for villagers to have greater responsibility and say in decision making. Community participation is fully in line with government policy but unless it is actively promoted it will not materialize automatically.

In a study rushed out to monitor a UNICEF financed scheme in the Wanging'ombe area, it was pointed out that despite many problems, some of them could be resolved through the participation of the local people. However, at present the people's sense of ownership is missing and their expectations from the scheme are only short term and modest[2].

I am conscious of the fact that knowing about the problem is not the same thing as solving the problem. Therefore, this workshop is an exploratory one and there should be no illusion that we know all the answers on how to implement a participatory approach. Several outstanding issues and questions still remain with us, such as:

- The definition of participation[3]. There are many definitions for participation. The World Bank for example "includes the decision to operate the system, the contribution to construction and the payment for receiving services from the system[4]".
  Some think and define it as a voluntary system of indentured labour - in fact a tax. In the 1970s, community participation was seen to mean

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1) NYERERE, J.K. - Decentralization, Govt. Press, Dar es Salaam, 1972.
2) STAHL, M., SACHAK,N., MKUSA,G. - A Socio-Economic Study of Water Related Problems in Northern Njombe, Bralup Research Paper No. 54, Dar es Salaam, 1978.
3) A Comprehensive Literature survey on the topic, recently published, can be found in WIJK-SIJBESMA, Christine van, Participation and Education in Community Water Supply and Sanitation Programmes. Technical Paper No. 12 WHO/IRC, The Hague, 1979 (Revised ed., 1981).
4) WORLD-BANK - Issues in Village Water Supply, Report No. 793, Washington, June 1975, Annex 4, p. 2.

digging trenches for pipes, free of charge. In some instances, the trenches have then been allowed to cave in with no benefit to any one.

- There is also a fallacy in some quarters that community participation means that there is no need for any resources from outside the village. Indeed cooperation and collaboration must be a first sign of participation and adoption of a new technology from outside leading to greater benefits and self-reliance.

- The question still remains whether our administrative structure is versatile and flexible enough to accommodate and encourage village governments to have greater responsibility. One senses that people in the villages have abdicated their responsibility for water to the government. The attitude of many villagers is that government promised them water[1)]. The government has also, to a certain extent, encouraged this assumption by being ambiguous in addition to looking at the supply of water as a technical issue. It is time to re-emphasize that there is a role for both villagers and village governments to do something about water supply.

- How exactly are innovations in water supply technologies actually adopted? When handpumps continue to be imported from Holland, Finland, India, and other countries, the question of the relationship between technology, donors, bureaucracy and participation becomes very interesting. Questions on this issue have yet to be asked. The answers may lead to more questions pertaining to the evaluation and manufacture of local pumps. Would be presence of cheap readily available - on-the-shelf - pumps and spares make villagers more responsive?

- A very related issue to the above is the attitude and beliefs of people which have a bearing on rural water supply. Is participation

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1) TSCHANNERL, G. and MUJWAHUZI,M.R., et. al. - Impact of Rural Water Supply: Eight Self-Help Schemes in Arumeru, Masai and Lushoto Districts, BRALUP Research Paper No. 37, Dar es Salaam, May, 1975.

greater in communities who have a tradition of water management in contrast to those who have abundance of water like those living near lake shores?

- What is the most effective communication channel we should develope and generate to bring about community participation and who should be responsible for the training of trainers in the field? If we are going to promote simple cheap technologies, then the training will have to change and so too the responsibilities of villagers. It is difficult to believe that in villages where there is a smith, a watch repairer or a mechanic, that there is no skill available to repair a water handpump!

- Is the opportunity being missed of local people doing more for themselves in water supply because of our emphasis on domestic supply? The incentive to induce people to do more for themselves may well be the promise of water for livestock and other economic purposes including small scale irrigation. Water may not rank high as a priority among villagers but in contrast there are only a few villages where economic and social development is low priority[1)]. Given the existing situation in the villages, should priority be given to those who are in most need or should it be for those who are ready to contribute their share in the process of social and economic progress?

- To what extent have large scale investments impeded local development and community participation ? The relative merits of the provision of social services including water supply contrasts with individual giant schemes even when located in rural areas. For example, the proposed paper mill under construction at Mufindi (which will cost over 2 billion shillings) seen to have little or no direct benefit

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1) This is why we in BRALUP approach the issue of water in a comprehensive perspective. For a recent report, see, Kauzeni, et. al. Socio-Economic Aspects of Water Master Plan of Kigoma Region. BRALUP, 1981. 81 pp.

for people in the rural area[1]. I seems necessary to re-emphasize the needs of people and bring about rural integrated development for the benefit of the rural population.

I have raised many more questions than I have answered. This workshop is a sortie in which we can frankly discuss the issue of community participation. The experience and ideas which you bring will contribute towards realistic policies in rural water supply and community participation. We have a very wide representation at this workshop including ministries, different sections of the Ministry of Water and Energy, International and UN agencies, consulting firms and the University of Dar es Salaam and we should be able to make progress. Government efforts have brought some positive results; our purpose here is not to slow down the pace but because the issue of water is so important, our task is to maximize the benefits.

1) Several studies on the Mufindi Paper Pulp project underscoring this point are soon to appear under a joint BRALUP/EFI Research Project.

THE ORGANIZATION OF IMPROVED WATER SUPPLY

by

Han Bantje

Surveys of improved water supply systems in the Coast Regien in 1976 and 1977 revealed that about 50 percent of such systems suffered from frequent breakdowns, mainly due to poor maintenance of pumps (1). A survey of piped water schemes in Rukwa region showed a similar situation (2). Mujwahuzi found that in Dodoma District as many as 80 percent of the piped schemes were dry (3). A piped water system only 10 km out of Dar es Salaam has design or construction errors that cause interruption of water flow for several hours daily, and sometimes for days on end (4). Although, as later discovered, this was known to the MAJI engineers no attempt has been made to correct the mistakes. No doubt similar observations could be made in any part of the country.

With so many schemes out of order so much of the time, what is really meant by official statements that X number of people "have been provided with clean drinking water"?

The explanations put forward by those responsible for this state of affairs are invariably in terms of lack of funds, transport, manpower, spare parts, etc. Such constraints are often real and a serious handicap to the implementation of water projects. But they are also to some extent convenient excuses that cover up more important structural causes.

Let us consider the organization of improved water supply with the aid of a flow diagram (figure 1). It distinguishes SUPPLY and COMSUMPTION. The suppliers are the national and regional bureaucracies with MAJI as their executive organ. They set political priorities, which are implemented according to economic feasibility. MAJI[1)] plans, designs and constructs the actual schemes.

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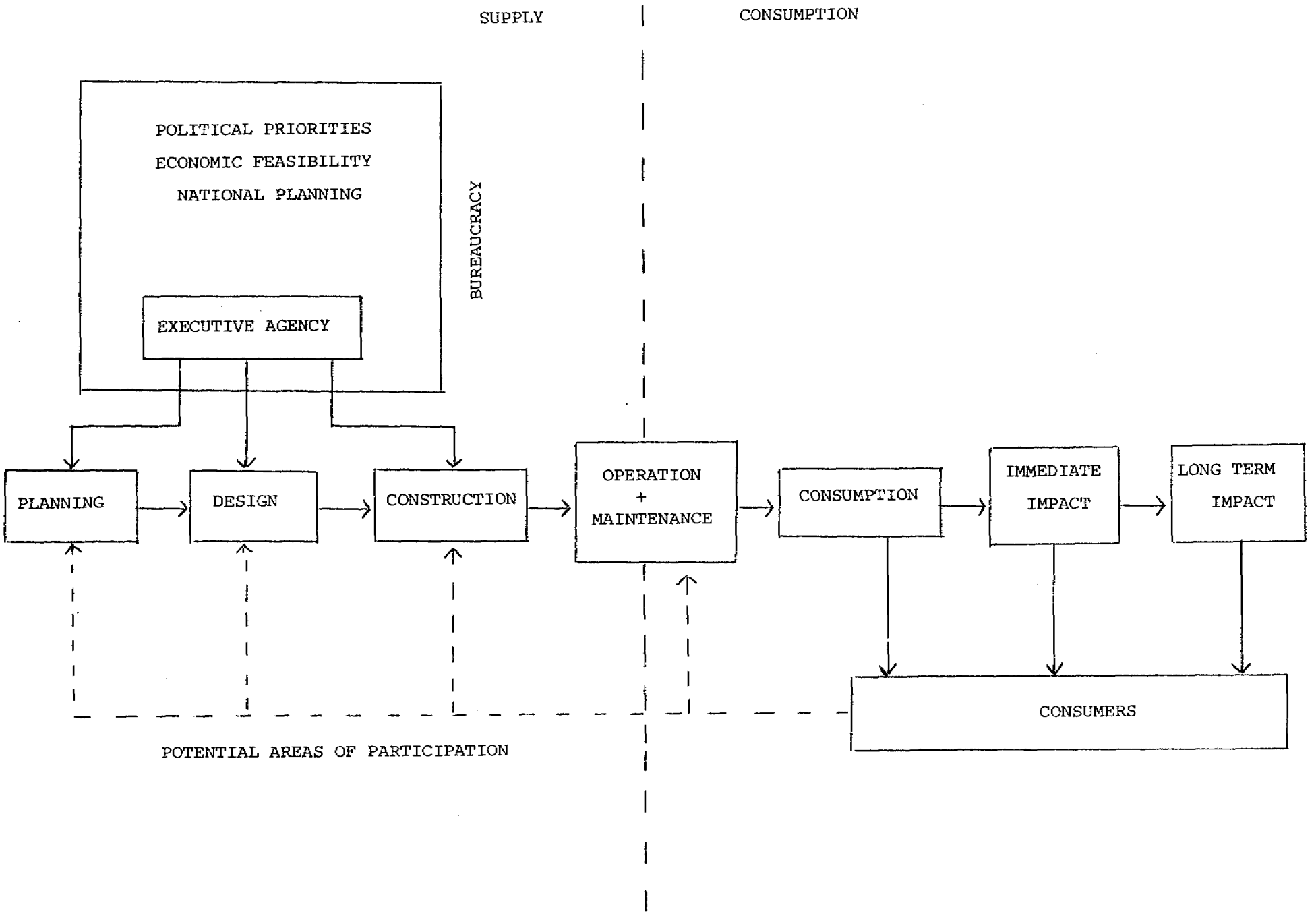
1) MAJI = Ministry of Water and Energy (from the Swahili "Water")


SUPPLY
CONSUMPTION
POLITICAL PRIORITIES
ECONOMIC FEASIBILITY
NATIONAL PLANNING
BUREAUCRACY
EXECUTIVE AGENCY
PLANNING
DESIGN
CONSTRUCTION
OPERATION
+
MAINTENANCE
CONSUMPTION
IMMEDIATE
IMPACT
LONG TERM
IMPACT
CONSUMERS
POTENTIAL AREAS OF PARTICIPATION

The MAJI bureaucracy is divided into a number of departments such as Planning, Design, Construction, Operation and Maintenance. As in many bureaucratic institutions there appears to be little integration between these departments. It is often said that the water engineers have a preference for technically more sophisticated (hence more prestigious) schemes over simple ones that might do just as well, or better. This explains for example their long-standing aversion to shallow wells, only overcome recently by a national policy decision.

What is really meant by the official statements referred to is that a supply stystem has been constructed with a design capacity to provide X number of people with water (5). If, due to circumstances outside the scheme (and sometimes even errors in the system itself), water is not coming out of the taps, it is a problem for the Operation and Maintenance department.

Remarks made during the recent parliamentary debates show that such facts are now common knowledge and openly admitted to. The Minister of Water and Energy stated that the average allocation over the past ten years had only been 140 m./-, whereas 260 m./- have been needed annually to achieve the target for 1981, which was 11 million people provided with improved water supply. At present only 7 million have received this facility. To this the MP for Mbeya remarked that is was not good to boast of having provided water to a sizeable number of people when the taps in the village were running dry (Daily News 6th July 1981). The MP for Moshi rural elaborated on this by stating: "In fact it is not correct to say that we have provided water to 7 million people in the rural areas, because most villages have received only dry pipe installation. Operation and maintenance is weak because the Ministry has only 403 employees while there are over 8000 (?) water projects. To this the Deputy Minister replied that Operation and Maintenance would be left to the regional authorities (Daily News 7781).

The Operation and Maintenance section is often weak. Here the burden of all sorts of shortages is really felt. In accordance with common bureaucratic practice there is a high of centralization. Village operators do little more than switching pumps on and off. In the Coast Region a

little more than half of them had at least a few spanners for minor repairs. But very few had any spare parts. Breakdowns have to be reported to the regional office, from where a technician has to be sent to do the repairs. In case of serious problems the pump is taken to the regional workshop, where it may stay weeks, months, or indefinitely. Incidentally, all schemes stop functioning for a day or two every month because the operator has to go and collect his salary at the district headquarters. Only the bigger schemes with two operators escape this fate.

When looking at improved water supply schemes in the Coast Region I developed a thesis that sounds almost like a truism, but nevertheless needs to be stressed in Tanzania. This is that the realisation of the presumed benefits of improved water supply not only depends on the existence of improved schemes, but on in their functioning in relation to the population that depends on them.

Social science interests

In the context of formulating socialist development policies Tanzania has committed itself to provide clean water in all villages. In the optimism of the first years after the Arusha Declaration this was thought to be possible within a foreseeable future. Hence social scientists and public health experts happily began studying the immediate and long-term impacts of clean and safe water. In BRALUP two workshops and a whole series of publications reflect this interest. It was soon found that the impact of improved water supply, be it on health, nutritional status, or rural development, cannot be easily demonstrated, except in very obvious cases. The reason is that health, nutrition, and development are influenced by a very wide range of factors, of which water is only one. This is not to say of course that water is not important (6).

The other main field of social science interest has been that of popular participation. Self-help and people's participation are part and parcel of the national ideology, and also find a basis in the concern over the cost of improved water supply. In practice participation has been almost

always limited to simple manual work such as bush clearing and trench digging (7). The problem is rarely people's unwillingness to contribute. In fact there are examples where people have enthusiastically performed certain tasks, only to find that the expected pipes and water never materialized. The problem is rather that unpaid village labour is more difficult to organize than paid labour over which one has full control.

While popular involvement in planning and design would seem an obvious outcome of the national ideology, bureaucratic practice militates against it. Nothing compels bureaucrats to discuss their plans with villagers, and they would much rather avoid the inconvenience. In spite of this, both for ideological and for economic reasons the topic of participation keeps haunting the discussions on rural water supply. During the recent parliamentary session the Minister for Water and Energy stated that well-organized self help labour could reduce the cost of small projects by 50 percent. This could take the form of financial contributions, collection of materials and trench digging. The Minister "Lamented, However, that this initiative was not forthcoming during the first ten years of the programme" (Daily News 6th July 1981).

The area of operation and maintenance has received comparatively little attention either from MAJI itself or from those studying water supply systems. Few people are interested in such down-to-earth questions as how much water people really use, and how long it takes to fill a bucket from a slowly dripping tap (8). But perhaps a more important reason is that this is the area where the shoe really pinches. This is where unpleasant and embarrassing facts may be revealed. And it is against national cultural practice to openly embarrass others, or to impinge on other people's responsibilities. So, as in other fields of bureaucratic failure, everybody keeps a polite distance.
Villagers may complain, but their voice carries little weight. And in any case there are always the shortages of all sorts of things that can be invoked as convenient excuses.

Participation

This raises the question what exactly do we mean by "participation". In many official communications the concept is used as a magic word,

without proper definition. The result is that it usually remains a dead letter. The flow diagram indicates that participation may occur in a number of areas, ranging from the planning stage to operation and maintenance. Perhaps the present insights may be summed up as follows. Participation in planning and design is too elevated a goal and will hardly ever happen anyway. Participation in construction usually takes the form of unpaid unskilled labour. It is usually not indispensable, and on the other hand does not create the hoped-for attitude among villagers that the scheme is really theirs. But the involvement of villagers in operation and maintenance is seen more and more clearly as an essential requirement for the further expansion of improved water supply. This is even more true for the small village installations without pumps than for the larger pumped ones.

Experience teaches that such involvement does not come about automatically out of feelings of solidarity or responsibility. It has to be organized. Individuals have to be appointed to perform well-defined tasks. A system of payment has to be worked out, and a supervisory agency installed. Very likely the best level to do this is the village level itself, so that costs are met out of village funds. Participation in the sense of unpaid work on a regular basis is quite unrealistic.

Conclusion The implementation of water supply policies in Tanzania is seriously hampered by shortage of money and trained manpower. Many schemes fall into disrepair and often stay that way. With the ageing of existing schemes a point will be reached where the construction of new schemes cannot keep pace with the rate of collapsing of existing ones. Meagre resources would be better used by going for simple solutions rather than technically sophisticated ones, and by concentrating on operation and maintenance of existing schemes rather than design and construction of new schemes. The underlying bureaucratic attitude is determined by the desire to adhere to internationally accepted standards on the one hand, and the reluctance to uncover embarrassing facts on the other. Social scientists similarly are to blame for concentrating on the remote questions of impact, rather than the immediate ones of day to day operation and organization. It is felt that villages should play a role in the operation of water supply schemes. Village water committees

should employ and pay local people for this purpose. Participation then takes the form of cash contributions to a village in return for an improved water supply.

1. Bantje, H. (1978) - Sociological aspects of improved water supply in the Coast Region. Based partly on data collected by Tschannerl and Mujwahuzi in 1976. (BRALUP Research Report No. 31).

2. Bantje, H. (1977) - Chapter on Water in Rural Integrated Development Plan for Rukwa Region (BRALUP).

3. Personal communication.

4. Bantje, H. (1978) - A water consumption survey in Mbezi village. BRALUP Reserach Report No. 30)

5. Mujwahuzi, M. (1979) - A survey of rural water supply schemes in Dodoma District (BRALUP Service Paper 79/6).

6. Proceedings of the workshops referred to are: Rural Water Supply in East Africa, Proceedings of a workshop held at the University College, Dar es Salaam, 17-19 December 1969, edited by Dennis Warner (BRALUP Research Paper 11); Water Supply, Proceedings of the conference on rural water supply in East Africa, 5-8 April 1971, University of Dar es Salaam, edited by Gerhard Tschannerl (BRALUP Research Paper 20).

   There is a series of Economic Research Bureau papers by Dennis Warner, and several BRALUP papers by Tschannerl and Mujwahuzi. A good review of the approaches at the time is Water Development - Tanzania, a critical review of research (BRALUP Research Paper No. 12, 1970).

7. Mujwahuzi, M. (1977) - Participation as a strategy for rural development: a case of rural water supply in Tanzania (BRALUP Service Paper No. 77/9).

8. Operational aspects are touched upon in the studies by Mujwahuzi and Bantje referred to above.

PRE-CONDITIONS FOR A SUCCESSFUL VILLAGE WATER SUPPLY PROGRAMME

by

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INTRODUCTION

A rural water development programme should be viewed as an integral part of the overall rural development policy which aims at stimulating the development and improving the welfare and economic position of the people. Therefore, rural water development programmes need a multidisciplinary approach for their execution rather than being considered as a responsibility of one single Ministry such as the Ministry of Water and Energy. The success of rural water supply development programmes will very much depend on several factors which the planning and implementing organizations need to take into account right from the word "go". These factors are social, economic, political or technical in nature.

The succes of rural water supply programmes depends on these factors because they are closely related to the organization of operation and maintenance, finance, trained manpower, perception and preferences of the users, and the willingness and capability of villagers to participate actively in rural water supply programmes. Pre-conditions for the success of village water supply programmes discussed in this paper are based on the study in Rukwa Region.

PRE-CONDITIONS

1. Villagers involvement in the programme

Villagers involvement in improved water supply programmes is a crucial factor in the success of the development of rural water supply. Villagers involvement or participation should not only be limited to sending in petitions for improved water supplies and the provision of either free or paid unskilled labour as currently done, but should be

extended to include participation in all stages of improved water supply programmes. These stages include decision-making, planning, construction, operation and maintenance, sharing of the benefits of the programme and evaluation of the performance of the improved water supplies. Villagers involvement will incalculate in their minds that sense of ownership and responsibility for the water scheme. If there is no feeling that this "scheme is ours" and that it is important that it works for the common good, there will be no-one to take responsibility for its operation, maintenance, delivery of fuel or spare parts and for calling a repairman. It is probably thought that the generally low level of education of villagers does not facilitate communication with water scheme technicians. Failure to appreciate and be sensitive to the villagers' participation in the water supply programmes is a sure welcome for problems later.

At present it appears that when the idea is initiated in the village, village leaders send their petitions to the district authorities who in turn forward the petitions to the regional office. When the water scheme is approved at the regional office the information is communicated back to the villagers through the district water office. This is the end of villagers' effective involvement in the initial stage of water scheme installation. The survey of the source of water, water source selection, site selection of intake points, the design of the distribution system, the decision on what type of water scheme to install (gravity operated, water pump operated or modern well or borehole) all are determined by the district water office. During construction in the abovementioned study sometimes villagers opposed the selection of certain sources of water because they are known to dry up completely during the dry season, but the district water office did not heed the villagers' opposition to the selected water source. For example the situation found in Rukwa Region, and which is true for most other regions is that the contribution of villagers towards these programmes during the construction stage is limited only to the unpaid or paid unskilled labour. The Rukwa study (table 1) shows that if villagers are convinced, well organized and motivated, they have the enthusiasm and willingness to participate in all stages of improved water supply programmes from the decision-making and planning stages to the operation and maintenance stage.

Table 1

WILLINGNESS OF VILLAGES TO PARTICIPATE IN VARIOUS WAYS IN IMPROVED WATER SUPPLY DEVELOPMENT PROGRAMMES

District	Number of villages willing to participate	Number of villages not willing to participate
Sumbawanga	135	5
Nkansi	55	3
Mpanda	49	3

Source: Survey results.

There are various ways of participation in improved water supply programmes. In Rukwa Region villagers said they were ready to make their contribution in form of free labour, cash, or both labour and cash (table 2).

Table 2

TYPES OF CONTRIBUTIONS PREFERRED BY VILLAGERS IN IMPROVED WATER SUPPLY PROGRAMMES

District	Types of contributions and number of villages ready to make them		
	Free labour	Cash	Free labour and cash
Sumbawabga	46	37	52
Nkansi	39	5	11
Mpanda	29	2	18

Source: Survey result

Water is free in all villages with improved water supplies as one of the basic social services. Benefits to be derived from improved water supply seem to have been very clearly understood by most people in rural-areas

particularly those people who have been most affected by water shortage. When 850 villagers in the survey villages were asked whether they were willing to pay for water if it were brought to the village, 666 villagers (78.4%) said that they were willing to pay for water. The remaining 183 (21.5%) were not willing to make any payment because it was the duty of the government to provide water free of charge to all planned villages as one of the basic social services promised when moving people into villages. Of those who were willing to pay for water, 438 (65.7%) of them preferred a flat-rate while the remaining 229 (34.3%) said that they would like to pay according to the amount of water used.

This is a clear evidence that villagers are not only willing to participate in improved water supply programmes but are also ready to pay for the water.

There are several reasons why villagers' participation is a prerequisite for improved rural water supply:

(i) It reduces the financial burden to the government in constructing, operating and maintaining the water schemes, which is in line with the policy of self-reliance. Financial constraint is one of the causes for the delay in spreading water in the rural areas.

(ii) It helps to instill in the villagers' minds or create a local sense of ownership and responsibility, which will ensure that villagers actually use the scheme, prevent damage to it, repair it when out of order and help in achieving the benefits expected from the water scheme. This will ensure that the scheme functions all year round.

(iii) It helps in building up local capacity for operation and maintenance of the schemes. Often villagers do not know how the water scheme functions and in case of breakdown it is only experts from district headquarters who can do the repairs. Villagers' participation in the operation and maintenance of

the schemes would help in developing some maintenance skills among some villagers who could take over some repair work.

(iv) It helps in the contribution of vital information about the areas in which the water schemes are to be constructed e.g. floods, ground water table, perennial or annual courses of water, and about the socio-economic aspects of the people who will be the beneficiaries of the schemes after their completion.

In order to secure maximum participation conscientisation of villagers to understand the nature and seriousness of the problem to be solved is of extreme importance. Before villagers are requested to participate in water schemes in the form of self-help an effort should be made in preparing them to accept the project, and make a collective decision and commitment to its execution. All necessary preparations for the launching of improved water supply programmes such as purchase of equipment and pipes must be made before the involvement of villagers.

2. Government commitment

The degree of government commitment is reflected by the size of the budget and the placing of the water project into the priority list. The operation and maintenance budget of regional and district MAJI Offices must be adequately funded to cater for staff recruitment and training at all levels, for purchase of fuel, transport, spare parts and chemicals. Water supply as a basic need should be among the top items in the priority list of government projects.

3. Formation of water committees in village government councils

The 1975 Village and Ujamaa Village Act permits the formation of committees within the village council which are supposed to deal with social, economic, political, and administrative matters of the villages.

Almost all villages have at least five committees namely:

Planning and Finance
Production and Sales
Construction and Transport
Education and Culture
Defence and Security.

One of the most succesful projects in villages where it is initiated is a grain mill. The grain mill is closely supervised and controlled by the Planning and Finance Committee. The success of this project is attributed to this committee. For the rural water development programme to succeed, each village should establish a committee or sub-committee of one of the existing committees. This committee or sub-committee should be charged with the resposibility of seeing to it that one trained member of the village is responsible for operating and maintaining the water scheme in the village. This person should have basic knowledge on how to detect and fix or repair minor faults of the scheme. Depending on the type of the scheme, he should be supplied with the necessary repair tools and spare parts. He or she should also be advised to visit the district water office as often and as quickly as possible to report major faults of the water scheme, collect fuel and spare parts. In order to motivate and give them some incentives the water scheme attentant should at least receive some remuneration depending on the economic position of the village concerned. So far there are very few villages in the region which have water scheme attendants (table 3). Since the drawing of water is the task of women the water committee should have the highest possible number of women representatives.

Table 3

WATER SCHEME ATTENDANTS IN THE VILLAGES

District	Number of water schemes with attendants	Number of water scheme without attendants
Sumbawanga	8	17
Nkansi	3	8
Mpanda	4	9

Source: Survey results.

4. Availability and procurement of materials

Most of the materials required for water supply schemes are imported and this involves foreign exchange. So, they are in short supply and often take a long time to arrive from abroad. The governement bureaucratic procedures and red tape in issuing these materials to relevant sections and authorities makes the situation worse. It is known to have taken 12 months for the spare part to get to the village from the time it was ordered. To solve these problems the government should take the responsibility of producing some of these materials and encourage regional and district small-scale industries to start manufacturing some simple water scheme spare parts. The government should come up with a system that streamlines the process of issuing spare parts and other materials required for rural water supply programmes. This could be done by decentralizing the storage of these materials to a point whereby some simple spares are stored within the village. The present situation is that spare parts are kept at the regional or district headquarters after their arrival from the central store in Dar es Salaam (table 4).

Table 4

AVAILABILITY OF SPARE PARTS AT THE VILLAGE LEVEL

District	Number of villages storing spare parts for the scheme	Number of villages which do not store spare parts
Sumbawanga	3	25
Nkansi	1	9
Mpanda	2	11

Source: Survey result

5. Foresightedness in improved water supply programme planning

Short distance to water points and elimination of queueing for water are among the benefits expected from improved water supplies. These can only be realized if initial planning takes into consideration future

population increase and physical lay-out of the village. In some villages with improved water supplies long distances to water points and queueing up for water are problems which frustrate people. One reason for this state of affairs is that with the completion of the villagization programme most villages have out-grown their amenities such as water facilities. There are a limited number of water points or taps compared to the present population and spatial growth of the villages. The second reason for queues is the low water pressure resulting in little water flowing from the taps. Therefore it takes a long while before water containers are filled. For a succesful water supply programme MAJI technicians should consider possible rates of expansion of villages both in their physical lay out and their population and then make provisions for expanding or increasing water facilities when the need arises. This means that they have to liaise with the District Development Directors' offices. It should be known to the water technician in advance whether one single village is to be split into two or more villages or whether two or three villages are to merge and become one, or whether a village is to be moved to a new site altogether. Such information is vital for the water technicians in order to come up with long-term effective plans for the size or capacity of machines, tanks, dams, pipes and other things that go into the making of a complete water scheme.

6. Adequate amount of trained manpower

There is a serious shortage of trained manpower in the Ministry of Water. This shortage is felt at all levels particularly at district and village levels. The Ministry should establish a Water Extension service in which a least one middle cadre water technician is assigned to a division. This water technician should take care of all schemes in all villages (3-5) of that division and closely supervise scheme attendants. Formerly the Ministerial structure was administratively overtaxed. The mineral section of the Ministry has been detached from MAJI and a new Ministry has been created. The other section of the Ministry (Energy) should also be removed so that an independent full-fledged Ministry of Water is established to take care of all water problems in the country. This new structure of the Ministry will eliminate the competition which existed among three components of the Ministry (Water, Minerals, and

Energy) not only on manpower to be recruited but also on limited funds for the training of manpower and for the maintenance of effective sections. Formerly none of the three members could get enough funds to run and recruit the manpower required.

7. Financial capability to meet operational and maintenance costs

One of the major problems with existing rural water schemes is the operation and maintenance of improved water supplies. One aspect of this problem is lack of trained manpower and the other aspect is lack of finance. The 1975 Village and Ujamaa Village Act empowers villages to raise funds from communal economic activities, licenses, fees, taxes and fines. The Government and the Party should advise villages to set aside a certain amount of funds to meet the cost of operating and maintaining water schemes in the villages as one of the development activities of the villages.

8. Satisfaction of villagers' preference

Water schemes differ in their complexity, initial construction costs, operation and maintenance costs, and they differ in the way they are perceived by villagers and their adaptability to local conditions. The final choice as to the type of scheme to be installed should depend on a possible combination of these factors as well as the technical factors. Water schemes often fail to achieve their intended purpose because of water technicians' poor understanding of the precise preferences and needs which the scheme should be designed to meet. Often the understanding of water technicians is that their work is limited to the provision of water meeting certain technical specifications in terms of quality and if villagers do not use the water that is none of their business. Villagers may reject the use of the scheme and continue using the old traditional water source simply because their preferences in terms of type of water scheme, taste, and colour have not been met. This means that social, economic and environmental factors must be considered before the choice of the type of scheme is made.

9. Campaign for health education and proper water resource utilization

Scholars and water researchers still debate anticipated benefits to be derived from improved water supplies, such as improved public health, increased per capita water consumption, lessening drudgery especially for women (less time and energy spent) and increased productivity. The potential health benefits of a clean water supply in particular frequently fail to be realized because infections and parasitic disease continue to be transmitted by routes which remain unaffected[1]. For example old polluted water sources continue to be used for drinking purposes for reasons of preference or convenience, or water from improved supplies is contaminated between the point of delivery and the point of ingestion through carrying, storage, drinking vessels and handling. Sometimes even when water is made more accesible in adequate amounts, it is not optimally used in personal and domestic hygiene. Moreover in certain circumstances waste disposal methods and environmental sanitation are not improved. failure to realize the benefits may also be due to other unknown or uncoltrallable factors of a cultural, social, economic or environmental nature. It is true that improved water supply per se cannot effect or bring such changes. It is therefore necessary that the effort to improve water supplies be supplemented by well-designed programmes which should integrate water quality improvement with improvements in water availability, sanitation and health or hygiene education for the villagers, education on proper and economic use of available water resurces. Finally opportunities should be created for the investment of saved time and energy in order to realize increased productivity of the rural areas.

10. Provision of extra facilities in improved water supply programmes

Expected benefits from improved water supply mau not be realized simply because of certain negative traditional pratices of villagers. Some of these practices result from the fact that certain facilities are lacking which should go along with improved water supplies.

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1) White, Alastair: Community Participation in Water and Sanitation: concepts, strategies and methods. IRC Technical Paper 17, June 1981.

The case study of Rukwa Region showns that there is a substantial number of people from villages who do the washing of clothes and bathing at water sources or points. Bathing and clothes washing at water sources or points increase the chances and rate of water pollution which is a threat to the health of the people. In order to minimize water pollution any completed water scheme should have facilities and regulations for clothes washing and bathing at suitable or reasonable distance from the water source or point. Similarly, there are several instances whereby in some villages human beings get water from the same sources as livestock. This situation leads to water pollution. When planning for improved water supply the Ministries of livestock development and MAJI should make sure that separate livestock watering points are contructed.

11. Protection of installed water schemes

All water schemes must be adequately protected against any type of damage. Trenches for pipes must be deep enough to cover water pipes. Wells, boreholes and water pumps should be fenced if possible. These are necessary precautions given repeated incidences of malicious destruction of water schemes in some areas such as those experienced in Rukwa Region. For instance if the scheme fails to meet the needs of part of the population (nearby village), there is the danger of deliberate damage by those excluded. This is what happened in Nkansi District involving Nkundi and Kipande villages and in Sumbawanga District involving villages around Pito Mission. Similarly, if for instance, when there are cattle needing water, but the supply is limited to human consumption, the clash of interest between cattle owners and cultivators may lead to vandalism. So, protection of water schemes is of absolutely necessity.

CONCLUSION:

There is no doubt that the primary effect of the vast majority of improved water supplies in different countries including Tanzania have been in one way or another beneficial or have fulfilled the expectations of the beneficiares. Equally true however, there is no doubt that some improved water supplies have had no or had little impact on the

socio-economic conditions of the people in the rural areas. The case study of Rukwa Region reveals typical conditions or factors surrounding water development programmes in rural areas and possible contributions from local people towards the success of rural water development programmes if their expectations and attitudes towards water supplies are taken into consideration when preparing the programmes. The study also shows some pre-conditions for the success of the programme.

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

by

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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 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 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 water 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. Three villages were prepared to pay 480/= per month and 2 villages 150/= per month whilst one 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 villlages 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 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 had no modern water supply, leaders were asked how they intended to raise the money for a cash contribution towards a modern water supply. Three 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 one village intended to raise money by providing transport facilities.

2.0 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 8 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. Four villages provided all the labour free of charge and three 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

Seventeen villages complained about frequent breakdown of the modern water supply but more than 20 villages complained about the scarcity of waterpoints 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 modern water supply.

2.4 Village Contribution towards the Maintenance of a Modern Water Supply

Only 8 villages had a pump attendant. Five if them were paid a salary of 480/= per month; one was paid 450/= per month and two pump attendants were paid nothing. However, the fact that those 8 villages had a pump attendant dit not prevent frequent breakdown of pumps: seven of these eight villages complained about frequent breakdowns.

2.5 Economic Feasibility of a Cash Contribution by Villages for a Modern Water Supply

Among the eight 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 villages. 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 research was carried out, only 12 villages had communal fields from which they earned a cash-income. Four of those villages earned by these communal activities around 500/= per year. Another four villages earned between 1000/= to 2000/= per year, whilst the remaining villages earned around 7,000/=, 10,000/0, 13,000/= and 26.000/= per year.

If villages would be prepared to pay a pump attendant 400/= per month, only four of the 40 villages would be able to pay such a person by the earnings from communal activities. Morever, 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 comsumption patterns of villagers show that an increased money income would be spent on better food (not including water), clothes and housing. By a further increases 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.

3.0 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 purpose they would like a modern water supply;
- Villagers were not consulted on their preference 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 waterpoints;
- 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 projct 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 waterpoints 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 to 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 waterpoints 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 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 waterpoints 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, waterpoints 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 handquarters 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.

COMMUNITY PARTICIPATION - HOPE FOR VILLAGE WATER SUPPLY?

by

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"In bringing a rural water project to an area, we are bringing not just new techniques, but new concepts about the relation of water to health and disease and new formats for organizing the community ... this process can be one of absorption rather than imposition"
(Whyte, Anne 1973) (own emphasis)

1. INTRODUCTION

The concept: "participation"

The least that can be said about the concept "participation" is that it is vague and frustrating. At times it is not even a question of just one concept, since different writers use many different terms, sometimes interchangeably and sometimes to mean very different things. To add to the confusion, the concept has, in recent years, become something of a slogan, and one could say often used without meaning at all!

The concept "participation" has also fallen into some disrepute, perhaps mainly because of the all too frequent use of it to mean simply the use of voluntary labour, i.e. emphasising only the cost saving aspect of participation.

Therefore, a vital step in any attempts to apply community participation in the development of village water supplies in Tanzania would involve clearly defining the concept in that context - firmly establishing the objectives, expected benefits and implications. Until this is established it is impossible to produce policies and guidelines for implementation.

"Participation" - a definitation

Participation implies the assumption that the only way to ensure real improvement in the welfare of the people is to involve them directly. In the context of village water supplies, participation implies that, to as great an extent as possible, the improvement to water supplies should be designed, financed, implemented, managed and evaluated by those who are to benefit from the improvement. (Karp, Phil. 1976)

2. WHY PARTICIPATION?

Much has been written about community participation in various fields, including water and sanitation. However, it is easy to pay lip-service to the need for and value of such participation without ever actually implementing it.
There is a need to define clearly what roles, objectives and expected benefits can be attributed to community participation in a programme. There are several aspects which can be analysed:

The power aspect:

Rural development, including the development of village water supplies, is not purely an economic phenomenon, but has social and political dimensions as well. If the involvement and initiative of the rural people are brought into play, the process is necessarily political. (Feachem, Richard et al: 1978)
Thus a central issue of community participation has to do with power - i.e. the power exercised by some people over other people and by some classes over other classes. The implementation of community participation implies an attempted redistribution of both the control of resources and power, and an increase in the sharing of the benefits of development. (Pearce, Andrew & Stiefel, Matthias, 1979)
Obviously community participation can often mean that, while many people in the community have something to gain from the process, others may have something to lose - in terms of power & influence. Although the improvement to village water supplies does not necessarily imply any direct change in the structure of village authority, it may lead to a shift in the balance of power in the village community.

"Thus, wheras the administrators may see water supply in terms of services and benefits, it is likely to be seen by the people in the rural communities in the context of the complex dynamics of prestige, authority and alliance which form the continually changing fabric of rural life". (Feachem, Richard et al. 1978)

The aspect of development and social change vs mere growth

There seems to be a growing assumption that increased community participation at all levels is an essential requirement to ensure real development as opposed to mere growth. (Miller, Duncan 1979) For example, when the provision of improved water supplies has not produced the benefits or effects anticipated, (e.g. improved public health, higher labour productivity, greater development at the village level, increase in modernization and national solidarity), there is a tendency to suggest that this could be because the improvements were made for the people and not by/with them. This is related to the conscientisation of the villagers in the process of social change - making them agents of change and not mere subjects of change. It is hoped that succesful experiences with community participation in improving village water supplies will lead them on to undertaking other development tasks, and thus increase community responsibility and self-government. (Feachem, R. et al. 1978)

Efficiency aspects

There are the aspects of community participation which have been stressed in the past - those which facilitate implementation and reduce costs by mobilising labour and finance resources at the local level to complement government inputs. These aspects have appealed to both governments and aid agencies for economic reasons, and also because of the hope that this type of involvement by the villagers would increase the capability, self reliance and political conscientisation of the villagers - especially in terms of increasing awareness of national ideology and national identity. User-involvement (in the past mainly only in construction, financing and, to a much lesser extent, management) is assumed to stimulate commitment by increasing satisfaction with the results, and fostering a feeling of identity with

the project. This is necessary to ensure that the improvement is accepted by the villagers, which, in turn, should ensure the proper use of the scheme, better maintenance and reduce breakdowns. Obviously involvement by the villagers in these aspects are of value, but involvement at other levels, e.g. initiation, designing and evaluation is essential if the schemes are to be related to felt needs and well adjusted to local socio-economic, organizational and physical conditions. (Feachem, Richard et al. 1978)

3. VARYING LEVELS OF COMMUNITY PARTICIPATION

The implications of community participation depend on how broad a definition one uses, or perhaps more correctly, how broad an application of the principle is permitted (risked?). Community participation can vary from actual inputs in the decision-making process at all levels, with impacts on national, regional and local planning, to simply being involved in the construction and management of specific programmes. The methods through which this participation can be effected may also vary greatly. The involvement may be more or less active. For example, in the decision-making process in specific programmes, the participants may actually formulate alternatives by presenting their own priorities and suggestions, thus being actually involved in the decision-making process. Or more passively, they may choose between several alternatives offered to them by the planners, thus exercising choice in the results of decisions already arrived at by the planners. Finally, the participants may simply be "encouraged", through information/propaganda efforts to accept the improvement being offered by the planners.

A key question is whether the people who are to benefit from the programme are to be allowed to help shape the programme, criticize its content and have a voice in decisions that will determine its ultimate effects.

> "Only this kind of participation can be expected to attract the willing, informed and active participation of people who have too long suffered from the well-intentioned efforts of others to do things <u>for</u> rather than <u>with</u> them". (UNRISD: An Approach to Development Research, 1979) (own emphasis)

4. THE USER CHOICE PHILOSOPHY AND APPROACH

The aspect of "choice" would appear to be crucial for the most effective implementation of community participation. Whyte introduced the user-choice philosophy and approach and stressed the principle of community choice. (Whyte, Anne, 1973 and Whyte, Anne and Burton, Ian, 1977) She called for an innovative user-oriented approach to rural water supplies.

> "A main vector of diffusion and acceptance is community choice as well as community participation".(Whyte and Burton, 1977)

It could perhaps be said that real participation should involve choice. Without real possibilities for choice and some control, community participation will be ineffective and will be nothing more than a farce. Whyte and Burton rightly point out that one of the big problems today, even where community participation is used, is that projects are

> "still conceived and implemented without the framework of the "delivery philpsophy" and the choices available to the community are in terms of detail rather than fundamentals".
> (Whyte and Burton, 1977)

Substantial rather than symbolic choices are a basic prerequisite for an effective user-choice approach.

The question of choice involves consideration of criteria other than economy, supply, quality etc. It involves questions of compatibility with social needs and values and the degree to which the existing socio-political order will be strengthened or undermined. Whyte and Burton warn that if the rural water scheme is not in accord with community dynamics - particularly values, social relationships and organizational capacity - the response will be to abandon or misuse the scheme. Thus a very basic requirement is adequate knowledge and understanding of the perception and value frameworks of the communities. (Whyte and Burton, 1977)

A user-choice approach to rural water projects means allowing the user to decide, as far as possible, the type of system to be installed, or indeed, whether one is to be installed at all. It is a philosophy which involves self-determined rather than imposed social change. Such a

principle has obvious implications for project initiation, design, management and for organization, education and communication, technology, integrated development and administrative philosophy and behaviour.

Project initiation

For community participation to achieve its aims, it is essential that the villagers see the need for improvement (and agree with, or even better, choose the methods to achieve this improvement). Obviously the ideal situation would be if the actual initiative for the proposed improvement came for the villagers themselves. This would ensure that it was indeed a "felt need".

The actual situation, however, has more often been that the villagers were offered an improved water supply and efforts made to convince them of the necessity for the improvement and their involvement. At best, they were perhaps offered a choice between different alternatives for improvement.

This aspect of "felt need" is a very important one in the user-choice approach. Improvements will not be accepted if water is not ranked high on the overall preference system. Community participation may be difficult to motivate if water improvements are not given high priority.

> "For instance, the local people may perceive a need for better water, but since they feel other needs more urgently, they might not be as forthcoming with financial contributions or voluntary labour as policy makers and development planners would probably like to see them". (Kaul, Inge and Mathiason, John, 1980)

Project design

Use of the user-choice approach should lead to an increase of local involvement in system design. This will require a change in attitude on the part of the planners and engineers. They will have to learn to respect the values, knowledge and wishes of the villagers in order to be

able to design the system with them instead of for them. Thus may often mean having to accept

> "small and incremental improvements to perhaps several existing water systems instead of their replacement with a single large new system to high technical and design standards".
> (Whyte, Anne, 1973)

The involvement of villagers in the design and planning of projects will necessitate concerted efforts to develop methods to evaluate the perceptions and needs of communities and households, and to understand the dynamics of the community, particularly in relation to water. This should be a normal input in the design stage of all projects. It will require the services of a social scientist and medical/health education expert as well as technical design engineers. (Whyte, Anne, 1973 and Whyte and Burton, 1977)

It is obvious that standardisation of design to the extend previously practised will not be possible if the principle of user-choice is applied. More flexibility will be required.

Technology

Another essential element in this approach is the use of a technology which is within the decision-making capacity of small communities- i.e. a technology which is understandable and capable of modification at the local level. Again the call will be for flexibility as opposed to standardisation.

In addition more use should be made of traditional sources wherever possible, with the appropriate technical knowledge available in the village. In other words, technology should be appropriate to the human resources available.

Project management

The villagers should certainly be involved in the operation and maintenance of the water scheme. Whyte and Burton call for the

development of management systems which can respond to the inputs from the community at the design stage. Management systems have also been the subject of excess standardisation and there will be a need for greater flexibility with a user-choice approach. (Whyte and Burton, 1977)

Organization

One of the problems with present water supply schemes, is that, despite attempts at community participation, at the level of the national or regional programmes they tend to be organizationally stereotyped. This organizational standardisation is as unlikely to succeed as in the technical design of systems.

> "The texture of community organizational and social differences within one area may be very fine, and no single standardised organizational approach will be everywhere appropriate".
> (Whyte and Burton, 1977)

Integration into a broader health programme

The user-choice principle is best within a larger framework of health education and the provision of medical facilities. Without inputs to help the villagers understand and value the benefits of improved water supply - i.e. to understand the relationship of water to health and disease, they will not be able to make genuine choice, and the project will not achieve the desired effect of improving the well-being of the population.

Administrative philosophy and behaviour

Obviously if the involvement of the villagers, as sketched above, is to be achieved, a fundamental change in administrative philosophy, attitudes and behaviour is required. This must be based on the belief that it is, in fact, the villagers who know their own situation best. As Chambers has pointed out, the housewife or the farmer may lack specialized technical knowledge, but their "non-disciplinary underview" of their own situation is more balanced than that of any researcher or administrator. (Chambers, Robert, 1978) After all, the ones who know most about village life are those actually living it.

Training programmes

The necessity for changes in administrative philosophy, attitudes and behaviour in turn has implications for the training of administrators, bureaucrats and extension staff. Purely technical and administrative training is not sufficient. Of course, it could be difficult to "teach" administrators and extension staff to respect the inputs of the villagers in terms of their opinions and knowledge. However such respect is basic to the success of the user-choice approach.

Communication and education

The whole aspect of communication with the villagers - listening to and learning from them and at the same time supplying them with the information and training they need, is crucial for their involvement. It must be seen as a two-way learning process and must be based on mutual respect.

With regard to the process of choice-making, Whyte points out that there will never be a possibility for complete freedom of choice. Rather the strategy must be one of "structuring their choice" - on the one hand limiting it to what is practicable in terms of design, finance and organization, etc., while at the same time increasing it by making them aware of a wider range of alternatives. In other words it is a question of educating the villagers to enable them to make genuine choices. (Whyte, Anne, 1973)

Attitudes towards tradition

A basic change of attitude towards traditional aspects is advocated by Whyte. Such a trend would indeed be a positive development - not only for water development but for all aspects of rural development.

> "If we recognize tradition as a progressively changing body of beliefs and practices designed to adapt itself to the needs of the social group - that is a process rather than a form - tradition itself can be adapted to, or used to bring about, desired social change as a movement that is indigenous and therefore more likely to succeed". (Whyte, Anne, 1973)

Such a change in attitude would have two important implications for programmes for improved water schemes:

1. the existing conditions would not only be taken into account, but also learnt from and used in the process of bringing change.

2. where there was conflict between the two systems of practices, organizations and beliefs, every effort should be made to adapt the modern system to the traditional one, instead of the other way around, which has usually been the case. (Whyte, Anne, 1973)

Creation of new roles

The new tasks associated with improvement of the water supply, for example maintenance and simple repairs, should be designed as an integral part of the community. There are often already some technical skills in the villages, and sometimes even workshops for bicycle or watch repairs. These skills and facilities should be utilized. If the skills are lacking, training should be offered to someone from the village, and possibilities for ensuring that they remain in the village after training be investigated - e.g. the possibilities for establishing a workshop for other repairs. In short, wherever possible, the responsibility for the new tasks should remain in the village. There is ample evidence in existing schemes today that the employment of persons outside the village for these tasks is most unsatisfactory. (Whyte, Anne, 1973)

5. POLICIES AND GUIDELINES FOR IMPLEMENTATION

It is very clear that a general consensus on the necessity for community participation, and even an understanding of its implications, is not sufficient to ensure effective implementation. If community participation is to become a routine component of village water supply sanitation programmes, clear policies and practical guidelines are necessary.

The establishment of an effective implementation will certainly involve difficulties. Not least in regard to the problem of how to allow for diversity and flexibility that the variety of socio-economic, organizational and physical conditions demands, while at the same time

having the necessary "control" over the situation, i.e. keeping the developments within the general context of national priorities and the allocation of scarce economic and manpower resources.

That more research is needed is an understatement.

6. NEED FOR FURTHER RESEARCH

Intimately related to the need for effective guidelines is the necessity for further research into community participation. The most basic question to be studied is the extent to which participation by the intended benificiaries in the design and execution of community water supplies is a determinant factor in the effectiveness of these policies and programmes. (Waddimba, J., 1979)

> "... perhaps because of the large measure of agreement at the philosophical or speculative level, not much effort appears to have devoted to establish the relationship between participation and programme performance on the basis of acceptable empirical evidence". (Waddimba, J., 1979)

A systematic analysis of the progress in community participation to date, and an attempt to catalogue successful elements (as well as reasons for failures) is essential if we are to transform this vague concept into an effective concrete policy.

An important aspect for research is that of communication with the villagers, especially into methods of "project analysis" at village level. This would include methods of presenting objectives, expected benefits, process, technology, time schedule, costs, management, etc.

As is pointed out by Whyte and Burton, water authorities must include research evaluation and experimentation as an integral and priority part of their programmes. (Whyte and Burton, 1977)

The participation research approach would appear to be the most appropriate for research on community participation. This research approach involves the people concerned in the definition of goals and

the process of inquiry, in order to avoid the situation where researchers gather information from people, who are given no idea of how the knowledge (no matter how personal) they have given is going to be used.

> "In order to bring about any meaningful development, especially if the principle of popular participation is accepted, they (the villagers) must be brought into the process of inquiry, investigation and research about their situation. This leads to a participatory research approach which involves the entire cooperation of villagers, officers, political leaders, external agencies and researchers. (Swantz, Marja-Liisa, 1977)

7. THE NEGATIVE EVIDENCE AND ELEMENTS OF RISK

In order to give balance to a discussion of community participation, it should be noted that not all evidence from efforts to date is favourable. At least this is true of the specific value of the "self-help" input, e.g. in terms of voluntary labour and cash contributions. Carruthers and Brown state that it has been characteristic of such self-help projects to date that they are inadequately planned, technically unsound, more expensive than necessary, disorganized in respect to voluntary labour and that the use of self-help makes insignificant contributions to lowering the costs. (Carruthers, Ian and Brown, David, 1977)

Carruther and Brown point out another equally important, but perhaps less readily recognized, problem. This is that large scale self-help projects have the capacity to interfere with the government's water supply programme by disrupting the national allocation of resources. (Carruthers, Ian and Brown, David, 1977)

Miller has carried out an analysis of the impact of self-help on water supply projects. As far as financing is concerned there do not seem to have been any substantial savings of costs. There would seem to be enough evidence that involvement in construction, through voluntary labour, is not enough to ensure the commitment to the project and its successful use and operation. And in fact it can sometimes add to the

problems by entailing delays in construction. The evidence for the impact of involvement in operation and maintenance is more hopeful. (Miller, Duncan, 1979)

In the context of the effectiveness and value of such "self-help" aspects it should be noted that the significance of the economic impact of the use of voluntary labour is decreasing. Actual labour costs have decreased in relation to costs for materials, much of which is imported and thus outside the control of the villagers themselves.

One of the objectives usually given for the use of community participation in the improvement of water supplies to date has been the cost-efficiency aspect. If the principle of user-choice is implemented as envisaged above, the cost-efficiency aspect may be no longer applicable. In fact it is possible that the application of the user-choice approach would result in projects taking longer to complete and costing more. The hesitancy of the World Bank can be noted here.

> "Even if such an effort (nationwide participatory programmes) can be mounted, a large increase in public expenditure would seem to be necessary ... the costs would far exceed the resource currently available". (World Bank: World Development Report, 1978)

In that case, a radical reassessment of the previous objectives for the use of community participation is necessary. Community participation can no longer be viewed as a cheap easy solution. The criteria must be more than mere economic considerations and ease of implementation. If the user-choice approach involves more cost and time can one expect commitment to it?
Obviously the rationale for future commitment will have to involve a very clear understanding of the value of such an approach, i.e. its value in terms of contributing to a more just redistribution of power and resources and the benefits of development, and as a catalyst for other development efforts ... Commitment to community participation on these grounds should lead to more effective programmes and this can perhaps compensate for increased time and costs?

Will the justification for community participation, inspite of possible increased costs and time be, as Miller expressed it, that while the

> "pitfalls and even dangers of promoting self-help and popular participation are real ... the ramifications of a non-participatory rural water system development programme are as real and probably more far reaching in the longer run".
> (Miller, Duncan, 1979)

8. COMMUNITY PARTICIPATION IN THE TANZANIAN CONTEXT

Suitable ideological climate

In Tanzania, if anywhere, it should be, theoretically at least, possible to implement the user-choice approach, since there is an accepted national ideology of self-reliance and participation.

Another policy feature in Tanzania which should, in theory, also be conductive to the use of the user-choice principle is decentralisation. Unfortunately, to date, the reality of decentralisation has not always involved more control over their lives for the villagers. Certainly more decentralisation within the Ministry of Water and Energy would be a prerequisite for an effective user-choice approach.

Anti-participatory aspects

In considerering the user-choice approach in the Tanzanian context one must recognize the aspects and structure which could work against such an approach.

In the present situation many elements are outside the control of the villagers, for example the provision and cost of material - and especially the actual supply of materials (related to foreign exchange and transportation problems). The national policy for the improvement of village water supplies has already been defined and the Water Plans for the different regions has been (or are being) worked out by many different donor groups. In addition settlement patterns are established and the size of many of these could necessitate large scale projects

which has implications for community participation. There are also well-established existing organizational and leadership structures which may or may not support such an approach.

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FEASIBLE STRATEGIES FOR COMMUNITY PARTICIPATION IN RURAL WATER SUPPLY

by

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The growing interest for community participation in rural water supply is due to the coincidence of several lines of thought. Some see it primarily as an instrument for securing the continued operation of the increasing number of water supplies, a task beyond the capacity of the present MAJI organizations. Others see it in a broader context as a way of altering people's use of water. By broadening the policy from an exclusive concern with supply, one hopes to help securing the benefits which are expected. General ideas about development from below also play a part in the argument.

But even if there is a coincidence of interests around the subject of this seminar, it is at the same time apparent that the point of view from which community participation is approached does influence the conception of it and the ideas about how to put it into practice.

Very simplified, one can perhaps see the emergence of three general lines of thought, or strategies for community participation. They can be distinguished partly on the basis of the amount of participation wanted, partly on the basis of whether they see it as a strategy which can be organized from above within the existing political/administrative framework (table 1).

Table 1: Strategies for community participation.

		Implementation	
		from above	from below
Amount	minimum	"technocratic"	(non-existing)
	maximum	"bureaucratic"	"idealist"

If we want to characterize the three strategies briefly, the "minimum/technocratic" one is interested in creating a village level organization which can take care of the day to day operation and routine maintenance of the water supply. The "maximum/bureaucratic" strategy intends to broaden the concept of participation to include all stages in a water project, but to do this within an organizational set-up which can be fitted into the existing Tanzanian administrative structure. The "idealist" position is close to Nyerere's idea of development by the people. Its weakness is that it needs a clarification of how this can be achieved without fundamental changes in the Tanzanian state and its relationship to the peasantry.

It is difficult to discuss participation without a prior clarification as to which of the three ideas one is referring to. The following discussion will focus on the feasibility of and the consequences of adopting the "bureaucratic" strategy.
The discussion draws on material and impressions gathered while the author was working with BRALUP on the socio-economic study for the Water Master Plan in Kigoma.
For reasons of simplicity the discussion follows the progression of a water scheme from when it is proposed, through planning and construction to operation and maintenance.
Discussions of community participation in the first stage is often phrased as a question of whether the villagers really want the new supply. Analytically this question can be divided into three parts.

- are people satisfied with the present supply;
- (if not) what solution to the supply problems do they see;
- what priority do they give to water supply.

In the Kigoma survey only 15% of the interviewed households were satisfied with their traditional water supplies. The most frequent complaint was about the quality of the water. In principle one can consider a variety of solutions to the water problems, from the individual adaptation (like boiling of water) through solutions which can be adopted by the local community without outside assistance (like spring or well protection) to government organized construction of new sources. The villagers, however, generally seem to think in terms of the government providing a new source as the only solution.

2/3 of the villages could think of no way in which the villagers themselves could ease or solve their water problems.
The last question is more difficult to answer but in an ERB study where the villagers were asked about their most urgent problems, highest priority was given to water supply improvement.

2/3 of the villages without a water supply have also through different channels approached the government with requests for tap water. Judged from this evidence it would seem that the motivation is there, though we do not know how strong it is and even more important whether it is based on unrealistic assumptions about the level of service that the government can afford to provide.

Turning to planning there seems to have been no village involvement in this stage, a fact which can partly be explained by the type of supplies constructed, partly by the attitudes towards villagers found among the implementors. On the other hand this is probably the most crucial area for promoting acceptance of the responsibility for the scheme by the villages. Participation in this stage would imply that in good time before the design discussions were started with the villagers about their preferences, and that these preferences were given some weight. It is difficult to see how such consultations could take place without reducing the speed or implementation of new schemes. At the same time such consultations with the villagers would not have much meaning if hydrological, technological or economic contraints made only one solution possible. One way out of the economic dilemma is to give the village a choice between a low cost solution paid by the government and a higher service level if the village paid the difference in costs between the two. Again the planning process would take a longer time if several alternatives were to be considered. Introduction of a monetary contribution also arises equity questions.

In the construction phase participation is already institutionalized as self-help contribution, with the villagers providing unskilled labour for trench-digging etc. In 75% of the villages with a water supply the village had participated in this way. The experience is mixed whether one regards it from the point of view of cost-reduction, as a test of motivation or in the broader context of promoting changes in attitudes.

99% of the villages declare their willingness to continue this type of participation, but it is difficult to know how to interpret such statements. The question of monetary contributions has already been touched upon through the question of allowing villages or individual households to pay the additional costs of additional services, e.g. facilities for livestock watering or small-scale gardening. Introduction of payment for water opposes a number of questions:

- the relationship to the official policy of free water (this would seem less of a problem if the payment is linked to special services than if it is for the implementation of the basic service);
- the willingness to pay;
- the ability to pay and related to that the question of inequality.

58% of households in villages without a water scheme said they were willing to pay for improved water supply. If the willingness reflects the severity of the problems experienced it can without too many reservations be used as a priority criterion. However, it seems this willingness is more a reflection of the economic status of the household, than of the severity of its water problems.

The mean annual income of the villages in Kigoma was (1978/1979) just below 12.000 sh., with crop marketing levy as the most important source. Mean household income was according to the ERB Farm Management Study 1670 sh./year. The major problem with a cash contribution, whether to finance the general strategy or to allow extra facilities, is the equity question. In the former case ability to pay would become a priority criterion, in the latter case income inequalities - which are considerable both between and within villages - would be reflected in the quality of the water supply.

Increased community responsibility for operation and maintenance, about which there seems to be complete agreement, is partly a question of developing skills in the villages enabling them to undertake the responsibility (and also adapting the technology choice to this), but it is as much a question of motivating those trained for the job to do it and the rest of the village to see to that they do it. The only way of achieving the latter is to convince the villagers that improved water is important to them.

Summing up, the basic choice facing water planners is between a rapid delivery strategy, with limited community involvement which does not demand too much in terms of institutional and attitudinal innovations and which can possibly enable Tanzania to reach the 1991 objective, but where the long term prospects are more doubtful, and a much slower and in many ways more difficult strategy where the villages are involved in the whole process of planning and building the supply, and where efforts in the water sector are combined with health and sanitation education. If we opt for the latter, which I feel we should, we should be aware not only of its prospects, but also its problems.

RURAL WATER SUPPLY CONSTRUCTION PROJECT IN MTWARA AND LINDI REGIONS

by

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1. GENERAL

The Mtwara Lindi Water Resources Inventory and Development Project financed by the development cooperation grant of the Finnish Government has been going on since 1972. Until now the following phases have been completed:

-	Feasibility study	1972-1973
-	Housing project	1973-1974
-	Water Master Plan	1974-1977
-	Implementation Phase I	1978-1980

The Implementation Phase II was started in early April 1980. The present contract covers the operations until the end of 1981. In addition to Finland and Tanzania this phase is also financed by UNICEF and the United Kingdom through supply of materials and equipment.

2. WATER MASTER PLAN

The usability of the Mtwara-Lindi Water Master Plan completed in 1977 can be judged at this stage when it has been adapted to use for about four years. This water master plan is the second one in Tanzania. The first one was the Shinyanga Water Master Plan. Thereafter about five other water master plans have been prepared. For most regions these plans are in preparation at the moment.

The Mtwara-Lindi Water Master Plan has proved very serviceable, for decisions on implementation of separate water supply projects can in most cases be made on the basis of this plan only, without any special

phase of feasibility study. The Tanzanian authorities have utilized this by "marketing" separate water supply projects, the technical solution and the costs of which are presented in the Water Master Plan.

When the Water Master Plan was prepared, the purpose was to propose a water supply system for each existing village. As a result of this the probably most feasible solution was also proposed for the villages where there was no proof of suitable water source. During the construction period, part of these assumptions proved to be correct and part of them were wrong, for which reason the Water Master Plan should be checked in some points. Also the areas, for which it is impossible to find an economical water supply solution by available methods can be confirmed during the construction. The list of villages and areas concerned can be prepared within the next few years and it could be used when the locations of population and various development projects are planned.

According to the Water Master Plan about 1170 shallow wells would be built in the Mtwara Region and about 590 shallow wells in the Lindi Region by the year 1991. After the Water Master Plan has been prepared the water supply policy of the Tanzanian Government has, however, taken the course of favouring shallow wells. This has partly been influenced by the success of shallow wells partly by the rise in the prices of oil products, which has resulted in the increase of pumping costs and prices of plastic pipes.
According to the present instructions, shallow wells with hand pumps shall be used as primary water supply solutions where they are economical and possible.

According to the census in 1979 the rural population (outside the region capitals) amounted to about 700.000 in Mtwara and to about 500.000 in Lindi. About 25 per cent of the population in Mtwara and about 45 per cent of the population in Lindi live in villages the water supply of which shall be arranged, in the first place, by means of shallow wells. In case one shallow well serves approximately 200 people, the present need would be about 2.000 shallow wells. By the year 1991, when according to the objectives all people should be within the organized water supply, about 3.500 wells should be built in the area. The

additional need is due to the natural growth of population, migration to the areas where the water supply has been organized and to the fact that part of the old wells are taken out of use.

3. Continuation of the implementation programme

During the first construction phase in 1978 to 1980 water supply was arranged for about 240.000 people. During the second construction phase in 1980 to 1981 the construction of the water supply systems for about 0.5 million people will be started and partly completed. The work of this construction phase will continue until the end of 1982 since about one half of the materials supplied by UNICEF and the U.K. will not arrive until in 1981 and will be available mainly in 1982.

The construction volume will reach its culmination in 1981 to 1982. Thereafter the construction of new water supply systems should be gradually transferred to MAJI, for example, during the next three years and the main emphasis should be put on shallow well production, maintenance and training. The number of shallow wells already constructed and the number of wells to be constructed by the end of 1986 is given below.

Region/district	Constructed wells April 78 - June 81	Wells to be constructed July 1981 - December 86
MTWARA		
Mtwara	180	220
Newala	10	50
Masasi	450	300
LINDI		
Lindi	140	460
Nachingwea	30	240
Kilwa	90	300
Liwale	20	110
Total	920	1680

This number of wells can be completed if the construction of shallow wells is maintained at a level of 300 wells a year during the whole period.
During the years 1985 and 1986 the trained personnel and the construction resources of the shallow well production will be transferred gradually to the local organization, which will go on with the production of wells in the area.

The construction of new piped water supply systems by the Finnish resources will gradually cease during the years 1983 to 1985 and the resources released will be transferred to the renovation of old systems, maintenance, shallow well production and training. Part of the trained personnel and the equipment will be transferred to MAJI. The rest of the personnel and equipment will be transferred to MAJI step by step in 1985 and 1986.

If the implementation programme is continued according to the present long-range plan of operation, about 85 per cent of the population in the Mtwara and Lindi Regions will be within the organized water supply system at the end of 1986. A very small part, 3 to 5 per cent of the population will live in villages the water supply systems of which can be built by MAJI later. However, the cost per inhabitant will be considerably higher than the average cost. The rest, about 10 per cent of the population will live in villages in which it is very expensive and technically difficult to arrange water supply all the year round.

On the other hand, it can be assumed that considerable migration will occur to villages in which the water supply has been organized. So the number of people being outside the organized water supply system at the end of 1986 will be smaller than can be estimated on the basis of the prevent division of the population.

4. Community participation during constuction

Piped water supply systems

During the construction of piped supply systems most workers have been employed from the villages.

Foremen, plumbers, masons, carpenters, mechanics and other skilled labour are permanently employed by the project and are moved from site to site during the project. Such tasks as bushclearing, trench digging and backfilling for the pipelines are carried out under self-help contracts with the villages. The contract price, about 1,2 TAS/meter, is paid in a lump sum to the village, once the whole job is completed. Self-help projects utilize only one foreman to supervise the work with a plumber and 3-5 workers to install the pipes.

This kind of cooperation with the villagers has proved to be succesful. Often the villagers have been very eager to start and even finish the work. Because they get paid only when the work has been done according to the standards and instructions given beforehand we can make sure that the work is done properly.

Shallow wells

In shallow well construction groups skilled labour is permanently employed by the project. Additional manual labour is employed from the villages, and they get paid the normal minimum wages.

It has proved difficult to get villagers to work without payment and the uncertaintly of the number of workers available and their different attitudes towards the work causes difficulties and delays for the construction programme. For the project these delays can cause extra costs which are much greater than what have been saved in wages.

5. Training and maintenance

In connection with the implementation of water supply in 1978 to 1981 an extensive training programme of technical personnel is also carried out. The objective is to make the Mtwara and Lindi Regions as independent as possible in construction, operation and maintenance of water supply systems. In practice, the whole personnel employed by the project permanently will then have participated in the training and part of them will have passed some vocational examination. At the moment the project

has a staff of trained and competent foremen and skilled workers who are capable of discharging their duties rather independently. The transfer of this staff from the project is not suitable at this stage. Neither can the local water districts afford to hire the additional personnel concerned. The most probable solution pattern for transferring people to MAJI is to form trained research, construction and maintenance groups with complete equipment, which with their duties would group by group be transferred to MAJI. Then no need for additional financing will arise but the budget resources released from the project would be allocated to corresponding budget votes of MAJI.

This in turn means that another three-year foremen course will not be arranged after 1981. This is also due to the fact that the shortage of personnel with middle-grade training of water engineering is reducing in Tanzania, in the first place, thanks to the Water Resources Institute.

In the future the main emphasis of training shall be put on the development of organizations which can go on with the construction of water supply systems and take care of the operation and maintenance of the systems without the present project organization and Finnish personnel, supported only by some foreign experts and a clearly smaller amount of foreign financing aid. In practice this means that the project should be able to employ an adequate number of staff with basic education, who could gradually undertake the present duties of the Finnish personnel. On the other hand, the responsibility for the construction, operation and maintenance shall be tranferred to water consumers, which means that the main emphasis of training shall be put on the villages. The objective can be that the villages with piped water supply systems will be in charge of at least the fuel costs and the operating staff's wages of the systems by the end of 1984. Some villages do already now pay the fuel costs and the pump attendants' salary. Accordingly the normal maintenance of hand pump wells 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 addition, hand pump attendants shall be provided with further training and suitable tools and a spare part storage shall be established in connection with the Water Engineer's

Office in each water district. Four mobile maintenance groups to support the system will be established in Mtwara, Masasi, Lindi and Nachingwea.

When the construction activities decrease the personnel trained for the construction of piped water supply systems will be transferred to maintenance groups and partly to MAJI.

It is still open what kind of an organization will go on with the shallow well production in Tanzania after 1986. The development and testing of suitable methods is one of the tasks of the current shallow well projects. Whatever the organization to be chosen in the future may be, it shall be taken into use in the shallow well production of the project at latest 1985-1986.

RURAL WATER SUPPLY AND COMMUNITY PARTICIPATION
THE FINNWATER EXPERIENCE IN MTWAPA AND LINDI

by

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A. INTRODUCTION

The provision of water is one of the basic social services which are provided by the Government to the rural population. Over the past decade or so, this provision of water to the rural areas was treated for its own merit, that is, as a social service. The present trend of official thinking, however, shows a shift of emphasis from a mere social service to a developmental approach. This shift can be elucidated from two propositions. As a developmental approach, it is emphasized that rural water supply programmes should be integrative programmes with other basic services programmes, such as health and sanitation, basic education on water utilities and storage, food and nutrition, and better housing programmes, and so forth. This has become more or less the official policy position of the Government. The second proposition is construed from the emphasis given to the provision of water to the rural sectors as top priority while implementing the Rural Integrated Development Programmes and the Water Master Plans which have been designed for every region.

Community participation, on the other hand, is an unique feature in Tanzania. It is regarded as an instrumental aspect in every designed developmental project whose immediate beneficiaries are the rural population. The problem ahead of us, however, is how to define the nature of this community participation, and how to operationalise it in practical terms.

It is perhaps at this juncture we can make a note of praise for the timely scheduling of this workshop and its vital theme.

This paper addresses itself to the theme of the workshop. Its contents have been extracted from the main evaluation Report on Finnwater Project. The project aims at providing clean and safe water to the villages of Mtwara and Lindi Regions. And to date, the first and second phases of the project have been completed. The purpose of the paper is to share some of the experiences on how the Finnwater Project Management has interpreted and translated community participation into practical terms while embarking on this project. The paper, therefore, will restrict itself to this Finnwater experience.

B. MEANING OF COMMUNITY PARTICIPATION

Community participation, (commonly termed as people's or popular participation) has an intrinsic value in Tanzania. This intrinsic value accorded to participation is quite explicit in the ideology of the Political Party and in the Tanzanian Philosophy on development. The ideology itself is propounded in the writings of Nyerere and in the major policy statements of the Party and Government (1). The ideology grounds the value of community participation from the perceptions of the organizational patterns of most of the Tanzanian traditional societies wherein community participation has been the dominant element. From the perceived past community participation is sought as a prerequisite for creating a new just and egalitarian society governed under the principles of Democracy and Socialism. However, noting the inadequacies of the perceived past, the quest of the Tanzanian leadership has been the creation of new participatory institutions which are capable of absorbing modern technology for increased production in the rural sectors and self-sustaining economic growth.

The Tanzanian philosophy on development, on the other hand, holds two dimensional views on development. Development according to the philosophy implies a fundamental change in the inherited colonial economy leading to a self-sustaining economic growth which will eventually enable the country to disengage itself from capitalism and all its forms of exploitation and oppression. Such a development can only be feasible through people's own efforts and less dependency from the external aid.

The second dimensional view conceives development as an all-out transformation of the entire society from its traditional attitudes and sentiments, and its down-trodden poverty to the acceptance of modernity and socio-economic prosperity. This view emphasizes the development of people and not of things; at the same time, it gives equal weight to output and equality. Equality here includes not only a widespread participation in developmental affairs, but also equality in distribution of the benefits of development. Nyerere defined development thus:

> To us development means both the elimination of oppression, exploitation, enslavement and humiliation, and the promotion of our independence and human dignity. Therefore, in considering the development of our Nation and in preparing development plans, our main emphasis at all times should be the development of people and not of things. If development is to benefit the people, the people must participate in considering, planning and implementing their development plans (2) (empasis is ours)

Thus, from the above brief analysis, community participation in the Tanzanian context can be understood to mean two things. Firstly, community participation is an instrumental tool for bringing about the designed development of the Nation and the people. Secondly, community participation is an ultimate value (3) which should be aspired to by a Nation, which, like Tanzania, desires to construct a new, just and egualitarian society along the principles of Democracy, Socialism and Self-reliance. These two conceptions of community participation constitute the basic elements of the meaning of community participation in the Tanzanian context. They also form the focal point in the newly established participatory institutions - the Village Assemblies and Village Governments/Councils, and Village Committees.

Nevertheless, the two conceptions are still inadequate to provide us with a precise and workable definition or meaning of community participation. In the absence of a model or theory of "participative" techniques of community participation, the terms has been used with a variety of interpretations; and its application varies from one place to another (4). At times, community participation has been interpreted to

mean the involvement of people in deciding, planning and implementing their own development projects. For example, community participation is deliberately designated to a project which has been carried out by villagers through a self-help scheme - viz. construction of a road. Community participation has also been interpreted to mean the mobilization of people to spend some of their time in carrying out a proposed project. Here they are called in to provide their labour power in order to reduce some of the estimated costs of the designed project. For example, in a rural water supply project the villagers are called in to assist in digging pipe-trenches and laying in of water pipes. In the latter case, the success of community participation depends much on the mobilizing agent. It appears that the status of the mobilizing agent determines the scale of community participation measured in terms of number of participants and working duration. The following tables lead us to make such a proposition:

TABLE 1
PARTICIPATION-AUTHORITY RELATIONSHIP-CONSTRUCTION OF MKULULU DISPENSARY - 1979-1980

DATE	AUTHORITY	NUMBER OF PARTICIPANTS	HRS. WORKED
21.3.80	District Devt.Director	137	3
22.3.80	District Devt.Director	79	4
24.3.80	District Devt.Director	84	4
25.3.80	District Devt.Director	167	5
26.3.80	Regional Commissioner	225	6
27.3.80	Regional Commissioner	174	5
28.3.80	Ward Secretary	54	3
29.3.80	Ward Secretary	15	3
31.3.80	Ward Secretary	5	1
1.4.80	Village Chairman	5	2
2.4.80	Village Chairman	2	1
3.4.80	Village Chairman	3	0

Source: Site Foreman's Diary. Reproduced here from Basic Services Seminar Report - Mtawanya - Mtwara 10th-15th November, 1980.

Note: Number of Participants excludes school children.

TABLE 2
PARTICIPATION-AUTHORITY RELATIONSHIP-CONSTRUCTION OF CHIWALE HEALTH CENTRE - 1979-1980

DATE	AUTHORITY	NUMBER OF PARTICIPANTS	HRS. WORKED
21.3.80	A.C.	136	4
22.3.80	A.C.	145	5
24.3.80	A.C.	161	6
27.3.80	D.C.	130	5
28.3.80	D.C.	147	4
31.3.80	D.S.	63	4
1.4.80	D.Minister	253	7
18.4.80	D.S.	13	3
19.4.80	D.S.	0	0
20.4.80	D.S.	0	0

Source: Site Foreman's Diary. Reproduced here from Basic Services Seminar Report - Mtawanya-Mtwara 10th-15th November, 1980, p. 67

Note: Number of participants excludes school pupils

Certainly the two tables leave several questions unaswered. For example, what is the percentage of the participants to the total number of the village population. Who has initiated and decided on the construction of the two projects; the extent to which the villagers were involved in the initial planning of the projects; the quality of works done by the participants in order of attendance, and so forth. But we can still make a strong assumption that community participation, as it has been interpreted above, is authority-conscious based. The question then is whether this is the type of community participation we are all talking about, or which is exhorted in the policy statements of the Party and Government. My contention is no.

Another related point is that the absence of precise defined meaning and participative techniques of community participation has given rise to a variety of practices/mechanisms in order to effectuate community participation. These practises have been in the form of directives from above, or employing mobilizing-agents - as the above two projects have illustrated to us - or using incentives - viz. money. Hence, we have still a problem. Although community participation is both an ultimate value and instrumental tool for development, there is need to search for its precise meaning and its participative techniques before one can

speak of community participation as an ultimate value and instrumental tool for development. This is a challenge to this workshop whose purpose is to investigate the scale of villagers' participation in the rural water supply projects. This paper does not intend to come out with concrete suggestions on the problem it has raised. The final findings of the workshop will certainly do the task. We shall, therefore, dwell now on exchanging some of the experiences of the Finnwater Project on community participation.

C. COMMUNITY PARTICIPATION AND THE FINNWATER EXPERIENCE:

Finnwater Consulting Engineers is a Finnish Firm which is based in Finland. One of its business activities is to provide technical and engineering consultancy as well as undertake construction work. The Finnwater Project, as it has come to be known, is a Rural Water Supply Construction Project in Mtwara and Lindi Regions. The project was established as a result of a bilateral agreement signed between the Governments of Tanzania and Finland. The Finnwater Firm was commissioned to undertake the project and do the following:

- make a feasibility study on water resources investigations: 1972-1973;
- design a Water Master Plan for the two regions: 1974-1977;
- implement the project, and the construction work was started in 1978.

The project is a joint-venture between the Governments of Tanzania and Finland. The long-term objective of the project is to provide rural water supply systems for about 1.5 million people living in the two regions by 1991. In order to make this target technically feasible, the Water Master Plan has defined long-term and medium-term objectives. The basic design parameters of the long-term objectives are to provide public domestic water points each serving some 200 people and supplying 30 litres of water of acceptable quality per capita per day within a distance of 400 metres. The service points will either be public taps or public wells provided with hand pumps. The medium-term objective, known also as a "crash programme", aims at providing a reliable water source to every village by the year 1981. The emphasis during the crash programme is given to the construction of shallow wells.

The implementation of the project is programmed into five phases:

Phase I: January 1978 - March 1980.

The first implementation phase included, among others, the following activities:

- complementary geophysical and hydrogeological investigations for locating the most favourable well sites;
- engineering design of wells and water supply systems;
- implementation of the construction work including acquisition of materials and supervision;
- carrying out deep borehole well drilling;
- implementation of the training programme.

The total costs of phase I amounted to TAS 34 million. Out of this amount the Finnish Government provided about 30,500,000/=TAS and the rest was contributed by the Tanzanian Government.

At the end of phase I, 556 shallow wells were constructed, 12 production boreholes were drilled, and 11 piped water systems installed. In addition, 152 shallow well attendants were trained in on-the-job training. It has been estimated that 43% and 37% of the rural population in Mtwara and Lindi Regions respectively had access to safe domestic water supplies.

TABLE 3
DISTRIBUTION OF SHALLOW WELL PRODUCTION
ACCORDING TO DISTRICT
MARCH 1978 - MARCH 1980

District	Number of Wells				
	RW	MW	NW	Total	Abandoned
Mtwara	109	16	5	130	14
Newala	-	5	6	11	7
Masasi	191	4	-	195	14
Lindi	76	14	15	105	6
Kilwa	73	6	4	83	-
Liwale	16	5	-	21	-
Nachingwea	11	-	-	11	-
	476	50	30	556	41

Source: Rural Water Supply Construction Project in Mtwara and Lindi Regions - Final Report, January 1978 - March 1980, p. 9.

Key: RW = Concrete ring wells
MW = Machine anger wells
HW = Hand anger wells

Phase II:

The second phase was started immediately after the completion of the first phase. And it is hoped to be completed by 1981. The total phase II costs are estimated at TAS 75 million. Out of this amount, TAS 26 million will be provided by the Finnish sources, TAS 25 million by the U.K. Government, Tas 46 million by UNICEF and TAS 8 million by the Tanzanian Government. By the end of 1981 it is estimated that a Water Supply Service will be made available to a further 0.5 million people.

Up to the beginning of April 1981 a total of 307 shallow wells had been completed under Phase II of the project. A further production of 10 boreholes was completed during the same period. Work on the construction of 3 piped systems has already been commenced. The three piped systems include the large Makonde Plateau System at Kitanguri which will supply water to at least 210,000 people. In addition, necessary geophysical investigations were carried out, a further training programme was conducted for 48 pump attendants and foreman.

Phase III: 1982-1983:

Main activity will be the continuation of the piped systems and shallow wells whose construction was started in phase II. Shallow well production will continue at a rate of 300 wells per year. A rehabilitation programme on the existing systems will also be carried out.

Phase IV: 1984-1985:

In phase IV the major activities will be maintenance and rehabilitation of existing piped systems, maintenance and construction of shallow wells, and training. Initial handing over of some water works construction staff and facilities will be done during this phase. To facilitate the smooth transfer of staff and facilities to MAJI, the administrative structure of the programme will be changed by 1985. Training will continue to emphasize village level, shallow well maintenance, and also assist changes in administrative structure.

Phase V: 1986:

The project will demobilize in 1986. All project staff will be transferred to the Regional Water Engineers by the start of the 1986/1987 financial year. Demobilization of the Finnish Staff will gradually take place at the same time so that by the end of 1986 only follow-up staff will remain in Mtwara and Lindi Regions.

This is a brief account of the Finnwater Project. Its aim was to highlight briefly the historical background of the Finnwater Project, its main activities, attained achievement, and its prospective. This background will also enable us to underscore some of the Finnwater experiences on community participation.

On Community Participation

Before casting our minds on community participation and the Finnwater experience, we need to say a word about the Finnwater Project Management team. The Finnwater Project Management and construction team comprises of the following:

18 Finnish Staff - These are expatriate personnel employed by the Project.

120 Tanzanian Staff - These are permanent employees with a variety of semi/skilled labour. Their distribution pattern is as follows:

Office	10 persons
Workshop	22 persons
Transportation	16 persons
Shallow Well groups	17 persons
Deep borehole drilling	6 persons
Water Works groups	18 persons
Quarry	10 persons
Ecophysical Investigations	8 persons
Water laboratory	2 persons
Others	11 persons
	120 persons

The last group of the working force comprises temporarily or daily paid workers who range between 70-250 persons.

The recorded achievements of phase I and II of the project owe much to the team-work of the above labour force. However, the Project Management and construction team has worked in close cooperation and collaboration with the Regional and District Water authorities and the communities living in the villages of the two regions. From the initial implementation stage efforts were made to include participation of these communities whenever the nature of work to be done allowed such a participation. For example Village Chairmen were notified of any possible well-site and the people were mobilized for bush-clearing of the well-sites. The most telling experience on community participation, however, featured in the following areas.

(i) Trench-digging and Pipe Installation:

The nature of work required a good amount of labour force. The labour force was drawn from the village residents adjacent to the pipeline. In order to maintain a guaranteed self-sustaining participation in the work a motivational factor was used by the Finnwater Project Management. This was done on contractual basis. That is, the village chairmen were required to recruit the number of workmen needed for trench-digging or pipe installation. And the Finnwater Management paid money to the respective village councils where the labour force had been recruited. This payment was 3/=. shillings for every metre; and it was made at the completion of the work after a satisfactory supervision on the quality of the work was done. This mode of effectuating community participation has maintained the good quality of work done through people's participation; it has also ensured a continued participation; and last but not least, it has become a financial source for the village purse.

(ii) Training of Shallow Well Attendants:

In each village were shallow wells will be constructed, two shallow well attendants will be trained to be responsible for minor maintenance work on the pumps. Candidates for attendants will be selected by the chairman

or village council of each village. They will temporarily be employees of the project until the construction groups are working in every village. Any salary or bonus for the village shallow well attendants will be the responsibility of the Village Government.

The duties of well attendants include:

- to grease the pump twice a month, to check the general conditions of the pump and to make such repairs as can be undertaken without spare parts;
- to take care of the draining and tidiness of the area surrounding the well;
- to inform the District Water Engineer's office of any defects appearing in the structure of the well and the pump.

(iii) Running Cost and Maintenance Work:

Experience has been done 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. And it was felt that this was one of the best ways of effecting community participation and allows the community to take full charge of the maintenance costs of the wells and water installations as their own property. Thus, through such community participation role in the project, it is envisaged that there will be a shared responsibility on the water installations from the regional to the village level at the end of the project implementation. To allow an effective responsibility at the village level, the villages have been recommended to form Village Water Committees.

CONCLUSION:

In this paper we have been trying to underscore the following points. Firstly we have attempted to conceptualise the basis for community participation in Tanzania. We have demonstrated that the conception of community participation arises from the perceived past of the organizational patterns of most of Tanzanian's traditional societies. The conception is patronised by the ideology of the political party and

the Tanzanian philosophy on development. Accordingly, community participation in Tanzania is regarded both as an ultimate value for promoting a just and egalitarian society, and as an instumental tool for bringing about increased material output and equality, in a word, the desired development. We have also argued that, despite the emphasis given to community participation, its meaning has yet remained ambiguous. This, in turn, had led to a variety of interpretations and practices or experiences.

Secondly, we have attempted to illustrate the experience of the Finnwater Project on community participation. In doing this, we have shown that community participation in the Finnwater project covered three main areas: trench-digging and pipe installation, training and running and maintenance of the water installations.

What the paper has failed to do is to provide a precise meaning and participative techniques of community participation, which could be adaptable to every developmental project in Tanzania. This task could, perhaps, have eased the work of this workshop. As the major task of this workshop is to provide a learning experience on community participation in Tanzania in respect to village water supply, the concerted efforts and minds of the workshop participants will certainly produce the desired meaning and techniques of community participation.

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

by

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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. In other cases, the savings from self-help labour are relatively small on projects undertaken by water departments (not villages' 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 imcompetence 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 on 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 mobilised around the introduction of a supply, they can take collective decisions and action over hygiene and sanitation. Thus there is a need for a community health education component in any scheme for community participation, and the component should follow participatory principles (dialogue, not one-way flow of information and exhortation).

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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 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 give 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 it 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. Committee

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 (1981)[1] to ensure integration with other health-related activities. Or the water committee could be a sub-committee for the former. The DANIDA SEC group (1981)[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?

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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 Feb. 1st 1981. DANIDA

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 and 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 do not leave the problem until it gets worse and becomes the responsibility of the 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 efforts 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 could 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 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 HQ.

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 maximise 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 based on actual hours worker (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 inimately related area 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 finalised, 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 change 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, nor to the aim of keeping down costs; also, it would result in some people preferring to use polluted sources.

2.c. Mobilisation of self-help labour

Mobilisation is apparently now done by "political and administrative officials" (Tschannerl 1979)[1]. The DANIDA SEC Group proposes that the Extension Unit attached to MAJI (see below) should be instrumental in the mobilisation 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 mobilisation 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 desicion to change these practices, and mobilisation 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.

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1) Tschannerl, Gerhard: "Rural water supply in Tanzania: is politics or technique in command?", in Coulson, A., ed., African Socialism in Practice: the Tanzanian experience. Spokesman, Nottingham, 1979.

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

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 be 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 HQ.

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 conveing 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 Campaign on Water, Hygiene and Sanitation

A campaign broadly on the lines of the health (Mtu ni Afya, in 1973), food (Chakula ni Uhai, in 1975) and the current afforestation campaign could be mounted on the subject of water. Study groups would be mobilised 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 (special emphasis on handwashing with soap);
- sanitation, extending as appropriate the lessons of the low cost urban sanitation project to the country-side; 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.

ARRANGEMENTS FOR VILLAGE INVOLVEMENT IN WATER SUPPLY

by

Kristan Laubjerg and Ole Therkildsen

1. Introduction

In this paper we suggest certain practical arrangement for introducing villagers participation in rural water supply projects. Due to lack of practical experience in Tanzania on this issue our suggestions are tentative.

We shall here abstain from any lengthy discussion of the concept of participation. However, we cannot process without paying homage to the definition-buffs. Pearce's and Stiefel's (1980, 25) statement will do - Participation can be defined as:
"the organized efforts to increase control over resources and regulative institutions in given social situations on the part of groups and movements of those hitherto excluded from such control". With an adaption from White (1978) the minimal purpose of such participation is to ensure successful implementation, running and maintenance of water supply projects and at the same time to foster local capacity for village self-reliant cooperation. Thus participation implies a sharing of the decision-making power. It also implies an encounter between villagers and the "regulative institutations".
At least three agents are involved in this encounter. They are 1) the villagers, 2) the bureaucracy (MAJI and other national regulative institutions) and 3) the donor.
These agents embark on a water implementation project with different interests. But at least they are common about one thing: They all want the outcome of the project to be a reliable water scheme.

2. Conditions

For participation to meet the minimal purpose mentioned above four

equally important conditions have to be met - at least to some degree:

1. a willingness and ability in the bureaucracy to share decision making and control of resources with villagers;
2. a felt and expressed need among villagers for improving their water situation;
3. a willingness and ability to contribute in cash and/or kind to the construction, running and maintenance of the water scheme;
4. a willingness and ability in the bureaucracy to transfer resources to rural water projects in accordance with agreemens made with villagers.

These conditions are crucial for the selection of villages and they also play a decisive role for participation during the whole project cycle and for the reliability of the scheme upon completion.

3. Practical arrangements for participation

If the practical arrangements for participation shall reflect the definition above then villagers must be involved in all phases of a water supply project cycle: selection; planning; implementation; operation and maintenance; and evaluation.

3.1 Organizational Structure

Every villager cannot participate in every decision - though there will be some in which everybody can. There exists a hierarchy of decision making, which cannot be cut away. We therefore propose that villagers should form a Village Water Committee (VWC) to which they delegate a number of responsabilities (see below).

An Extension Unit (EU) should be formed with the purpose to mobilize people in project villages, to assist in educational efforts, to serve as a link between villagers and the local bureaucracy, and to develop, organize and institutionalize village viewpoints.

Finally, a Project Committee (PC) should be formed during construction - at least on projcts where several villages will be supplied from the same scheme. This is a forum where representatives from the different villages, the local bueaucracy and the party meet.

3.1.1. The Village Water Committee

The committee should consist of five persons. Two of them should be appointed members (village chairman and the resident health officer, if there is one) and three should be women selected by UWT if such a branch exists in the village. In case of villages with no dispensary or rural health centre the chairman of the committee for education and social welfare (which also takes care of health and sanitation) should be appointed. If no UWT-branch exists, the three women should be elected by female CCM-members[1]. The Extension Unit (EU) described below should assist in the arrangements of forming the VWC. An alternative way of forming a VWC would be to use the village committee for education and social welfare. It would probably strengthen and vitalize this branch of the village government, which at present seems rather dormant. However, women are rarely represented in village governments. Dominance of women in the VWC will hopefully help to "modernize women's role in rural water supply, preserving the importance of their contribution, but reducing hardship" (Jørgensen, 1980, 4).

3.1.2 The Extension Unit

This unit is the link between MAJI, AFYA (Ministry of Health), ARDHI (Ministry of Lands, Housing and Urban Development) (for sanitation) and the RDD/DDD's (Regional/District Development Director) offices for finance. It should be staffed by people trained in community work and who have some technical knowledge of water supply schemes.

The unit can be attached to the existing bureaucratic structure in at least five ways (White and Kerkhoven, 1981, 11). The already existing Ujamaa and Cooperative Development Office seems to be the best possibility. It already has a strong political backing that will enable the extention 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 the village level. A third advantage of this attachment is that the Ujamaa and Cooperative Development Office has considerable experience in

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1) We would prefer that all adult women in the village took part in the election, but this conflicts with current practice.

community development work - including mobilization of women's projects. The proposed re-organization of this office (Daily News, June, 1981), to create a Community Development Division within it, is an additional argument in favour of our proposal.

3.1.3 The Project Committees

There seems to be a need for an additional temporary committee during construction of larger projects[1]. The raison d'etre for its establishment is to "safeguard the interest of the people in the project area"[2].
At present it brings together leaders of the local authorities (e.g. AC, DDD, DWE/RWE), project personnel, and executives from the implicated wards and villages.

It should also include the chairmen of the VWC's and the EU. The committee could then provide the forum for the implicated villages to confront the authorities as a group. It would also assure the larger projects of continuous political backing that could remove many obstacles if need arises.

3.2 Participation in the project cycle

The tasks of the VWC and the EU at the different stages of the project cycle are discussed below. The tasks are summarized in the appendix. The tasks of the PC are not specified, but its activities in Danida-funded water projects will be observed[3].

3.2.1 Selection

The four conditions for participation mentioned in section 1 are not met at present (or are only partly met), and this limits the possibilities for participation an this crucial stage in the project cycle.

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1) Such committees have been formed by the district authorities to supervise the DANIDA-funded Image Water Project (6 villages) and the UNICEFsponsored Wanging'ombe sanitation project (approximately 50 villages)
2) Authentic statement from a regional leader
3) The PC under study does not at present include VWC representatives

Very little - if any - sharing of decision making with villagers takes place at present (condition 1). The establishment of an EU is necessary to get a dialogue started. Also a general change in attitudes towards villagers among many civil servants and MAJI workers seems desirable if participation shall succeed.
Project selection is not based on felt and expressed needs (condition 2).

Some villages undoubtedly become candidates for a water supply because their request has been forwarded through the proper channels (ward, division, district, region, PMO and back). Other become candidates due to patronage and/or because MAJI has sent a survey team to the village. Surveyed villages for which preliminary designs and cost estimates have been made, stand a much better chance of being considered for implementation at the screening at district and regional levels than do village requests without surveys and cost estimates[1)]. MAJI - through its survey and project preparation work - actually tends to bypass the laid down procedure which in principle is based on village requests according to the principles of decentralization.
In principle the preparation of Water Master Plans should improve the potential for village participation in project selection. For instance, the DANIDA-funded plans for Iringa, Mbeya and Ruvuma regions will contain rough cost-estimates and design sketches for each village (village sheets) in the three regions. Thus all village requests for water scheme can be given a technical and economic evaluation in the screening bodies which in principle should give them a more equal chance in the bureaucratic battle over scare resources. The screening will hopefully be influenced by the priority criteria put forward in the Water Master Plans.
Not all villages with an objective need for improved water will, however, forward requests. It will be one of EU's important tasks to start a dialogue with such villages to make the villages aware of the potential benefits of improved water. Water Master Plan priority criteria should be used to direct the EU towards priority areas.
It should be noted that VWC's do not have a role to play at this stage, They should only be formed if funds for a water scheme are approved or

if a village decides to improve its traditional water sources without transfer or resources from outside (see BRALUP/CDR, Quarterly Report, February 1st, 1981).

Project selection is never based on village willingness to pay part of the O & M costs (conditions 3). The result is that villagers regard a water scheme as a free public service, which consequently, is placed high among village priorities. If villages were requested to make continuous contributions, we assume that a water scheme would get a more realistic position on the village priority list; that their sense of ownership would increase; that their monitoring during scheme implementation would be more close; and that village pressure for maintaining the scheme would grow. The serious economic problems facing Tanzania in this decade are in themselves an important argument for finding ways of limiting government recurrent costs[1].

A village request for a water scheme will have to be approved in two steps. The first step is a tentative approval by the screening bodies based on priority criteria laid down in the Water Master Plan. They give green light to the EU to start a dialogue with the village government about the responsibilities which the village must be prepared to take if it wants a water scheme (condition 2 being among them). The green light should, however, not be given without earmarking funds for the project. If funds are not earmarked the authorities cannot keep promises that the EU makes during the dialogue (see condition 4).

We believe that village contributions to O & M expenses should be taken from the surplus generated from communal activities (village shambas, grinding machine, shop etc.) - not from individual payments. This would exclude villages with badly organized or poorly supported communal activities. On the other hand the prospect of a water scheme may motivate a village government and villagers to emphazise communal efforts if improved water is regarded as sufficiently important[2].

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1) We find some support for conditon 2 in the Third Five Year Plan (1978-1981, chapter 11): "To speed up implementation of water supply programmes, benificaries will be required to participate fully particularly on small projects. Village governments will investigate best strategies of meeting part of the water supply costs for their water schemes".

2) Poverty striken villages should receive subsidies.

Second step is taken if a village agrees to the conditions laid down. It is concluded by the signing of an agreement between the village government and the authorities. The signing obliges the authorities to release funds for the agreed project.
The bureaucracy should "deliver the goods" (condition 4). At present construction of even simple supplies often takes 4-5 years. Furthermore, a village request for water may only give results 10 years later, with 5 years or more elapsing between survey and construction. Under such conditions it is impossible to mobilize and sustain villager's interest in participation in a water supply project.
Genuine participation cannot develop with an inefficient and unaccountable bureaucracy. At present the bureaucracy has difficulties "delivering the goods". One important obstacle is that the government has a one-year planning period which does not provide for sufficient time for consultation with villagers. Moreover, the one-year period does not allow MAJI time for its own construction planning and field preparation.
The proposed EU is the villager's warranty that MAJI will keep its part of the agreement.

3.2.2 Planning

The VWC is not to be established until funds have been allocated for the village. One of its first tasks is to make a preliminary survey together with the EU. This survey, which will be based on the village sheet from the Water Master Plan, should result in village recommendations for the location of domestic points and other facilities. The VWC should also give suggestions for the source of the water scheme.
Before implementation starts the village survey has to be checked by the MAJI surveyor. Implementation should not start until possible suggestions for changes have been discussed with the VWC.

3.2.3 Implementation

The water scheme should be regarded as property of the village. To develop a sense of ownership among the villagers the project materials should be under village protection upon arrival to the village. Therefore the store keeper (site clerk) should be selected from amoung

the villagers by the VWC. He/she should be trained for some weeks by MAJI.

The unskilled workers needed for the construction of the intake, the water tank and the domestic points should also be selected by the VWC assistant, by the site engineer or MAJI foreman. MAJI should also examine the possibilities of using any skilled workers from the village, such as carpenters.

The VWC should organize the digging of trenches for mains - and distribution lines. The main lines should be built by MAJI, but the distribution from the mains to the domestic points should be built by VWC-selected villagers, under MAJI supervision[1]. Those people who later will look after operation and maintenance of the scheme (see below) should be given special training during pipe laying and the connection of pipes to the DP's.

Before completion of the scheme some health/sanitation education should be given organized by the extension unit with focus on women and children.

3.2.4 Operation and Maintenance

The daily running of the scheme is the responsibility of the village under the supervision of the water committee.

The spares for maintenance should be supplied by MAJI. However, the maintenance - apart from major breakdowns - should be taken care of by a maintenance team, selected by the water committee and paid for by the village.

This team may either consist of 1) two or more women or 2) one woman together with a man. Two or more women will be able to support each other, specially during cultivation, harvest and pregnancy. A maintenance team consisting of a woman and a man may be more easily accepted by the men in the village and thus by the village government. However, it is important that women gradually become involved in the maintenance work, since we believe that will ensure higher reliability

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1) Note the parallel to side and service schemes, where only roads and sanitary units are provided from outside

of the scheme and that it will help the women maintain their status as providers of water.

Besides having followed the whole implementation actively, the maintenance team will have received a special course at MAJI in how to maintain a water scheme. Moreover, they must have participated in the health/sanitation programme mentioned above.

The maintenance team will be accountable to the VWC, who in turn can address itself to the extension unit in cases of maintenance problems.

3.2.5 Evaluation

MAJI's performance in maintenance and its ability to deliver spare parts should be evaluated at yearly meetings at divisional level. Present at these meetings should be party representatives, members of the extension unit, the chairman of the water committee and the maintenance team.

4. Concluding Remarks

It is envisaged that the phases of selection and planning (see also appendix) will last about one year. The implementation phase will last another 6 to 8 months, whenever the conditions stated above are met (e.g. MAJI's ability to deliver the materials).

However, it should be emphasized again that the suggestions put forward above have not yet been tested in full in the field. It is our hope that they will provide thoughts for stimulating discussions during this workshop.

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APPENDIX: Village Participation in Project cycle

Phase	Activities: Construction of water supply	Activities: Improvement of traditional source[1)]
A: Selection	1. EU mobilises village interest (or responds to village request).	1. EU mobilises village interest (or responds to village request).
	2. EU helps to establish VWC.	2. EU helps to establish VWC.
	3. EU briefs VWC on proj.planning.	3. EU briefs VWC on proj.planning.
B: Planning	4. VWC calls village assembly to discuss: - financial commitment - DP location - auxillary facilities - workplan (EU assists assembly)	4. VWC calls village assembly to discuss: - financial commitment - alternative improvement - auxillary facilities - workplan (EU assists assembly)
	5. Village gives green light or refuses.	5. Village gives green light or refuses.
	6. VWC surveys project area.	
	7. VWC, EU and MAJI coordinate project plans and sign agreement.	6. VWC, EU and MAJI coordinate project plans and sign agreement.
C: Implementation	8. VWC mobilises villagers for construction of store.	
	9. MAJI ships all construction materials to village store. Material becomes village property.	
	10. VWC selects villagers for on-the-job training.	
	11. MAJI starts construction and villagers contribute labour.	
	12. VWC and village trainees organize and implement construction of distribution lines and DP's. MAJI supervises construction. (Not applic. for non-pumped supplies).	7. Villagers implement improvement assisted by EU and MAJI.
	13. EU and VWC organize health/ sanitation education.	8. EU and VWC organize health/ sanitation education.
D: Operation and Maintenance	14. Village selects maintenance team among village trainees. Team is paid by village and supervised by VWC.	9. VWC responsible for maintenance on improvement.
	15. Maintenance team receives education in environmental sanitation.	10. VWC received special education in environmental sanitation.
E: Evaluation	16. All VWC's meet once a year with MAJI at divisional level to discuss O & M problems.	

1) Those villages which for a number of years will not be concidered for a water project can in the meantime - without input from external resources - by own initiative or prompted by the EU and supported by this Unit improve their traditional sources. This seems to be a viable option for many villages which cannot expect to get an ordinary water scheme in the foreseable future and it is here suggested the Tanzanian 1991 rural water supply programme to us appears rather unrealistic.

WORKSHOP DISCUSSIONS

(summary of main points)

Introduction

The workshop was devoted mainly to discusions, with the papers serving a short introduction to broader discussions of the topics of each session. For this reason it is appropriate to summarize the discussions of each day together here.

The theme of the first day, 14th July, has "Sociological Problems in the Planning and Implementation of Water Supply to Meet Village Needs". On the second day, 15th July, the topics covered were "The Views and Attitudes of Villagers Towards Water Supply, and the Socio-Economic Feasibility of Village Participation in Water Supply". On the final day, 16th July, the specific "Arrangements for Village Involvement in Water Supply, and Community Needs and Criteria for Levels and Types of Water Supply" were the subjects for discussion. However, the discussions were not kept strictly within the themes for each day.

For the final afternoon, 16th July, the workshop was divided into three working groups in order to formulate conclusions, then reconvened in a final plenary session to discuss working group conclusions and agree upon workshop resolutions.

Theme 1: Sociological problems in the planning and Implementation of supply to meet village needs

1. Concern was voiced that community participation should imply:
   (a) a greater contribution from the village, in labour or money, particularly for the village to take over responsibility for maintenance; and
   (b) a greater contribution from the government in meeting people's needs, and in particular for MAJI (the Ministry of Water and Energy) to work more closely with the village people to ensure this.

2. One view expressed was that because of the country's financial constaints and the enormous cost of the water schemes, to give people water free, that they will have to pay for maintenance. Also, that there is a need for policy clarification and a consistent national policy in every region as to what is free. The view was put that the village people should take over all responsibility for maintenance and do without MAJI.

3. A clarification on this point was presented by Mr. Mutaborerwa representing the Prime Minister's Office. The policy of free water should be taken to mean that water will be free to individuals when they go to the public tap or handpump. This policy does not exclude the possibility that villages be required, collectively, to contribute towards their water supply.

4. It was argued that a longer-term view should be taken of cost reduction. In the short term, expenditures are required to organize community participation (personnel are needed to promote it) and to help meet the villages' expressed needs. But if people are involved from the earliest stages of planning their village supply, they will do more for maintenance; and if their needs for water for economic purposes are also met, this will be a carrot to involve people in labour and cash contributions to construction.

5. Many remarks were addressed to the need to change attitudes among technical staff. It was suggested that the main reason why water supplies have hitherto been an example of "development from above" rather than participarory development is that technical and administrative staff underestimate the knowledge of the villagers, show contempt for their expressed wishes and so inhibit the expression of other needs, and use the village councils to push for increased production rather than increased participation.

6. There was a discussion on the ways in which attitudes might be changed. It was generally agreed that changes in staff training would be insufficient. There needs to be pressure from below, which may be achieved through education in the rural areas; it was also suggested that the CCM (Party) should be involved. The role of the Party should be to represent people, not just to mobilize them.

7. One approach taken towards the development of greater participation stressed the potential role of the Party in revitalising the existing structure from village up to regional level. It was argued that, in general, it is preferable to make existing structures work more effectively rather than setting up new ones in an approach characterized as "institutional escapism".

8. One the other hand, it was suggested that there does not have to be a specific structure established to organize a programme of community participation. One possibility mooted was that the new structure should be a unit within the regional water departments. Such a unit could be a "Water Advisory Service" similar to the advisory service of the Ministry of Agriculture. It would have representatives at division and ward level, who would encourage and support activities by the villages, forming a link between the village water committee and the district water office.

9. It was generally agreed that village committees for water, sanitation and health should be established wherever water project are proposed, but not left to themselves: they need back-up from district level and should not be established as an empty formality without such back-up being assured.

10. It was further suggested that there should be a national propaganda campaign by government for the promotion of village activities, MAJI providing technical support for what villages decide to do. The campaign should also show the villagers the need for action on their part over maintenance.

11. It was stressed that villagers do not use water just for domestic purposes among the economic purposes for which water should be provided is livestock; but those with larger herds of cattle should pay proportionately to their use of water.

12. The urgent need for practical and detailed proposals was stressed by several participants. There is a need to move from planning to implementation of a participatory approach, from academic exercises to practical measures. For example, Mr. Ravdal, representing Norconsult, and describing the proposals for implementing the water master plans for Rukwa and Kigoma drawn up by Norconsult, spoke of the immediate need to operationalize the proposal "village mobilization and participation" which appears in the plans.

Theme 2: Views and Attitudes of villagers towards water supply, and the socio-economic feasibility of village participation in water supply

1. It was felt that greater involvement of the villages is feasible, including in maintenance where it is especially necessary; there should also be greater involvement of government agencies in working more closely with the villages.

2. Discussion then turned to the depth of village involvement which is feasible and desirable. In terms of village contributions, there is a wide possible range from minimum participation (e.g. provision of labour which is paid) to maximum participation (contribution of free labour and cash towards implementation, and shouldering of the full burden of maintenance. Doubts were expressed whether this last is feasible.

3. The point was made that to ask villages to take responsibility for maintenance is to attempt to involve them in a programme which has already been executed. The procedure may be seen by villagers as a mechanism of outside control, to exact contributions from them. On the other hand, if villagers are involved from the beginning, they are more likely to see their participation as a contribution towards greater reliability and sustained development.

4. It was emphasised that in order to obtain cooperation from villagers, the villages should be asked about their various water requirements which could be met by a modern supply. Existing studies show that the greater priority for villagers is often for water for economic purposes (irrigation, cattle, even house-building). A modern supply for domestic use only will not lead to increased earnings, and if their scarce resources are called upon for construction or maintenance, they may not be willing to make them available. On the other hand, a water supply serving economic purposes will increase earnings and they may be more willing to contribute. A modern water supply should be seen in the context of rural development.

5. It was felt that as village participation is an important goal, water master plans should also contain concrete proposals for soliciting village participation. Donor implementing agencies should implement water master plans in the closest cooparetion with regional, district, and village authorities.

6. It was accepted that village involvement should be sought from the start, i.e. in planning and implementation: villages should not be asked to take over maintenance of a project in which they have had no say.

7. The procedure used in the Finnwater project in Mtwara-Lindi was outlined. To mobilize village labour, a contract is made with the village authorities for executing jobs. Contracts contain arrangements for trench-digging, pipe-laying etc. They can be extended to the training of pump technicians and to duties of operation and maintenance. This type of agreement by which services are rendered on a contractual basis and payment made after the delivery of the goods guarantees the quality of the work because payment is not forthcoming when the contracted job is not performed well. The payment is made to the village council.

8. The more usual procedure in self-help schemes was discussed. The experience is that self-help for executing government schemes is only forthcoming as long as government leaders are present to press the issue - it drops off as soon as they disappear. It was thought that the possibility of success in implementing improved water supplies by self-help schemes could be increased if village councils were encouraged to take an active part and if a special village water committee were to take charge.

9. It was felt that in organizing village involvement, special attention should be paid to the possible contribution of women. As the provision and carrying of water domestic use is mainly the task of women, their decisions may carry great weight - any change in the water supply can greatly alter their functioning within the society. Measures should be taken to prevent all salaried jobs

going to the men while all unpaid work is loaded upon the women. Therefore, there is a great need to involve the UWT (Union of Women of Tanzania) to a considerable extent.
However, the question was also raised whether it is wise to leave the responsibility for water supply to women, who traditionally are left with low status activities. It might not result in practice in the promotion of either goal, of raising women's status or water development.

10. It was argued that villagers can only participate effectively when they understand not only the advantages of a modern water supply but also the basic technology. The Small Industries Development Organisation (SIDO) could be asked not only to educate villagers in small scale technology but also to participate in the arrangements to design and manufacture in Tanzania a handpump adapted to local circumstances.

11. It was considered that when village participation is solicited, village opinions should be listened to and information should be gathered from villagers, who know more about their local circumstances than many outsiders expect. At the same time, the government should commit itself not only by words but also by deeds in order to avoid disillusionment among villagers. The organization which has to execute the promises made to villagers must be strengthened.

12. The point was made that if village councils are to play a major role in soliciting village involvement in realising an improved water supply, they must be provided with basic requirements, e.g.:
    - a training for efficient village leadership;
    - a village bookkeeper;
    - such minor items as a safe box may be crucially necessary (but not, of course, sufficient!)

13. To facilitate the process of village involvement, it was considered that the links between village, ward, division, district, and region need to be strengthened by decentralization of

decision-making, tasks and responsibilities. Only when villagers are part and parcel of decision-making can a sense of responsibility and ownership ensue. It was pointed out that the reorganization of the Prime Minister's Office, with the appointment of Regional Community Development Officers and of Community Development Assistants at levels between village and division should have this strengthening effect. An improved information flow between the village and higher levels is required.

14. It was suggested that a special promotion team or extension unit might also be necessary, in order to break through the apathy and disillusion of the villagers - their withdrawal from what they may see as government interference. Government officials have often come to see the farmers as an immobile and uncooperative group. An extension unit could break through this deadlock.

15. It was felt that there is a need for the organization of community participation to be carried out by a community development worker with a greater range of operation than the village manager. Therefore, however it is organized in detail, it is appropriate for overall responsibility to be in the hands of the Community Development Department of the Prime Minister's Office. This Department will be able to call upon:

- MAJI, for technical aid in planning, implementation, and maintenance;
- AFYA (Ministry of Health), for measures directed towards disease prevention and better sanitation;
- KILIMO (Ministry of Agriculture), for water supply for economic purposes;
- ELIMO (Ministry of National Education), for creating greater ewareness.

Moreover the Community Development Department of the Prime Minister's Office will have a direct link with all regional authorities and extend its influence into the villages through village community development workers.

16. It was considered that if villagers are asked to make their proposals for the future use of their water supply, they should also have a say in the kind of water supply they want. However, in practice a compromise will have to be worked out between the wishes of the villagers and the technical and financial possibilities.

17. The point was made that while stress is laid on village involvement, villagers may lack the technical knowhow needed. Therefore, regional and district MAJI officers have an essential role, and should have mobile maintenance teams whether or not villages make a contribution to maintenance. The work of these teams would be facilitated by standadization of equipment. Some participants regretted the lack of initiative towards the standardization in particular of pumps, while others doubted the efforts of regional water personnel to keep their team mobile. In these circumstances, skepticism was expressed that village participation could solve the maintenance problem.

Theme 3: Arrangements for village involvement in water supply

1. The point was made that to become meaningful, village participation should start at the phase of selection of villages for a supply.

2. It was said that, since the need for water is apparent in all spheres of life, the provision of water is not the task of a village water committee alone but should be a concern of all village committees.

3. As the job of a pump attendant does not require very much work every day, the suggestion was brought forward that the job should be combined with another, such as village mechanic or, particularly with the re-establishment on a firm footing of a village health worker programme, with that of village health worker. Again stress was laid on the fact that the role of women in these jobs is very important.

4. Some participants stressed the fact that villagers should be informed about the advantages of clean and healthy water for their health. As the provision of clean and healthy water is not a priority in the villages, a promotion or extension unit could do something towards improving the situation.

5. Other participants stressed the need for a nation-wide campaign which would meet this need and suggest practical action to the villages. However, it was agreed that a campaign without adequate support and follow-up would not be very beneficial.

6. It was pointed out that the water supply installation should not be seen as just a short-term palliative in a crisis sitaution but should be installed within a long-term approach and be part and parcel of an integrated development strategy.

7. In order to build up such a strategy from below, the need was felt for more information which could be gathered from pilot projects.

8. Within a long-term approach, clear proposals should be formulated for financing this approach and funds should be made available.

9. It was considered that a promotion team or extension unit should work at district and/or regional level and forge an active communication link from village level up to regional level by regular meetings at all levels. It was proposed that regional steering committees be established to facilitate this promotion work and to coordinate implementation.

10. Again attention was drawn to infrastructural bottlenecks in MAJI, causing in particular poor maintenance performance: lack of transport facilities, financial constraints, lack of spare parts, poorly equipped workshops, insufficient manpower, lack of work discipline, lack of integration and coordination. Community participation will have no effect on these problems. In an overall approach to water supply this situation should be improved in order to facilitate a smooth functioning of community participation and to prevent the growth of disillusionment in the villages, which might result in apathy for any village work on the improvement of the water supply.

11. Despite these constraints, great emphasis was laid on the desirability of villages taking responsibility for their own supply, and making their own contribution to installation and especially to maintenance.

12. The point was made that while a participatory approach should lead to a more effective and better used and maintained water supply, there may be a cost in terms of the speed with which full coverage can be reached, since the organization of an appropriate form of community participation does require time. Some participants felt that it was worth while taking time to meet real needs of villagers, and that if necessary the 1991 target not be regarded as an absolute deadline. If it is so regarded, there is a danger that supplies will be contructed merely for the sake of fulfilling it: such supplies may not be valued or remain in operation for long.

Other participants considered that, given appropriate organization and a modicum of resources to support it, community participation should help also the achievement of the decade target.

Conclusions and recommendations

For the purpose of drawing together final conclusions, the workshop divided into three working groups to formulate conclusions on the following subjects:

1. For what purpose is community participation required?
2. What form should community participation take?
3. In what organizational structure should community participation take place?

The working group conclusions were then presented to a final plenary session for discussion. The following is a summary of the conclusions finally reached.

1.1 The purpose of community participation in rural water supply is to obtain a reliable and sustained water supply, catering also for economic purposes, and as one of the components of an integrated rural development.

1.2 The additional costs of providing a water supply above a basic minimum level should be borne by the community opting for a higher level of supply, and the costs of water supplied for economic purposes should be borne proportionately by those who benefit economically.

1.3 In order to reach this goal:

a) Villagers should be helped to realize their right to an improved life style;

b) They should be enabled to put pressure on government agencies in order to realize their rights;

c) A two-way communication process should be promoted through which government agencies can communicate with villagers and obtain feedback from the villages;

d) Villagers must be encouraged to develop a sense of responsibility for their own destiny and development;

e) They should be enabled to identify their own problems and solve them by making a demand on external help or by using the

possibilities and resources present within the village. People should come to realize that they can do things for themselves. They should be involved in all aspects of any project where there is also an external contribution, from start to finish.

2. Village participation being necessary, villagers should participate in the following ways:
   a) Planning: among other ways, by providing local information and expressing their needs;
   b) Designing: e.g. by suggesting how water-pipes, standposts and wells should be distributed in their villages, at open meetings;
   c) Constructing: e.g. by providing labour for trench-digging, concrete works, pipe mounting, carrying of materials, etc., and cash for extra expenditure above a minimum supply level;
   d) Operation and maintenance: by providing voluntary or paid labour, and cash for spare parts etc.;
   e) Selection of villagers for training: participation in seminars and training programmes of Adult Education, MAJI, or the Community Development Department.

   Through these procedures villagers will be informed and educated concerning the possibilities which are feasible, concerning the decisions which can be made, and concerning the constraints limiting their options.

3.1 Given the fact that community participation aims at an integrated approach to water for economic as well as domestic purposes, the overall coordination should be exercised by the Community Development Department of the Prime Minister's Office, which may call upon MAJI and other sectoral ministries for technical guidance and support.

3.2 As water master plans are made at regional level, the responsibility for the implementation of the plan should primarily be placed with the Regional Development Director.

3.3 At regional level the Community Development Department should be in charge of soliciting district, division, ward, and village participation in selecting, designing, implementing and maintaining water projects.

3.4 While it was agreed that overall responsibility for communication and liaison with the villages should rest with the Community Development Department of the Prime Minister's Office, the workshop was divided on the question whether:

a) a special unit should be established within the Community Development Department at regional/district level to deal just with the question of water supply; or

b) it should be one of the tasks of the Community Development Department as a whole, and appropriate training given to all community development workers.

3.5 Villages should have a paid pump attendant (whether or not this is combined with another role such as village health worker), supervised by a village water committee (whether or not this also serves as a health committee).

3.6 The district water office should be provided with the necessary manpower and operation and maintenance facilities, including transport, to provide the necessary back-up support for village maintenance activities.

3.7 In all village-level and other committees, women should play a prominent role.

Workshop resolutions

The following resolutions were agreed by the workshop:

1. An essential prerequisite for community participation is that people are made aware of their rights as well as their responsibilities.
   In order to achieve this:
   - the rights and responsibilities have to be defined;
   - a mechanism for informing the people of their rights and responsibilities has to be established.

2. The Prime Minister's Office should be in charge of community participation, and regional and district technical departments should be responsible for providing technical support at village level.

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, such as livestock and small scale irrigation, should be taken into account in planning village water supply with the villages.

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.

5. For a community participation programme to be effective, transport and other back-up support be provided by MAJI and the Prime Minister's Office.

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.

7. In the construction phase of village water supply, education should be emphasized and training extended to village level to ensure proper operation and maintenance.

8. Monitoring and evaluation should be part and parcel of water supply projects, and the community must participate in these activities.

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.

ANNEX 1

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