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MINISTRY OF WORKS

WATER DEPARTMENT

PIPED SUPPLIES FOR SMALL COMMUNITIES

(PSSC) PROJECT/MALAWI

INTERIM REPORT

LILONGWE, June 1990



PROJECT SUPPORTED BY
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1. INTRODUCTION

The Piped Supplies for Small Communities (PSSC) Programme is an inter-country activity funded by the Netherlands Government through IRC. It is aimed at developing and demonstrating efficient and appropriate ways of planning, implementing and managing piped water supply systems with appropriate sanitation for use in rural and low income fringe urban areas.

During the implementation of the programme special attention is being given to promoting the development of approaches that involve the community at every stage and which take account of the social, financial and operational issues as well as the necessary technology.

The programme also stresses the complementarity of water supply, hygiene education and good sanitation.

The programme is implemented through national projects in Malawi and Zambia, with advisory support from IRC, and is a follow-up to the Public Standpost Water Supplies (PSWS) project (1983-1987).

2. OBJECTIVES OF THE PSSC PROJECT IN MALAWI

The General Objectives of the PSSC project in Malawi are:-

- To develop and demonstrate more efficient and appropriate ways of planning, implementing and managing Piped Water Supply Systems, with appropriate Sanitation, for use in rural and low income fringe urban areas;
- To promote the sharing and application of such knowledge and understanding at national programme and sector policy level and in other projects.

Specific Objectives include:-

- To conduct a series of studies and to prepare guidelines on particular organisational, socio-economic, financial management and technical aspects of piped water supply and sanitation systems;
- To set up and develop a number of study and demonstration schemes on these systems;
- To promote the larger scale application of the strategies and methods developed and to assist in securing external funding to support these developments;
- To contribute to the international exchange of information on aspects of piped water supplies and appropriate sanitation systems in line with the concept of Technical Cooperation amongst Developing Countries (TCDC).

3. ACTIVITIES CARRIED OUT SO FAR

The project in Malawi got underway in January 1988.

In order to adequately meet the above objectives, the focus of the initial year's activities was mainly on Preparation and Information Collection.

Preparatory activities included the strengthening of the project management structure from the previous PSWS project (restructuring of the Project Working Group and the consolidation of the Project Team). Information collection included Reviews and Surveys.

During the second year, 1989, the main activities carried out included:

- finalisation and field testing of the approaches developed;
- field testing of Guidelines;
- preparation of new demonstration schemes.

3.1 Project Working Group (PWG) Meeting and Project Team Strengthening

After overcoming constraints experienced during the PSWS project phase, the first meeting of the inter-ministerial PWG was held in 1988, chaired by the Water Engineer In Chief.

Participants included representatives of the Ministry of Health, Ministry of Community Services and the University of Malawi's Centre for Social Research. Briefings were given by members of the newly constituted Project Team on the PSSC project.

The Project Team was also consolidated with the placement of a permanent and regular member from the Ministry of Health. The Team now consists of the Project Manager, from Water Department, one Project Officer from the Ministry of Health, one Project Officer from the Ministry of Community Services and one Project Adviser from the Ministry of Community Services (for a full list see Annexe IV).

3.2 Review of PSWS Project Experience

A review of the PSWS project experiences was carried out in order to look back at what had been achieved during the first phase. Both successes and difficulties were summarised in order to capitalise on the successes and find means of rectifying the shortcomings during the PSSC project phase. (For full details see the Review Report of May 1988).

3.3 Summary Review of Piped Water Supplies

A Summary Review of national experiences in Piped Supplies was also commissioned to try and look at past experiences with piped supplies in Malawi, to further identify key issues which would be taken up by the PSSC demonstration project and assess the potential need and appropriate uses for Small Piped Supplies in Malawi.

The University of Malawi's centre for Social Research was commissioned to carry out the review. (For conclusions and details see Review Report of October 1988).

3.4 Detailed Activity Planning 1988 and 1989

Planning meetings were also successfully held in May 1988 and April 1989, to produce detailed Project Activity plans, to be implemented during the respective financial years. A unique feature of the meeting was that they involved all project staff drawn from all the three Collaborating Ministries. (For full details see Meeting Reports of May 1988 and May 1989).

3.5 Special Subject Studies

Four Support Studies on:

- Operation and Maintenance
- Financial Management
- Technical Aspects
- Hygiene Education and Sanitation

were carried out by members of the Project Team to shed some further light on areas which required careful attention during the rest of the PSSC project.

3.6 PSSC National Workshop

A National Workshop was successfully held in Malawi between 10th and the 16th October 1988 to bring together experiences within Malawi, get feed-back on PSWS project findings, and review and adopt preliminary PSSC outputs such as draft Guidelines, Special Study findings and Piped Supplies Review.

3.7 Development of Methodology for Planning Piped Supplies with Communities

This key activity was carried out during the initial year and took considerable time. It included monitoring the operation of existing demonstration schemes; data collection and observations of water collection and water-use habits by communities; analysing information gathered, to isolate persistent problems and find solutions to the problems (including field testing of the proposed solutions).

Results have been quite good, and appropriate adaptations have been made to the approaches which were being tried in existing schemes, in order to ensure minimal problems when the methods are applied in the new demonstration schemes.

3.8 Selection of New Demonstration Schemes

This activity was also completed during the initial project year. Selection criteria were established and all possible centres were subjected to the criteria.

Site visits were also made by the Project Team members to all the proposed centres and a further analysis was also made to endorse centres as suitable for PSSC development.

Four centres were finally selected for PSSC project demonstration purposes. These included Mulanje, Namadzi and Monkey Bay in the Southern Region and Rumphu in the Northern Region (for details see Guideline for Selecting PSSC Centres, Annexe III).

A number of criteria were also used in jointly siting water points within the selected centres (see Guideline).

3.9 Monitoring and Operational Support of Existing Demonstration Schemes

The Project Team continued to monitor and further improve the operational procedures and community support methods at each of the four PSWS demonstration centres at Kasungu, Likuni, Dowa/Mponela and Salima. These mature schemes from the earlier Public Standpost Water Supplies (PSWS) project (1983-1987) were adopted as continuing demonstration schemes within the PSSC project, for longer term monitoring alongside work on the new PSSC demonstration schemes.

Some of the Areas of special focus included:-

- Community financial management;
- Tap committees (long term operation);
- Community water collection, water use habits;
- Water point utilisation/community water consumption in relation to income earning patterns;
- Community participation (long term effect);
- Long-term benefits of training;
- Impact of effective information dissemination;
- Long-term effects of enhanced agency support.

3.10 Setting Up of Local Project Coordinating Teams

In order to ensure effective inter-agency cooperation and agency-community communication at the demonstration centre level, the project set up Local Project Coordinating Teams (LCTs) comprising Field Assistants (extension workers) from all Project Participating Institutions, (Water Department, Ministry of Health and Ministry of Community Services).

The LCTs are responsible for initiating dialogue with the communities, soliciting support from local authorities and generally preparing agencies and communities to take part during the various project stages, in addition to fostering community participation and generally providing extension services.

3.11 Guidelines and Manuals Development

Feed-back from the monitoring activities provided the raw material for further developing and refining various draft Guidelines and Manuals.

A number of draft Guidelines and Manuals on aspects of the approach taken in the existing demonstration schemes have been developed. These include draft Guidelines for:-

- Centre Water Councils
- Local Project Coordinating Teams
- Monitoring Assistants
- Water Plant Operators
- Tap Committees
- Tap Committee Treasurers
- Consumer Groups
- Selection of PSSC Project Centres

3.12 Preparation of New Demonstration Schemes

In order to adequately prepare the new Demonstration Schemes at Mulanje, Namadzi, Monkey Bay and Rumphi, Monitoring Assistants were posted and their initial task was to form Local Coordinating Teams, and Centre Water Councils. The next task was to open up dialogue with local authorities, community leaders and the communities themselves with a view to involve the communities in locating the water points. Tap Committees were thus formed at each of the selected water point locations.

Preparations are now complete in all the four centres. Communities have made their own guided decisions on what contributions they will make during and after construction of the water points.

What is remaining now is to train the Tap Committees, preferably before construction work commences, together with ongoing monitoring and support.

Hygiene Education and Sanitation activities have commenced in some centres and the activities are to be introduced in the rest of schemes as well.

3.13 Promoting the Sharing and Application of Information

As one of the major objectives of the PSSC project, this activity was given priority during the reporting period. Among the activities which were organised to achieve the objective were:-

- Training Courses for extension staff - one integrated training workshop was held for extension workers drawn from Water Department, Ministry of Health and Ministry of Community Services.
- Training Courses for Tap Committee leaders - these have been successfully held in all the existing demonstration centres. As follow up, exchange visits between Tap Committees have also been organised both at the Centre level and at inter-Centre level.
- Orientations for Centre Water Council members - Such orientations have proved to be one of the best means of disseminating project information. The leaders, once oriented, disseminate the information in turn to communities.
- In addition PSSC project staff have continued to promote the application of the PSSC methodologies in the national Communal Water Point Programme through meetings and informal discussions with project staff, local authorities and communities. This has greatly helped to improve operation of the Communal Water Point Schemes throughout Malawi.
- Realising the benefit of this support, the Water Department has requested PSSC project staff to visit other schemes to help overcome operational difficulties and advise on improvements.
- The PSSC Project Manager also took part in the Evaluation of the Rural Piped Water Supply programme which was financed by USAID.

3.14 Participation in International Workshops

Fulfilling one the PSSC project objectives of contributing to International exchange of information on aspect of piped water supplies and appropriate sanitation system, members of the Project Team, the Project Manager from Water Department and two Project Officers from collaborating Ministries of Health and Community Services attended two International Workshops in Zambia in January 1989.

The first Workshop was on Piped Supplies for Small Communities in Zambia organised by the counterpart project in Zambia. The Malawi team presented a paper which outlined experiences in Piped Supplies for Small Communities in Malawi. Contribution were also made by the Malawi Team during various plenary and working group sessions.

The second was a Working Group Meeting which discussed a Draft Guideline Manual on Cost Recovery and Resources Coverage for Community Water Supply and Sanitation, and was held in Mongu, Zambia. Again the Malawi Team made contributions during discussions including drafting of the meeting report and development of proposals for follow-up activities in Malawi.

4. REVIEW OF PROGRESS AGAINST OBJECTIVES AND PLANNING

The PSSC project in Malawi has continued to develop steadily in accordance with its original objectives, yielding valuable information on effective planning, implementation, operation and maintenance of piped supplies for small communities with full community participation.

In line with original project objectives, the PSSC project has managed to develop improved methods of approach to small community water supplies which give priority to and focus on:

- Integration of social, economic, cultural, organisational and technical issues;
- Coordinated developed of piped supplies, hygiene education and sanitation in order to achieve the higher goal of good health for small communities;
- Community-based approaches in planning and preparation, design, construction and maintenance of small community water supplies and sanitation;
- Institutional strengthening by developing capacities;
- inter-agency cooperation through the creation of strong national, district and demonstration centre level committees to ensure promotion of integrated approaches and avoiding duplication of efforts;
- improved financial management, promoted through a number of measures initiated under the PSSC project;
- effective local organisation through the development of local committees;
- Training for all groups involved in community water supply;
- Guidelines developed for various groups at all project levels;
- Information exchange at both national and international levels;
- Information application at both programme and national sector levels;
- Demonstration of improved approaches through the development of new schemes.

Nonetheless, due to unforeseen circumstances some of the above activities have not yet been fully completed. Such activities include:-

- The implementation of a hygiene education and sanitation programme in the existing demonstration schemes;
- Implementation of water quality control programme;
- Publication of guideline manuals using the draft manuals developed;
- The training programme was only partially completed, a number of groups being not yet covered;
- Information exchange, again this has only been partially completed, although valuable ground work has been laid.

5. PLANS FOR THE REMAINING PERIOD

A. SHORT TERM PLANS

5.1 Guideline Manual Development Course

In order to enable the Project Team to develop further the draft guideline manuals, this course is a priority and will be held as soon as possible. Plans have already been finalised and IRC has been requested to assist in conducting the course. The course is planned to be held during the second half of July 1990.

5.2 Refining and Publishing of Guideline Manuals

Immediately after the workshop on production of Guidelines in July 1990, the project Team will work on refining of the draft Guidelines which have been developed so far. After the appropriate illustrations are done with the help of artists, the manuals will be published and distributed to respective groups.

5.3 Training New Project Assistants

Another immediate activity will be training for new Project Assistants. Plans are however that the training should be integrated with that for extension workers from the Ministry of Health and Ministry of Community Services who are collaborating in the PSSC Project in all the new demonstration centres. The training session is expected to last for one week and Project Team members will act as resource persons.

5.4 Training New Tap Committees

Tap Committees which have been formed in the new demonstration centres will have to be trained preferably before construction work commences. Local Coordinating Teams in the Centres have already produced programmes for the training.

5.5 Implementation of New Demonstration Schemes

Since adequate preparations have been made in the new demonstration schemes the next step is to construct water points with maximised community participation within the next three months. Cost estimates have already been made, designs have been finalised and materials such as pipes and cement are to be purchased. Community inputs which were agreed upon during consultations will include collection of sand, stones and bricks in places where they are readily available. Communities will also help in digging trenches for laying branch pipes to the water points. Women will also provide water and refreshments during construction. Communities will also provide skilled labour where possible, it has been agreed. Equally important is the long-term commitment of the users to contribute to the upkeep of the schemes through financial payments and in other agreed ways.

5.6 Implementing Hygiene Education and Sanitation Activities

Now that most of the old PSSC Centres have completed making preparations for starting hygiene education and sanitation activities, the programme will receive serious attention. Preparation have included plans for special training for Tap Committee leaders, meetings with communities to stress the importance of good hygiene habits, construction of demonstration latrines and washing slabs. Programmes and budgets for similar activities in the new demonstration centres have already been submitted for funding.

B. LONGER TERM PLANS

5.7 Interim Evaluation of the PSSC Project

The project is already over half way through, and there is need for an interim evaluation to try and sum up achievements which have been accomplished and also map out strategy for the remaining period of the project. Plans are that this should be held some time in late '90/early '91. In order to maximise feedback and use of findings the interim evaluation will be based as far as possible on self evaluation principles. Depending on whether the extension of the project is agreed, a final evaluation may be planned at the end of the project.

5.8 Second National Workshop

A second National Workshop will be held towards the end of the project, to sum up what achievements have been made, promote the wider use of information generated by the PSSC project and above all to plan follow-up activities. Plans are that this workshop should be held during the last six months of the project.

5.9 Special Subject Studies

Since only preliminary studies were carried out on a number of special subjects of interest to the PSSC Project, it is important that further in-depth studies should be undertaken. Plans are that such studies will be carried out early this year to try and look deeper into Operation and Maintenance issues, Community Financial Management, Technical Aspects and Hygiene Education and Sanitation. One of these major studies will be undertaken by a local consulting institution, the rest by the Project Team and staff of the participating institutions.

5.10 Monitoring, Support and Feed Back

This activity is on-going in the existing demonstration centres. However plans are that it will have to be intensified in the new demonstration centres particularly after construction of the new points, and plans are being prepared for this.

ANNEXE I

PIPED SUPPLIES FOR SMALL COMMUNITIES (PSSC) PROJECT/MALAWI

SUMMARY OF EXPENDITURES

(1) JANUARY 1988 - DECEMBER 1988 *

(2) JANUARY 1989 - DECEMBER 1989 *

(3) CUMULATIVE, YEARS 1 & 2 *

<u>ACTIVITY</u>	<u>EXPENDITURE</u> 1988 (MK)*	<u>EXPENDITURE</u> (1989) (MK)*	<u>CUMULATIVE</u> <u>EXPENDITURE</u> 1988 + 1989 (MK)*
1. GUIDELINES/MANUALS	1,000.--	NIL	1,000.--
2. TRAINING COURSES AT LOCAL LEVEL	6,596.09	NIL	6,596.09
3. WORKSHOPS AT DEPARTMENTAL LEVEL	11,695.--	14,426.30	26,121.30
4. NATIONAL WORKSHOPS	25,033.76	NIL	25,033.76
5. EVALUATIONS	NIL	NIL	NIL
6. SPECIAL SUBJECT STUDIES	13,366.--	NIL	13,366.--
7. CONSTRUCTION OF NEW DEMONSTRATION SCHEMES	NIL	49.76	49.76
8. HYGIENE EDUCATION AND SANITATION	NIL	NIL	NIL
9. WATER QUALITY MONITORING AND CONTROL	NIL	NIL	NIL
10. PROJECT EQUIPMENT	NIL	2,870.--	2,870.--
11. TECHNICAL MATERIALS	NIL	NIL	NIL
12. VISUAL AIDS	712.70	5,797.94	6,510.64
13. PROJECT WORKING GROUP MEETINGS	NIL	NIL	NIL
14. SALARIES FOR PROJECT ASSISTANTS	11,275.09	2,343.53	13,618.62
15. TRAVEL AND SUBSISTENCE FOR PROJECT TEA	11,168.33	13,874.54	25,042.87
16. HOUSING	6,105.--	36,250.--	42,355.--
17. PROJECT TRANSPORT OPERATING COSTS	15,899.69	31,175.59	47,075.28
18. ESTABLISHMENT OF REFERENCE FACILITIES	NIL	NIL	NIL
19. PROJECT TEAM SUPPLEMENT	NIL	NIL	NIL
20. INTER COUNTRY ACTIVITIES	NIL	NIL	NIL
21. RESOURCES COVERAGE	NIL	50,159.--	50,159.--
GRAND TOTALS	MK 102,851.66*	MK 156,946.66*	MK 259,798.32*
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* EXCLUDES DIRECT PAYMENTS MADE BY IRC.

PIPED SUPPLIES FOR SMALL COMMUNITIES PROJECT/MALAWI

LIST OF PROJECT PUBLICATIONS

1. "Quarterly Report, PSSC Project/Malawi"; F. Kwaule; Lilongwe; March 1988.
2. "Quarterly Report, PSSC Project/Malawi"; F. Kwaule; Lilongwe; June 1988.
3. "Discussion Notes on the Evaluation of the Project", PSWS Project, Ministry of Works, Water Department; Lilongwe; February 1988.
4. "Report on Public Standpost Water Supplies Project/Malawi review Workshop"; F. Kwaule, A.I.Z. Nkunika, M. Simika., S.F. Mlelemba; PSSC Project; Lilongwe; April/May 1988.
5. "Report, Regional Water Supply Seminar, Mangochi, 7-10 October 1987"; Ministry of Works, Water Department; Lilongwe; January 1988.
6. "PSSC Project Submission, 1987/1988, Development Estimates"; Ministry of Works, Water Department; Lilongwe; June 1987.
7. "Guidelines for Centre Water Councils", PSSC Project, Ministry of Works, Water Department; Lilongwe; January 1988.
8. "Communal Water Point Management and Monitoring", F. Kwaule, Ministry of Works, Water Department; Paper presented at Water Supply Seminar, Mangochi; 7-10 October, 1987.
9. "Causes of Debit Balances in Communal Water Points"; Sammy F.S. Mlelemba, Ministry of Works, Water Department; paper presented at Water Supply Seminar, Mangochi; 7-10th October 1987.
10. "PSSC Project Malawi: Priority Programme Financial Year 1988/89"; Water Department, Lilongwe; May 1988.
11. "Report on (liaison) visits to Zomba and Blantyre"; F. Kwaule, A. Shawa; Water Department and Ministry of Community Services; PSSC Project; Lilongwe; April 1988.
12. Problems in Monitoring Communal Water Points; C. Manjawila; PSSC Project, paper presented at second Communal Water Point Action Committee Meeting; Kasungu; March 1988.
13. Communal Water Point Campaign Report; S.F. Mlelemba; PSSC Project, paper presented at Communal Water Point Action Committee Meeting, Kasungu; March 1988.

14. Field Report; S. Mungunza, PSSC Project; Likuni; March 1988.
15. Field Report; C.N. Manjawila, Mponela; March 1988.
16. Field Report; S. F. Mlelemba, Salima; March 1988.
17. Field Report; R. Banda, Kasungu; March 1988.
18. Organisation for Operation and Maintenance of Small Community Water Supplies; F. Kwaule; PSSC Project paper presented at Rural Water Supply Workshop, Kwendeni; February 1990.
19. Background of the Piped Supplies for small Communities in Malawi; F. Kwaule; paper presented at PSSC National Workshop, Blantyre, October 1988.
20. Piped Supplies for Small Communities/Malawi; National Workshop Report; F. Kwaule, Blantyre, October 1988.
21. Experiences in Piped Supplies for Small Communities in Malawi; F. Kwaule, paper presented at PSSC National Workshop in Zomba, January 1989.
22. Piped Supplies for Small Communities in Malawi: An overview and forward perspective; W.C. Chilowe and A. Mawawa, Centre for Social Research UNMA; paper presented at the National Workshop on PSSC; Blantyre, October, 1988.
23. Relevance of Hygiene, Education and Sanitation Promotion in the Piped Supplies for Small Communities Project; B.B Chandiyamba, Ministry of Health, study carried out in PSSC Centres, September 1988.
24. Technical Improvements in Piped Supplies for Small Communities; F.S.L. Kumwenda, Water Department, study carried out for the PSSC project paper presented at the PSSC National Workshop, Blantyre October 1988.
25. Community Based Financial Management in Piped Supplies for Small Communities; R.J.V. Chirwa, Water Department study carried out for PSSC project, paper presented at PSSC national workshop Blantyre, October 1988.
26. Operation and Maintenance problems in Piped Supplies for Small Communities; F.Kwaule special study carried out in PSSC centres September 1988.

PIPED SUPPLIES FOR SMALL COMMUNITIES PROJECT/MALAWI

GUIDELINES FOR SELECTING PSSC PROJECT CENTRES,
SITES AND LOCATIONS FOR WATER POINTS

GENERAL

In proposing the new PSSC project centres the following factors should be taken into account:

- The scheme proposed should be technically feasible. It must have extra capacity to allow for development of public standposts.
- Schemes are selected in such a way that there should be a good spread of geographic, climatic, cultural and ethnic factors between the selected schemes.
- The proposed scheme should be within one day's travel of the Project Team's base in Lilongwe.
- The centre should have a record of poor water supply to assist acceptance of the new supply.
- The centre must be covered by existing Ministry of Health and Ministry of Community Services networks.
- The centre should have population of around 5,000 and of suitable density.
- The centre should be within an area of known good community participation spirit.

METHOD OF ASSESSMENT

Preliminary technical feasibility is done during a sectional meeting to discuss individual proposed schemes.

All available records of the individual schemes are examined including records on future development plans.

Factors such as existing capacity of scheme, size of pumps and tasks etc are taken into account.

If existing capacity of scheme is inadequate records of immediate plans to augment the scheme are also examined.

If plans indicate that the scheme would be augmented within the life period of the project, it can tentatively be selected for development of public standposts. However if there are no immediate plans to augment the scheme, it is then dropped. The rest of the criteria are either discussed during the sectional

meeting or determined by the Project Team.

After a scheme has met all the above factors, it is then short-listed for inspection.

A site visit is then made by the Project Team, comprising the Project Manager and the Project Officers from the Ministry of Health and Ministry of Community Services.

The aim of such a visit is to look at the new sites from a multi-sectoral point of view and in partnership with the community, and to assess whether essential project components would fit in without problems.

The team is reinforced by Local Project Coordinating Team members at each centre, again comprising officers from the Water Department, the Ministry of Health and the Ministry of Community Services.

Consulting with the community (individuals and institutions) and more formal local institutions, the two teams jointly assess the centre considering the following factors:

- Size of demand
- Degree of health hazard of existing sources
- Distance to existing sources
- Proximity of centre to other piped or potable water sources
- Development potential of area
- Availability of income-generating activities
- Social feasibility
- Felt need
- Willingness to participate
- Potential for developing a participatory hygiene education and sanitation programme
- Existence of Local Community Institutions.

If the centre meets most of the above criteria, and the inputs and responsibilities of both institutions and users seems acceptable to all, it is then finally selected for development.

A formal letter is then written to the District Commissioner advising him further about the project. He is also requested to present the project officially before the District Development Committee.

A Local Project Coordinating Team is then formed at the centre charged with the responsibility of coordinating and supporting implementation of the project.

SELECTING LOCATIONS FOR WATER POINTS

Among other responsibilities the LCT is asked to guide locations of the water points in consultations with the communities themselves, community leaders and local authorities. Whilst taking account of technical limitations, the location selected should reflect community needs and not be imposed by the LCT or others.

SELECTION CRITERIA

The following criteria have been adopted for general site location for Communal Water Points in the Urban areas:

- The community should be located within the township boundary. (Other communities fall under the jurisdiction of the rural water programmes which deliver free water to the rural population).
- To prevent duplication of services and conflict, a Communal Water Point should be located about one kilometre away from a rural tap, and piped or protected water sources such as borehole or shallow well.
- Communal Water Points should be sited within a reasonable distance from the existing reticulation system. However if a site is located far away from the existing pipeline, the surveyor should use his/her initiative to determine whether the proposed investment which will go into the extension of the pipeline is justified by the total population which will benefit from the supply. It should be noted that a lower investment cost per head is not only desirable but ensures that other needy areas are also served with potable water supply.

The following formula could be applied to guide the surveyor when in serious doubt:

- On average a Communal Water Point costs MK 5,000
- A single Communal Water Point serves on average 40 families
- An average family constitutes 7 members
- One Communal Water Point will therefore normally serve up to 300 people

Total investment cost per head:

$$\frac{\text{MK } 5000}{40 \times 7} \quad \text{approx.} = \text{MK } 17 \text{ per head}$$

An investment of over MK 17 per head should therefore be regarded as too high.

- For ease of control, the size of the group served by each Communal Water Point should be kept small, not less than 10 families but not more than 40 families.
- Since the standpost is Communal, every effort should be made to ensure that it is not sited at or near to influential people such as village headmen or other leaders who could exert undue claim upon it.
- Every effort should be made to ensure that actual sites are determined in direct consultation with the community and in liaison with community leaders and local authorities.

- The team should however be in a position to advise the communities where technical factors do not allow for a particular site to be favourable.

If, due to factors beyond control, a location had been proposed largely by the Team itself, every effort should be made to convince community members and leaders that the location is appropriate. In the end the community should feel that they have been fully involved in the selection of the location.

- The maximum walking distance for most users should not exceed 250 metres.
- Most Urban Centres have a township development Plan. These plans are useful for siting public standposts to avoid future problems.
- Since the public standposts are to be managed by the consumer group through its Tap Committee and since the group has to pay for the water consumed, no standpost should be planned or implemented without a community commitment to comply to the conditions of the programme. An Agreement should therefore be signed by Tap Committee leaders on behalf of all communities prior to the construction of the standposts. Agreement forms should be signed after all points are clearly explained to everyone present at the meeting.
- Standposts should be sited properly, close to the consumer group and away from main roads or paths, market places, shops and institutions such as schools, which should be served in other ways.
- In special cases, where for example proximity of a pathway is unavoidable, a straw enclosure, to be built by the consumer group, should be recommended to keep away intruders and to emphasise that the standpost is controlled by a specific neighbourhood group.

PIPED SUPPLIES FOR SMALL COMMUNITIES PROJECT/MALAWI

LIST OF PROJECT STAFF

PROJECT TEAM MEMBERS

Mr F.Kwaule	Project Manager	-	Water Department
Mr B.B. Chandiyamba*	Project Officer	-	Ministry of Health
Mr G. Malikebu	Project Officer	-	Ministry of Health
Mr C.K.M. Nyimba	Project Officer	-	Ministry of Community Services
Mr A. Shawa	Project Officer	-	Ministry of Community Services
Mr A.I.Z. Nkunika	Project Adviser	-	Ministry of Community Services

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MONITORING ASSISTANTS

Mr. S. Mlelemba	-	Rumphi
Miss R. Banda	-	Likuni
Miss C. Chatha	-	Kasungu
Mr. A.K. Phiri	-	Namadzi
Mr. C. Manjawila	-	Monkey Bay
Mr. P. Juba	-	Mulanje
Mr. H.G. Pondeponde	-	Mponela
Miss S. Nhlane	-	Salima