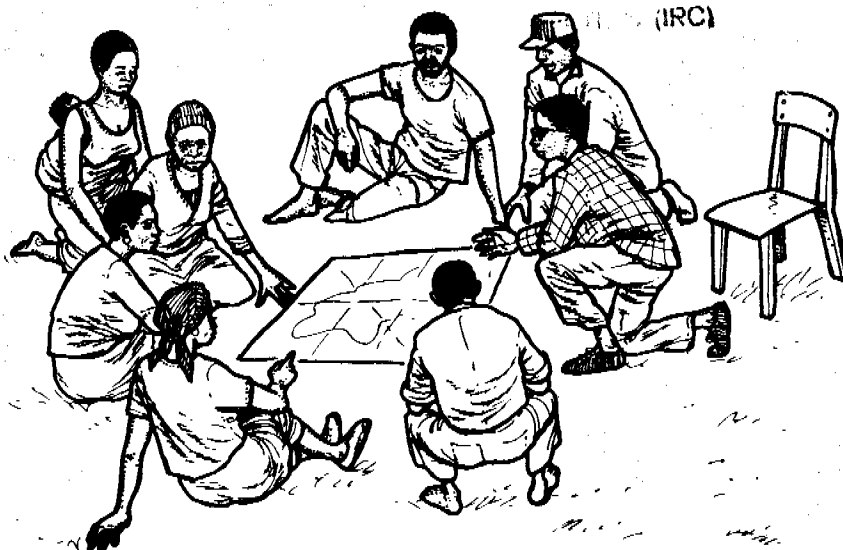


PIPED SUPPLIES FOR SMALL COMMUNITIES PROGRAMME



DE GEDR.
COMMUNITY WATER SUPPLY AND
SANITATION (IRC)

FINAL REPORT

Financed by the Directorate General for Development Cooperation
of the Netherlands Ministry of Foreign Affairs

The Hague,
June 1993

IRC INTERNATIONAL WATER AND SANITATION CENTRE

IRC is an independent, non-profit organization. It is supported by and linked with the Netherlands Government, UNDP, UNICEF, the World Bank and WHO. For the latter it acts as a Collaborating Centre for Community Water Supply and Sanitation.

The centre facilitates the availability and use of appropriate knowledge and information in the water, sanitation and related environment sector in developing countries.

Activities include capacity development for information management, exchange of available knowledge and information, and development and transfer of new knowledge on priority issues. All activities take place in partnership with organizations in developing countries, United Nations organizations, bilateral donors, development banks, and non-governmental organizations.

Emphasis in programme activities is on community-based approaches including rural and low-income urban water supply and sanitation systems, community participation and hygiene education, gender issues, sustainable systems, rehabilitation and environmental management.

The multi-disciplinary staff provides the support through development and demonstration projects, training and education, publications, documentation services, and general information dissemination, as well as through advisory services and evaluation.

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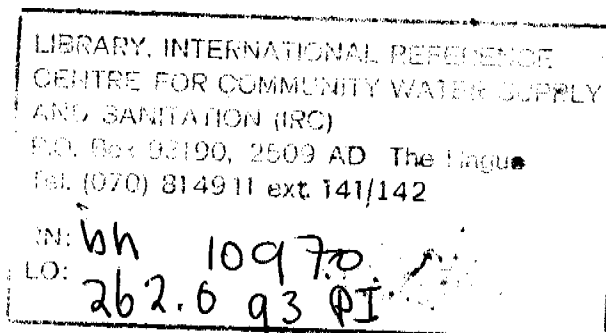
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Preface

The development and demonstration programme on Piped Water Supplies for Small Communities (PSSC) has been executed in the period 1988-1992 in two countries, Malawi and Zambia. The programme was sponsored by the Rural Development Department of the Directorate General for Development Cooperation (DGIS) in the Netherlands Ministry of Foreign Affairs. In 1991 the DGIS coordination of the programme moved to the Southern Africa Department. The programme was a continuation of the Public Standpost Water Supplies (PSWS) which run in four countries: Malawi, Zambia, Sri Lanka and Indonesia. While the coordination in the programme countries was done by national organizations, the overall coordination and linkage to the Ministry of Foreign Affairs was taken care of by IRC International Water and Sanitation Centre. IRC also provided information and advice to the national project teams and was responsible for the international dissemination of programme findings, a.o. through a major publication on approaches towards sustainability.

A fundamental feature of the programme has been the opportunity for the national project teams to build up experience through learning from experimenting and field demonstration of innovative approaches in piped water supply systems. Capacity development of project team members was an important element of the project. Learning opportunities were created on new project components including participatory methodologies, self-evaluation and cost recovery. Country project findings lead amongst others to re-orientation of sector staff, national community management strategies and improved inter-ministry cooperation.

This report presents the major activities and findings of the programme at the three levels: country, inter-country and international level.

Summary

The Piped Supplies for Small Communities (PSSC) programme was implemented between 1988 and 1992. This development demonstration project allowed national staff in the two project countries - Malawi and Zambia - to learn by experimenting new approaches in planning, implementation and management of piped water supplies and adapting the approaches to the country - and region - specific conditions.

The impact of the PSSC programme can be evaluated from three standpoints: (i) nationally in the two participating countries: Malawi and Zambia; (ii) inter-regionally, i.e. between the two project countries and in the Southern-African region; and (iii) internationally in terms of its influence on concepts and approaches in the water supply and sanitation sector.

Malawi

National Sector Policy

Strong institutional support for the PSSC programme in Malawi has meant that the new guidelines and manuals developed from programme experiences have had a considerable influence on national sector policy.

New Approaches

Evidence from three new PSSC demonstration schemes plus continued monitoring of four schemes initiated in the predecessor Public Standpost Water Supplies (PSWS) project have led to new methodologies which the Water Department has adopted as a national standard for all rural and peri-urban water supply programmes.

Community Management Section

The PSSC project in Malawi contributed to the establishment of a new section in the Water Department responsible for all community water supply - both peri-urban and rural - called Community Water Supply Management Section.

Capacity Development

Training courses initiated through the PSSC programme have equipped national, district and community-based staff to design and implement community-based piped water supply systems.

Community Involvement

Enhanced community participation in project design has led to a totally new design of standposts which is less expensive, quicker to construct, more comfortable for women users, and better drained.

Partnership Approach

There is already evidence that the "partnership approach", which was a fundamental principle of PSSC activities, has led to better maintenance of installed facilities, including the establishment of revolving funds to ensure the availability of spare parts.

Multi-sectoral Collaboration

The multi-sectoral collaboration introduced by the PSSC programme has become a model for inter-agency coordination in the country, which should help to sustain integrated programmes in the future.

Overall, through its organizational approaches, its special studies, its training courses and its development of guidelines and manuals, the PSSC programme in Malawi can justifiably claim to have had a significant beneficial impact in the fields of: community management; project design and technology choice; cost recovery and resource coverage; hygiene education and sanitation promotion; inter-sectoral collaboration; and project sustainability.

Zambia

Inter-ministry Cooperation

The PSSC programme demonstrated an effective way of integrating activities of several ministries: the Project Management Committee model has since been adopted for other national and regional integrated activities.

Capacity Development

PSSC's special studies, training courses and demonstration schemes resulted in the production of six manuals/guidelines which have been commended as well suited for local staff to use in the implementation of community-based water and sanitation programmes.

Sector Policy

The extent of the programme's influence on national sector policies is not yet clear, but it is fair to say that the committed Zambian programme staff still have considerable promotional work to do to convince all their colleagues of the benefits of the partnership approach and the approaches needed to make it successful.

Wider Dissemination

Three of the programme's manuals -- on operation and maintenance, pit latrines, and community participation -- are already being used on other water programmes and have been issued to external agencies participating in sector activities.

Constraints

The start of the PSSC programme coincided with a period of considerable economic difficulty in Zambia and a time when the structure of the water and sanitation sector was under continual review. As a result, organizational and logistical support for the programme was intermittent and resources were very limited.

Despite these difficulties, the Zambian PSSC programme achieved some noteworthy successes, and has provided a possible springboard for improved sector performance if the emerging reorganized sector proves successful.

Inter-regional Exchanges

Inter-country exchanges

Visits and dialogues between Malawian and Zambian project staff promoted the exchange of experiences and ideas on all project issues.

Sharing of experience in Southern - Africa

Throughout the programme, IRC has actively promoted the sharing of experiences with neighbouring southern African countries, notably Zimbabwe, Namibia, Botswana and Swaziland

General Sector Contributions

Publications

The PSSC programme provided major inputs to the IRC Technical Paper 28 *Partners for the progress: An Approach to Sustainable Piped Water Supplies*. This publication highlights the types of partnership demonstrated in the PSSC programme to be most effective, the approaches needed to establish these partnerships, and the basic requirements for successful community management of water systems. The PSSC programme has generated a number of publications on key sector issues and PSSC data has featured prominently in several publications produced by IRC and by UNDP/PROWESS.

Regional and global initiatives support

PSSC programme staff have also made significant contributions to global initiatives to improve sector performance. Both Zambia and Malawi have hosted international meetings contributing to the development of a guideline manual on cost recovery under the direction of an international working group led by the World Health Organization.

1. Introduction

Aim and focus

The *Piped Supplies for Small Communities* (PSSC) project is an inter-country information development and demonstration programme. Started in 1988 as a direct follow-up to the four-country *Public Standpost Water Supplies* (PSWS) project, PSSC focused on two of those countries – Malawi and Zambia. Like the PSWS project (1982-86), the PSSC programme was funded by DGIS and included a major component for regular support to the country projects by IRC. The aim was to draw on the lessons learned about the planning, implementation and management of community water supplies during the PSWS project, and to broaden the scope to encompass neighbourhood taps, yardtaps and house connections.

Need for development and demonstration of new approaches

Experience in the PSWS project had reinforced the mounting evidence that the achievement of sustainable community water supply and sanitation systems would depend on widespread adoption of new approaches to planning, design, implementation, operation and maintenance of improvement projects. While the concepts involved in these new approaches – community involvement, choice of appropriate technology, cost recovery, complementary provision of sanitation and hygiene education – were becoming widely accepted, more substantive guidance and experimenting and learning was needed on ways of incorporating them into government- and donor-funded water and sanitation programmes.

Different service levels

The PSWS project had also made it apparent that community water supply failures commonly arose because of the choice of a single predetermined level of service which was inappropriate for many of the intended beneficiaries. The PSSC programme therefore sought to develop procedures by which the participating countries could involve the proposed users at every stage in the selection and implementation of a flexible and upgradeable mixture of service levels appropriate for different sections of the community.

Programme countries

Malawi and Zambia were chosen as the focal points for the country activities because of the strong interest expressed by national staff in those countries and because of the perceived special relevance of improved community water supplies for southern Africa.

Levels of programme activities

From the start, the programme was committed to the concept that country-level activities would be managed by national agencies and indigenous project staff, with IRC providing advice and information support and undertaking overall coordination of the inter-country activities. The programme outline envisaged three levels of activity:

- * local demonstration schemes, providing national project staff with the opportunity to introduce new approaches into community projects and to evaluate and adjust them on the basis of field experience;
- * country-level promotion and replication of successful approaches; and
- * international sharing of experiences through workshops, technical papers and inter-country exchanges of experts.

2. *Programme objectives*

An evaluation of the PSWS project revealed that participating countries had made good progress in developing improved community-based approaches to standpost systems. The evaluation report foresaw benefits from follow-up activities to extend the range of project applications to include all types of piped systems, and to develop ways of applying the proven techniques in larger scale programmes. This recommendation helped to set the two *general objectives* of the PSSC programme as:

- * 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 peri-urban areas of developing countries; and
- * to promote the application of such knowledge and approaches at national programme and sector policy level and in other projects.

The specific objectives are appended (appendix 1).

Build up local capacities

The main emphasis of the programme was to enable water and sanitation agencies in the participating countries to gain improved knowledge and understanding of effective ways of implementing sustainable piped water supply projects, through their own experience. By converting the new knowledge into manuals and guidelines, and by introducing the proven approaches in new and ongoing schemes, the benefiting agencies would help to spread the improvements more widely within their own countries. The PSSC programme was therefore seen as a user-led way of building the capacity of national agencies to implement better water and sanitation projects. Through the inter-country and international exchanges, the benefits would be shared with other interested developing countries.

3. Programme approaches and activities

Sector key aspects

At the time that the PSSC programme was being formulated (late 1986), there was already a considerable amount of experience on successful and less successful community water supply projects in developing countries. Collaboration among donor agencies supporting the International Drinking Water Supply and Sanitation Decade (1981-1990) led to the promotion by the World Health Organization of six *Decade Approaches*, seen as key aspects of community water supply and sanitation programmes:

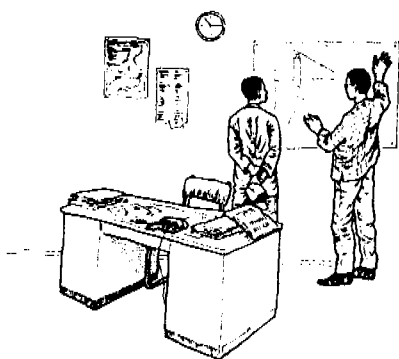
- * complementarity in developing water supply and sanitation
- * strategies giving precedence to underserved rural and urban populations;
- * programmes promoting self-reliant, self-sustained action;
- * community involvement in all stages of project implementation;
- * socially relevant systems that people can afford, using technologies appropriate to specific projects; and
- * association of water supply and sanitation with relevant programmes in other sectors, particularly with primary health care, concentrating on hygiene education, human resources development, and the strengthening of institutional performance.

Need for building up experiences

Though these approaches were widely accepted as desirable in all future programmes, information on suitable means of implementing them was not so readily available. Developing countries were seen to be experiencing a number of common problems in achieving sustainable water systems. In particular, there was a general lack of provision for proper operation and maintenance of completed schemes, and this was aggravated by inadequate cost recovery and resource coverage and by insufficient involvement of users in the development and upkeep of their own systems. Integration of sanitation and hygiene education with water supply improvements was rare and uncoordinated.

Partnership and monitoring

From the PSWS project evaluation, it was clear that development of an effective 'partnership approach' between communities and implementing agencies played an important part in successful schemes. The project had also generated a number of demonstration projects which offered a useful starting point for further monitoring and evaluation.



Programme countries

The two participating PSSC countries, Malawi and Zambia, were committed to achieving improved water supply and sanitation coverage, by adopting the Decade Approaches to their own national circumstances. They had a number of common problems and variable records of achievement on past programmes; and each country had ongoing projects initiated during the PSWS project.

Schedule of activities

Against this background, and recognizing the need to share experiences internationally, the PSSC programme began with a three-year schedule of country-level and international activities covering the period January 1987 to December 1989 (see appendix 2). With a subsequent extension to the end of 1992, the programme elements were the same in each country, with provision for the priority issues and types of demonstration projects to be determined by the national management teams on the basis of reviews of past experience and national workshops. Information sharing between the participating countries and internationally was a continuing activity throughout the programme.

Programme staff

A list of programme staff in the project countries and IRC is included as Appendix 3. Particularly mention is made of the project managers Mr. F. Kwaule in Malawi, Messrs Chimuka and Chanda in Zambia, and Messrs Seager and Smet at IRC.

4. Programme implementation

4.1 Country activities

There were some similarities between the methods of managing the PSSC programmes in Malawi and Zambia; there were also some important differences. Generally the variations relate to the different histories of community water supply development in the two countries and to the conditions of severe economic stringency faced by the Zambian government at the time that the PSSC programme was being implemented. From the project management point of view, the most significant differences were the quality and consistency of public sector manpower that the PSSC teams were able to call on, and the resources which could be made available for scheduled programme activities.

In Malawi, an innovative inter-ministry Project Team was able to mobilize regular inputs and to maintain a structured programme of developing, testing, evaluating, adjusting and demonstrating new approaches, with some impressive results. In Zambia, initiatives were necessarily more intermittent, depending on the availability of manpower and financial resources. While the inter-agency Project Management Committee was initially found to be an effective way of integrating formerly uncoordinated activities and ensuring that experiences and lessons were shared among important sector agencies, the persistent institutional weaknesses, low staff commitment and scarcity of resources limited both its objectives and its achievements.

Malawi

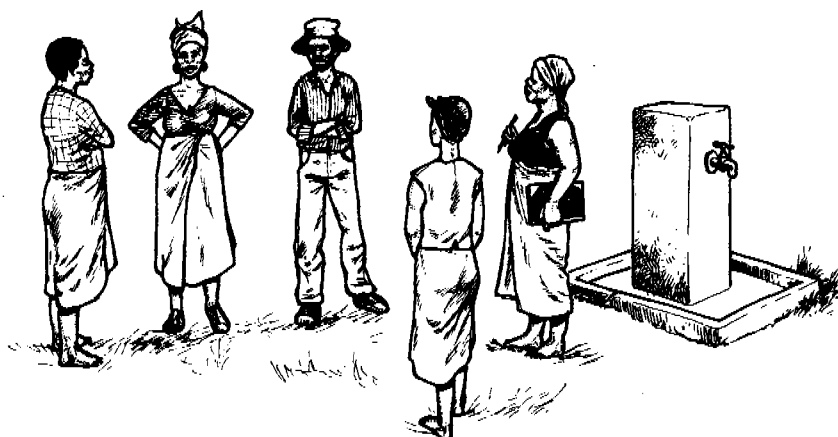
Organization

Malawi has a long record of externally supported community water supply programmes and was therefore well equipped institutionally to manage the PSSC project. The organizational framework for the country-level activities reflected the need to promote multi-sectoral collaboration. It also took account of identified project priorities: achieving sustainable water supplies; enhancing community involvement; parallel provision of hygiene education and sanitation; and socio-economic research.



The Water Department acted as *Project Coordinating Institution*, with officers from the Ministry of Community Services and Ministry of Health joining the Water Department's Project Manager to form the *Project Working Team* – responsible for planning, implementation and evaluation of project activities and for coordinating inputs from all participating institutions. Among these, an important role was played by the Centre for Social Research of the University of Malawi.

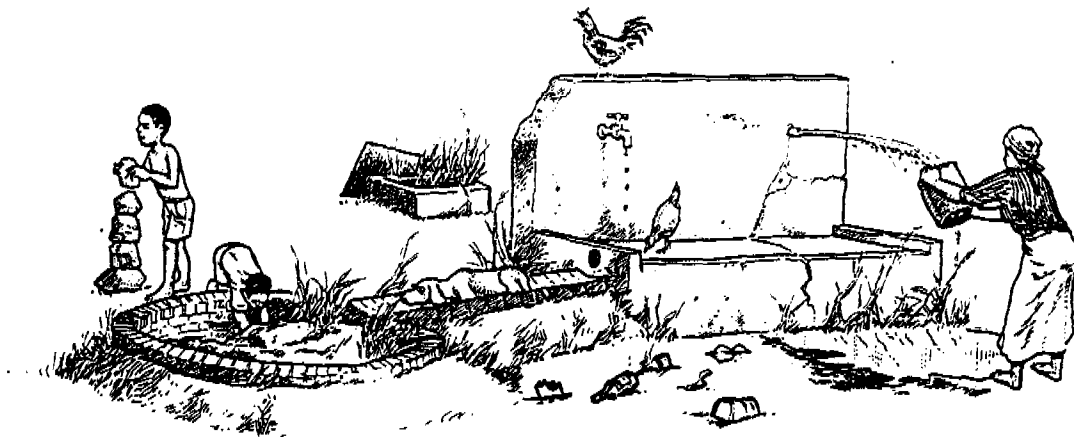
Field staff and extension workers from the project participating institutions formed local coordinating teams at each demonstration centre. They helped to organize community mobilization, data collection and monitoring, and the provision of integrated extension services. The communities' own direction of project activities was generally undertaken by newly formed *Centre Water Councils*, subcommittees of District Development Committees with membership including members of parliament, party leaders, councillors, chiefs and village headmen. In two demonstration centres (Likuni and Mponela) where Centre Water Councils proved difficult to establish, the alternative Executive Committees proved just as effective. At each water point, communities elected a 10-member *Tap Committee* to manage operation and maintenance. Interestingly, although gender and social discrimination was discouraged, 90% of Tap Committee members were women.



Emphasis throughout the programme was on the community-led partnership approach. Demonstration centres were only selected on the basis of initial community requests, and it was made clear that agency staff and external advisers provided support services based on decisions taken by the Centre Water Councils. This point is important in evaluating the achievements of the PSSC programme. The capacity-building element of the programme was very strong, with the *development and demonstration* concept providing communities and local agency staff with full opportunity to experiment with approaches, techniques and methodologies that were new to them. The 'cost' of such an approach is that mistakes can be made and time apparently wasted as methodologies have to be adjusted; the benefit is that people learn through experience why some things work and others don't. It also means that the strategies which are developed really do fit into the country situation.

Review of past experiences

An assessment of the results of the PSWS project was combined with a review of past experiences of piped supplies in Malawi carried out by the Centre for Social Research of the University of Malawi. Data from these analyses provided important background material for a National Workshop on piped supplies for small communities, which was supported by a wide range of key Malawian agencies. The workshop identified successes and shortcomings in past approaches. It also endorsed a series of draft guidelines for future projects and initiated five special subject studies: operation and maintenance; financial management; technical aspects; hygiene education and sanitation; and sustainability of tap committees.



These studies were carried out by members of the project team and helped to provide a focus for the PSSC programme. As the programme progressed, it became apparent that cost recovery was a major factor in the sustainability of community water supplies. An additional special study was commissioned on the subject, and this work, along with parallel activities in Zambia generated major inputs to international consideration of this topic.

Demonstration schemes

The four demonstration schemes from the PSWS project – all located in Malawi's Central Region – provided useful initial data sources and continuing monitoring and experimental sites for the PSSC programme. A further three demonstration centres were selected in the Southern Region and one in the Northern Region. The eight demonstration schemes thus provided a good cross section of ethnic groups in Malawi. In all, there were 132 public standposts serving a total of 6,000 families. Though the programme had initially set out to broaden the scope of its studies beyond public standposts, the community-driven demand in the demonstration schemes was clearly for standpost supplies, and this had to be respected. At the same time, many of the approaches and methodologies tested were evaluated on the basis of their applicability for any type of community piped water system. Also, the Water Department's early adoption of evolving PSSC methodologies as a national standard meant that a number of new schemes were implemented outside the confines of the project. In particular, PSSC methodologies were used as the basis of UN Capital Development Fund (UNCDF) and UNDP/World Bank sponsored programmes implemented by the Water Department, and a planned 14-town water supply programme supported by ODA.

Training and capacity building

Training courses were organized for all levels of participants in the PSSC programme. Tap Committee members and community leaders had access to courses covering topics such as leadership, operation and maintenance, financial management and hygiene and sanitation. Fifteen such courses were organized during the course of the programme, and a total of 2,000 individuals benefited from the training.

Short integrated courses were arranged for the local coordinating teams, designed to help the extension workers to recognize the value of intersectoral collaboration and to give them the skills to support community management of piped water supplies. A specialized course was also arranged to equip the local coordinating teams to undertake the important task of monitoring water quality during transportation and storage in households.

Centre Water Councils, District Working Group members and community leaders were guided on the type of support needed by the different project activities through orientation meetings at which they were fully briefed on project objectives and progress. Staff from the participating organizations at national, regional and district levels attended workshops and seminars organized by PSSC project staff, to share and exchange information on approaches and experiences in different projects.



The Project Team itself attended four specialized courses conducted with the help of outside consultants. Two courses related to the development, testing and publication of guideline manuals; one trained 11 Malawian trainers in participatory training techniques, so that they could pass on the skills to others; and three project team members from Malawi attended a course on participatory self evaluation organized through the PSSC programme in Zambia.

Cost recovery and resource coverage

To increase project sustainability, cost recovery and resource coverage aspects were addressed in the Malawi PSSC programme. Following a sub-regional working group meeting in Zambia in 1989, a multisectoral workshop was organized in Malawi to review guidelines on cost recovery. The guidelines were also field tested in five projects and the findings were discussed in an international workshop in 1991.

Hygiene education and sanitation

Picking up on the key Decade approaches of complementarity and hygiene education, the Malawi PSSC programme included a major component on hygiene education and sanitation promotion (HESP). Aimed at raising people's awareness of how to achieve good health through their own actions, the HESP programme sought to spread awareness on hygiene issues, to increase use of improved sanitation facilities, to promote good housing, to encourage personal and domestic hygiene, and to increase awareness of water and sanitation related diseases.

Despite some organizational problems and funding limitations, the programme is thought to have had a significant role in bringing about recognized improvements in hygiene behaviour and awareness of sanitation issues in Malawi. Certainly it can be said that the community-led aspect of all HESP activities means that there is now a sound basis for continued health and hygiene promotion beyond the confines of the PSSC programme.

Monitoring and evaluation

As a research and demonstration activity, the PSSC programme depended for its success on continuous collection and analysis of data from the demonstration projects, and on regular adjustment of approaches in response to monitoring findings. *Water Monitoring Assistants* were appointed for each demonstration scheme and they coordinated collection of data on operation and maintenance, functioning of tap committees, financial management, and hygiene education and sanitation practices. The monitoring information was important not only in adjusting project approaches, but also in the production of guideline manuals.

Project self-evaluation

An evaluation carried out by Project Team members and two members of the Project Working Group was upbeat in its assessment of the PSSC programme achievements. Among the specific successes recorded are:

- * Much enhanced community participation in project design, has led to significant modifications in the design of standpost structures and the standing areas around them (filled with coarse gravel). A completely new design has evolved from users' suggestions, after they were encouraged to build an ergonomic design using loose bricks. The new cemented platform is more comfortable for women users and the modified design is less expensive and quicker to construct. The Water Department has now adopted the modified design for wider use.
- * Better drainage arrangements are being developed, to cope with varying soil characteristics around standposts. Improvements involve the use of multiple soakaways in problem areas.
- * A new division of responsibilities between the agency and the community has led to better maintenance. A revolving fund has been established and spare taps and rubber washers are now available at each demonstration centre.
- * There is substantially improved inter-agency coordination and a sound basis for sustaining integrated programmes in the future.

- * Through the training programmes and guideline manuals, Malawi has the human resources and established approaches to design and implement community-based piped water supply systems. The new methodology is now being applied nationwide on all new public standpost programmes.

The major problems found include:

- * Guidelines, developed in the project, did not sufficiently reach the target groups.
- * The latrine coverage was reasonably high (67%); the condition of the latrines was however only satisfactory in 43% of all latrines.
- * The building of new latrines and latrine slabs was hindered by the fact that building materials were expected to be supplied by the government and availability in the demonstration areas of these materials was very limited.

Zambia

Organization

Following its experiences with the PSWS project, Zambia was able to assemble a Project Team and Project Management Committee at the start of the PSSC programme. The PSWS project manager, from the Ministry of Health, continued as project manager for PSSC, and the Director of Water Affairs and Commissioner of Social Development retained their positions as Chairman and co-Chairman of the Project Management Committee. All three principal participating agencies were represented on both the team and the committee. Due to serious staff constraints, Project Team members were mostly of junior or assistant engineer level. Each agency was able to call on its staff at provincial and district level for support as needed but, unlike in Malawi, there was no assignment of specific district staff to the PSSC programme.

Throughout the early phases of the programme, the national economic situation in Zambia was deteriorating badly and there was intense pressure on all public sector staff. Problems were particularly intense in the water sector, with continuing doubts over the shape and structure of the sector in the future. Other pressing commitments led to the early withdrawal from the Project Team of the Social Development Department representative, and the Ministry of Health's Project Manager was also replaced only a short way into the programme. Though good replacements were found, the changes led to inevitable disruption of planning and implementation. The decision-making capacity of the Project Management Committee on PSSC personnel issues remained weak. Nevertheless, the *Zambian Project Management Committee* proved to be an effective way of coordinating agency inputs and of disseminating programme experiences to the right audiences in the participating institutions. The model was repeated by the Department of Water Affairs in several donor-supported projects, through the formation of Water, Sanitation and Hygiene Education (WASHE) Committees in Western, Northern and North-Western Provinces, as a means of stimulating integrated approaches to community water supply and sanitation in the context of the International Drinking Water Supply and Sanitation Decade.

Whenever they could be made available, district-based extension workers from the participating institutions assisted local initiatives. At community level, Tap Committees were appointed from within the user group, to look after operation and maintenance of installed facilities.

Review of past experiences

Following a small workshop to review experiences on the PSWS project and a preliminary planning workshop for the PSSC programme, Zambia organized a comprehensive National Workshop on Piped Supplies for Small Communities in January 1989. The workshop was attended by 32 participants from various Zambian institutions, three members of the Malawi project team and a representative from the Ministry of Energy, Water Resources and Development in Zimbabwe. As well as the review of past experiences, the participants considered specially prepared studies on community participation, appropriate technology, and sanitation and hygiene education.



Demonstration schemes

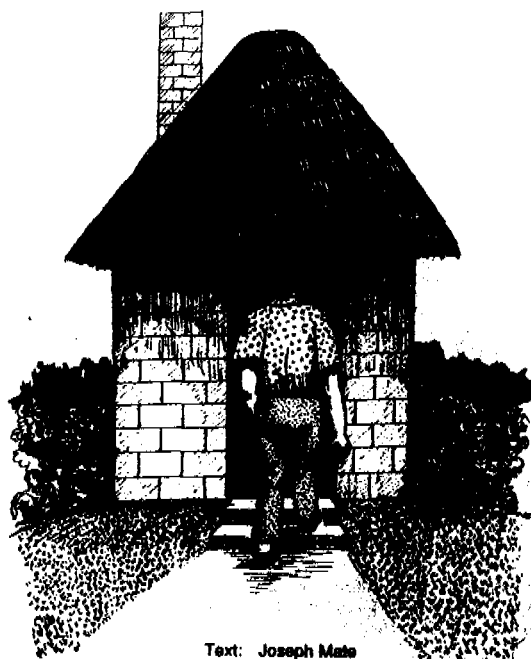
Lost time and limited availability of staff and logistical support led to a review of initial proposals for a wide range of demonstration schemes. Respecting the perceived needs of the sector identified in the National Workshop, the Project Team decided to concentrate on rehabilitation schemes and on systems serving low-income urban communities. Four such schemes were selected to add to the three existing demonstration schemes from the PSWS project.

Training and capacity building

In view of the limited capacities of available staff, many training and support activities were carried out related to organization, planning, management and project-specific issues. With support from the University of Zambia and IRC, 14 participants took part in a short course on the preparation of manuals and guidelines. This was followed by a workshop on production, illustration and field testing. Though progress was inevitably slow because of the scarcity of manpower and resources, a total of six manuals/guidelines were produced:

- * A manual on operation and maintenance for tap committees (TCs) and extension workers (EWs)
- * A manual on pit latrines for TCs and EWs
- * A manual on community participation for TCs and EWs
- * A guideline on construction of a standpost
- * A programme for hygiene education and sanitation
- * A monitoring system for TCs and EWs

WHY A PIT LATRINE
A Manual for Extension Workers
and Latrine Builders



Text: Joseph Mabe
Illustrations: G.L. Lufeyo and IRC

PIPED SUPPLIES FOR SMALL COMMUNITIES
(PSSC) PROJECT ZAMBIA

The manuals are very well tuned to the local setting and have proved to be very easy for local staff to use.

Ten Zambian project team members and district extension staff participated in a 10-day training course on participatory techniques, and six project team members took part in a course on participatory self-evaluation. Both courses were organized by the PSSC programme and conducted with the help of IRC consultants.

At the demonstration scheme in Soloborn – a peri-urban rehabilitation project serving a population of 5,000 – a three-day workshop was held for community leaders and tap committee members. Introduction of the topic of hygiene education and sanitation promotion at this workshop was followed by construction of demonstration latrines.

During the course of the PSSC programme, some tap committees on PSWS and PSSC demonstration schemes were disbanded due to weak community organization. Training, including on-the-job training, helped to re-establish a number of committees.

Monitoring and self-evaluation

Intermittent availability of support staff and extension workers made it difficult to institute regular monitoring of programme activities. A monitoring guideline was produced in 1991.

A self-evaluation exercise was undertaken in November 1991, focusing on the Soloborn demonstration scheme. The major findings included:

- * Communication with users in the demonstration schemes was unclear. Different messages were given by project team members and by district extension workers.
- * Involvement of district staff is important, to enhance information and education and to avoid confusion about guidance being given to users.
- * The project team needed to address participatory training activities on all aspects of the PSSC programme to both district staff and villagers.

4.2 IRC programme support

IRC's role in a development and demonstration programme is one of providing information and advice to the national project teams, encouraging linkages between the participating countries, and promoting widespread knowledge and use of the programme's findings both within the participating countries and further afield. In the case of the PSSC programme, IRC also sought opportunities to stimulate incorporation of successful PSSC approaches into national water sector policies. Internally, IRC has used experiences from the PSWS and PSSC programmes as valuable inputs to several technical publications distributed to a wide audience.

Country-level support

Information and advisory support to the national programmes was provided on a continual basis, both in correspondence with the national project managers and in regular visits by the IRC Programme Manager and the Programme Social Scientist. In the case of Zambia, the support was enhanced to cover recognized shortcomings in local management capacity, and to stimulate better planning and organization of project activities.

An important part of IRC's support was giving the national teams access to information from other countries and from technical publications. This information link was the source of new ideas and approaches which were then field tested in the demonstration projects and adapted to local conditions before being incorporated, where appropriate, into new guidelines.

IRC staff assisted with the preparation and conduct of workshops and training courses and provided information and advice for the agencies charged with the task of producing the many special studies commissioned by the project teams. A careful line was drawn between support and intervention. At no stage did IRC staff attempt to override decisions taken by the national project teams, preserving the principle that learning through experience is the most powerful way of building the local capacity to achieve long-term sustainability. The results of this approach are most evident in Malawi. As a direct result of the PSSC programme Malawi now has the confidence and the capacity to implement community water and sanitation programmes without the past heavy dependence on expatriate staff. The Water Department has strengthened its own position both nationally and at district level, where the PSSC-inspired *Water Monitoring Assistants* are now recruited and trained for other projects too.

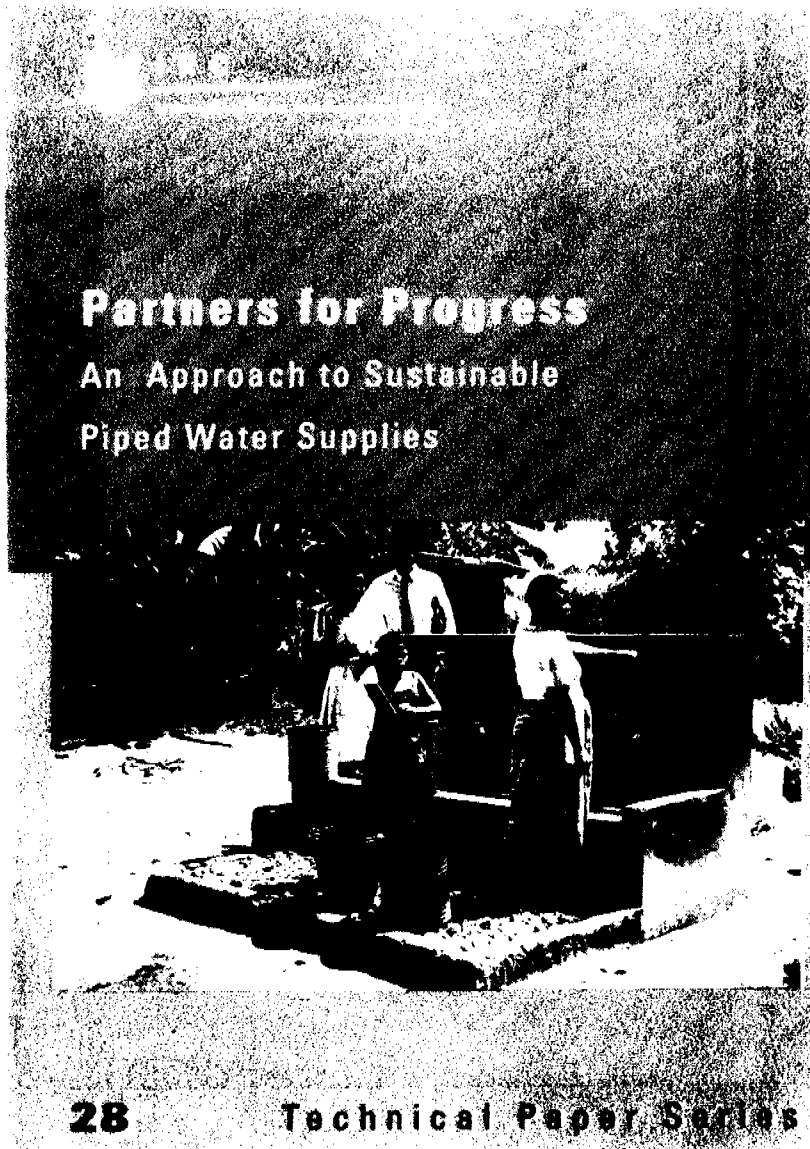


Inter-country collaboration

The proximity of the two countries helped the Zambian and Malawian project teams to share experiences on a regular basis. Team members from one country were able to participate in workshops in the other, and there were periodic visits coordinated by IRC to share specific project experiences. A shared project support consultant – a Zambian national – provided a further regular link between the two project teams. The programme also maintained linkages with the previous PSWS participating countries – Indonesia and Sri Lanka – and encouraged further links with interested agencies in Zimbabwe and Thailand (for example, five representatives of the Zimbabwean National Action Committee visited the PSSC programme in Malawi in 1992). Consultants from Zimbabwe and temporary project support officers from Sierra Leone and the West Bank made additional contributions to the TCDC (technical cooperation among developing countries) aspects of the programme.

International dissemination

During the course of the PSSC programme, national programme staff and IRC programme officers have presented papers at international conferences and contributed articles to technical magazines, to help disseminate the programme findings. PSSC programme experiences provided the basis for many of the conclusions in IRC's Technical Paper *Partners for Progress*, published in 1991, and a number of other IRC publications have drawn on PSSC schemes as case studies or examples of recommended approaches (see also section 6.3).



In addition, IRC staff have taken opportunities during their regular dialogues with national sector agencies and the external support community to publicize the important results emerging from the PSSC programme. The flow has not been all one way. PSSC staff have benefited from participation in international workshops, and the programme acted as a co-sponsor with UNDP/PROWESS for an international workshop on Tools for Community Participation.

All in all, the PSSC programme has been widely recognized as a valuable contribution to international knowledge on approaches to the achievement of sustainable community water supplies.

5. *Lessons from PSSC programme experiences*

In formulating conclusions and drawing lessons from the PSSC programme, IRC has combined the results from the studies and demonstration schemes in Malawi and Zambia with data from the earlier PSWS project and with contributions from other countries and support agencies gathered as supporting materials for the PSSC project teams. In that way, the valuable new insights into the planning, design and implementation of standpost supplies have been extended into recommendations which relate to all types of piped water supplies – one of the main reasons for initiating the PSSC programme.

The resulting analysis was presented in Technical Paper 28 *Partners for Progress: An Approach to Sustainable Piped Water Supplies*. The title reflects a fundamental finding of the PSWS/PSSC programmes that the sustainability of community water supply systems depends above all on the right relationship (partnership) being established between the water agency and the intended users of the improved supplies. The PSSC programme has yielded new evidence on the types of partnership which are most effective, the approaches needed to establish these partnerships, and the basic requirements for successful community management of water systems. It has also demonstrated the beneficial results of adopting the new approaches, including the integration of water supply, sanitation and hygiene education; and it has added new insights into the ways that communities can be equipped to cope with the difficult issues of operation and maintenance, financial management and cost recovery.

5.1 **Development of sustainable piped water supplies**

The partnership approach

Community capacities

Based on four years' experience on the PSWS project, participants in the PSSC programme recognized from the start that successful management of a community water supply system demanded optimum use of community resources alongside the specialist skills of the responsible government agency. A basic tenet of the programme was that communities should be equipped and encouraged to identify their own needs and to decide for themselves how those needs could best be met. In that way, users developed a sense of ownership of their improved services, understood the way in which it would contribute to solving their problems, and willingly accepted the commitment to provide resources for their future upkeep.

Re-orientation

Both communities and agencies have to re-orient their thinking and acquire new skills, to build and sustain the most effective working relationship. A vital part of the PSSC programme was the continual provision of training courses and the raising of the capacity of community members and local agency staff to take on decision-making and management roles.

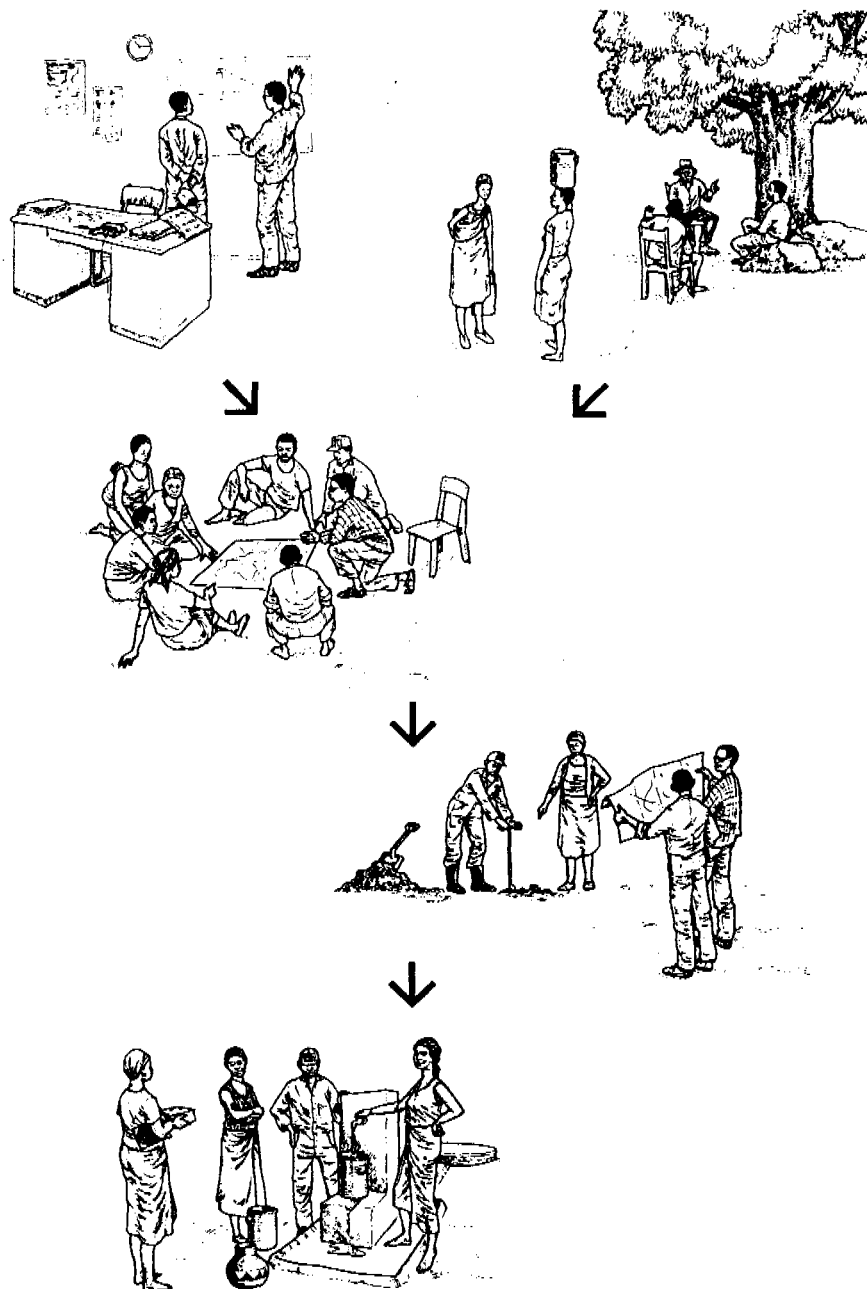
Community decisions

Programme experiences provide strong endorsement of the principle adopted in preparatory conferences for the 1992 UN Conference on Environment and Development (Copenhagen, 1991 & Dublin, 1992) that decisions should be taken at the lowest practical

level. It is especially important that users should decide for themselves what level of service is most appropriate for their needs. Too high a level of service may mean that the users cannot afford to pay for the upkeep, or that skills or materials are not available when needed. If the service level is too low, dissatisfied users will neglect it and seek alternatives. Piped supplies are not always the right answer: there are many examples of communities where dependable supplies from sanitary dug wells would be preferable to the unfulfilled promise of more plentiful supplies from unsustainable higher technologies.

Partnerships in water and sanitation

The approaches required to motivate community members and agency staff to work together vary from situation to situation. The PSWS and PSSC programmes included a range of partnerships, depending on the traditional roles of the partners and the level of knowledge and skills available to the different communities. All the demonstration schemes recorded benefits from enhanced community involvement, the most noticeable ones being an increased commitment to self help and a greater awareness of hygiene and sanitation needs.



Partnership for sustainability

Community involvement and community decision-making take time. The conventional project cycle approach needs to be made a good deal more flexible, to provide time for capacity building, community decision-making on specific community problems and development of the working partnership. Planning, procurement and construction schedules all need to allow for community-led changes, and these can have significant effects on the time and cost of community water supply projects. The general conclusion is that the extra investment in time and effort is paid back in user satisfaction and in system reliability and sustainability, but the costs have to be allowed for in programme budgets and output objectives.

Community management

Roles and responsibilities

A logical outcome of the partnership approach is that users take responsibility for managing the operation and maintenance of their water and sanitation facilities. The term "community management" has become popular in recent years as a way of emphasizing the organizational and financial roles of the community, which extend way beyond the earlier concept of "community participation". In the PSWS and PSSC programmes, schemes were designed to be community-based and major elements of the programmes were concerned with preparing community members and community organizations to manage the installed facilities.

Tap Committees' effectiveness

With standpost supplies, the required organizational structure is not complicated. In Malawi, and to a lesser extent in Zambia, the ten-member tap committees proved to be effective in ensuring that the area around the water taps was kept clean and tidy, and in organizing basic maintenance and repairs. Designated caretakers were trained to undertake regular maintenance tasks, and the tap committees were generally able to collect the necessary money to buy spare parts and pay the caretakers for their services. Malawi's Centre Water Councils gave the communities a powerful voice in planning and implementation of service improvements.

Varying service levels

Higher levels of service need correspondingly more sophisticated organizational structures. An objective of the PSSC programme was to extend its recommendations beyond standposts, to cover all types of piped water supplies for small communities, including the common situation where a mixed level of service is the most appropriate. IRC therefore gathered information from a variety of published and unpublished sources to supplement the field experience from the demonstration schemes. In *Partners for Progress*, it was possible to include detailed recommendations for the composition and role of water committees, scheme committees, and development and health committees, and to discuss the potential for the private sector and non-governmental organizations (NGOs) to be involved in the management partnership.

Agency roles

Whatever community organization is established, the role of the agency remains critical. In the development phase, the agency has a catalytic role, motivating and helping the community to reach appropriate decisions on technical and financial issues; once the scheme is operational, the role becomes a supporting one, ensuring that supplies and

back-up services are available when needed. Technical water agencies need to adjust their approaches to accomplish these tasks. In Malawi, the PSSC experience led the Water Department to recruit its first sociologist, and the department has become stronger as a result of its new community-based approaches.

Community motivation

Where communities do take on routine maintenance tasks, agency staff generally find their own work more challenging and more satisfying. As well as seeing the progressive enhancement of community capabilities for self-motivated development, the agency staff are able to focus their own resources on reaching more communities and on more cost-effective activities than the continual maintenance of distant facilities. For the communities themselves, benefits can extend beyond more reliable water supplies. Experience shows that, once trained and supported, community organizations develop their own initiatives for follow-up activities in such things as latrine construction and income-generating operations.

Planning, design and construction

Technology selection

To be successful, the partnership approach needs to be adopted from the start of a community water supply project¹. During the planning phase, the agency and community representatives work together to ensure that the type of supply to be provided is one that the community wants and will benefit from. Generally that will mean recognizing that different sections of the community have different water needs and different capacities to contribute to the upkeep of the system. House connections may be appropriate for higher-income areas; yardtaps, neighbourhood taps or public standposts may be more suitable for others; and for outlying areas piped supplies may not be the right choice at all, with handpumps or sanitary dug wells proving more appropriate.

Learning for new capacities

For both partners, the planning phase is a continuous learning process. It requires close and regular dialogue and culture-sensitive approaches by agency staff to ensure that all sections of the community feel involved in the process and contribute to it. Schemes need to be planned to meet future needs as well as present ones. Sometimes this may involve planning not just for additional water points but also for progressive upgrading as village development enhances the community's capacity to sustain higher levels of service.

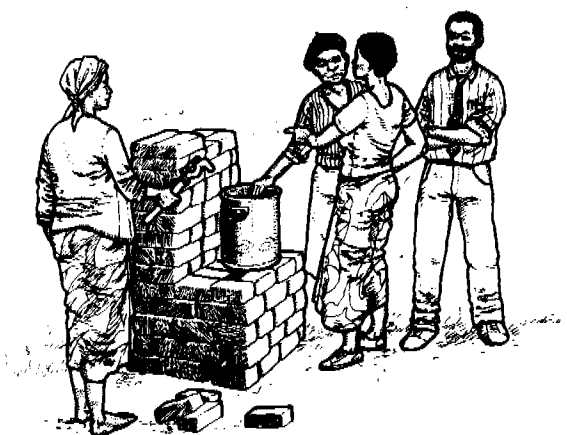
Community, particularly women, involvement

Planning also involves establishing suitable community organizations to take part in the decision-making processes and arranging the necessary training of community members (particularly women) and agency staff who will be involved. An important lesson from several demonstration schemes was the need to ensure from the start that spare parts such as washers and taps would be readily accessible (stored by village committees or available through convenient retail outlets).

¹ This does not mean that the approach is only applicable to communities which do not yet have a water supply; on several demonstration schemes in the PSSC programme in Zambia, the "project" was the rehabilitation of an existing water system which was not functioning properly.

Women involvement in standpost design

Once the planning decisions have been taken, the project elements have to be designed. In the PSSC demonstration schemes, standpost users made important contributions to the design process. In both Malawi and Zambia, the standard design of a public standpost and of its surrounding standing area and drainage arrangements were modified significantly following user involvement. In some cases, this included users making their own models to demonstrate the benefits of modified bucket stands, different types of platforms, tap positioning, and so on. This type of involvement has evident benefits in promoting future use of the facilities. It requires patience and encouragement from the agency staff involved in the design process, plus a willingness to adapt technical judgements on the basis of user preferences.



Community involvement in siting

Siting of standposts is a good example of the need for joint decision making. Only local people can know whether a central or a more private location will be preferable for a given section of the community. On the other hand, technical considerations restrict the choices available. On one Zambian scheme, for example, villagers modified their original choice of a central position under a big tree when an agency engineer explained that the high elevation of the chosen site would mean lower pressure in the taps. Further discussion led the community to develop its own plans to build a sunshade and washing facilities at the new lower site, so that the women would not need to carry water for clothes washing up the hill back to their homes. Without this dialogue, neither the community nor the agency would have made the right decisions on both the location and the facilities to be installed.

Self-help and training

Provision of local labour and materials for scheme construction is now a long-established feature of *community participation*. With the right instruction, community members can handle many of the construction tasks associated with piped schemes, reducing the burden on the agency and reducing costs by as much as 40% on some gravity schemes. The construction phase is also a useful time for training prospective caretakers, committee members and treasurers/financial managers. Self-help construction featured in all the PSSC demonstration schemes, generally alongside agency-led construction of such features as water intakes or reservoirs.

Operation and maintenance

Contribution towards improved sustainability

Inadequate provision for proper operation and maintenance has been a persistent cause of failure on community water supply projects. In the PSSC programme, sustainability was a guiding rule in the planning and design of the demonstration schemes, and special studies of operation and maintenance needs featured in both the Zambian and the Malawian national programmes.

Training for roles in operation and maintenance

Successful operation and maintenance depends on the right organizational framework being in place when the scheme is commissioned. In the partnership approach, the responsibilities of the agency and those of the community are discussed and accepted in the planning phase, and appropriate training is given as the scheme is being designed and implemented. In the Malawi programme alone, a total of 15 training courses prepared some 2,000 tap committee members and community leaders for their roles in the upkeep of the completed schemes.

Operation and maintenance roles

Only local people can carry out routine daily inspections of water supply systems. If they are given the skills to undertake simple preventive maintenance tasks such as lubrication and bolt tightening, breakdown rates can be significantly reduced at minimal cost. On the other hand, agency or private sector help is always likely to be necessary for such major repair tasks as stripping down pumps or rehabilitating boreholes.

Community's initiative

The basic principle in community-managed water schemes is that the community organization (eg the tap committee or water committee) initiates maintenance activities and has the responsibility for obtaining any assistance needed. Assistance may come from the water agency, or from the private sector or a local NGO, but it will be requested by the community and paid for from community-managed funds.

Financial management and cost recovery

Need for financial management

The issue of cost recovery for community water supply systems has always been a controversial one. Many of the communities in greatest need of improved water supplies are very poor and it is sometimes argued that subsidized water supplies are a necessary first step in raising their quality of life and their development capacity. On the other hand, studies have shown that even the poorest people put a high priority on water and are willing to pay a high proportion of their meagre incomes to obtain convenient and dependable supplies. In many cases, they already pay a high price either in cash to water vendors or in time spent fetching water from long distances. Unless the funds for operation and maintenance are collected locally, there is little likelihood that water supply improvements can be effectively sustained.



IRC's role

IRC has been collaborating with the World Health Organization and others in an international working group developing guidelines on cost recovery. PSSC programme staff from both Malawi and Zambia participated in the working group discussions and Zambia hosted a Southern Africa Sub-Regional meeting of the group in 1989. That meeting involved a review of a draft guideline manual developed by WHO.

Activities in Malawi

Follow-up activities in Malawi included a multi-sectoral workshop to review the draft WHO guidelines, field testing of the guidelines, and hosting of an international workshop in 1991. The activities contributed to a raised awareness of cost recovery and sustainability issues in the country and the PSSC programme took the lead in demonstrating the viability of cost recovery and effective financial management of community water supplies.

Community-based financial management

Revolving funds were established on each of the Malawi demonstration schemes and these have transformed the maintenance situation and brought about remarkable improvements in the communities' capacity to handle local finances. Each of the scheme committees achieved a sizeable surplus which is kept in a bank account to cover maintenance needs.

Community's ability to pay

The PSSC programme has provided substantive endorsement of the general rule that communities should be able to raise all the costs of operation and maintenance for themselves, and that most communities are also able to make a significant contribution towards construction costs.

5.2 Demonstrating sustainability

The value of the development and demonstration concept is that national implementors of future projects and programmes learn through experience why certain approaches work successfully and, just as importantly, why other approaches do not produce the desired

results. One measure of the comparative success of a development and demonstration project therefore is the extent to which those involved acquire the skills and the confidence to apply the lessons in their future work. It is also important that those lessons – good and bad – should be communicated effectively to others who may benefit.

To what extent then did the national PSSC programmes provide conclusive evidence for their recommendations and equip those involved to replicate their successful experiences?

The partnership approach and community management

Conventional in PSWS

The PSWS project had prepared agencies in both participating countries for greater involvement of communities in all aspects of community water supply projects. Nevertheless, agency staff involved were much more familiar with the more conventional roles in which the agency provided predetermined services and took all the necessary decisions on how the scheme should be implemented and managed.

Innovative in PSSC

Experiences with the new PSSC approach proved successful in both countries, but the degree of success and the replicability varied significantly from country to country. The differences help to highlight some of the elements which contribute to an effective community/agency partnership.



Experiences in Malawi

The strong and consistent institutional base for the Malawi programme provided an important continuity in planning of programme activities and coordination of approaches on the separate demonstration schemes. Timely preparation of guidelines and regular

monitoring and evaluation of achievements helped to transfer knowledge and experience among the different schemes; and the clear enthusiasm of participating agency staff, based on their successful mobilization of community support, was quickly transmitted to policy makers and other sector staff, who recognized the benefits of wider replication. Malawi's tap committees were well trained and supported and most Centre Water Councils rapidly became both effective and well respected. As a result, many aspects of community management and the partnership approach developed through the PSSC programme have now been adopted nationally by the Water Department for future community water supply programmes.

Experiences in Zambia

In contrast, Zambia's PSSC programme was severely restricted by resource limitations. Agency support was dependent on hard-pressed staff finding time to spare from other pressing commitments and could only be provided intermittently. Community enthusiasm for self-help activities fluctuated as agency support faltered, and it was difficult to coordinate approaches with such limited resources. Tap committees proved effective in keeping water points clean and tidy and to some extent in organizing simple maintenance, but poor organization and insufficient outside support meant that their commitment too was hard to sustain. Zambia's Department of Water Affairs faced many structural and financial problems at the time of the PSSC programme, so the scope for transferring demonstration scheme experiences into other programmes was not very substantial. The situation was aggravated by uncertainty about sector responsibilities, as reorganization of the water sector was a continuous topic of discussion from 1986 onwards.

Comparing Malawi and Zambia

Comparing and contrasting the demonstration scheme results in the two countries, it is clear that community management can be made to work very effectively, but it depends crucially on the agency fulfilling its support role consistently. Training of both community members and agency staff is a prerequisite, and the resource demands, though less than for a conventional agency-driven programme, are finite and continuous.

Technology and service levels

Users' involvement in technology issues

The PSSC programme has certainly helped to dispel the myth that technology questions should be the preserve of trained engineering staff. The demonstration schemes showed that potential users are very interested in the type of installations they will be obtaining and are able to make highly constructive suggestions about appropriate designs. As a direct result of community suggestions, the standard design of public standpost installations in Malawi has been significantly altered. In Zambia, the Soloborn community made substantial contributions to the design of standposts, washing slabs, drainage arrangements and experimental pit latrines.

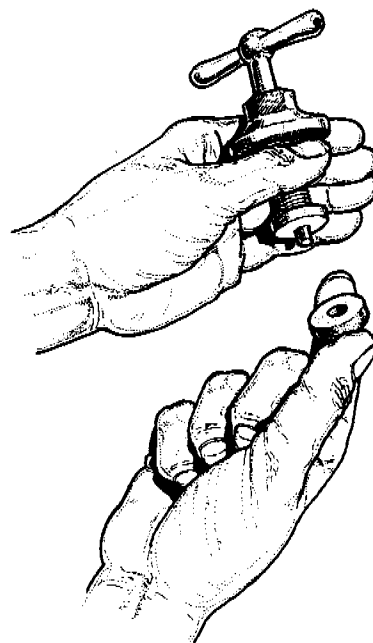
Public standposts only

One of the reasons for initiating the PSSC programme was to develop guidance on implementation of a wide range of piped water supply systems. This aspect has not been fully addressed in the national programmes – all of the demonstration schemes were served by public standposts. The guidance has been broadened by reference to other published material and information gathered from conferences and workshops, but the PSSC programme would have benefited from some direct field experience of different

service levels. In Malawi, the Water Department is now extending its own experience, by adopting PSSC approaches on other community water schemes and employing the same monitoring and evaluation techniques to expand its guidelines.

Operation and maintenance and financial issues

The eight demonstration schemes in Malawi are among the most successful piped water projects in the country in terms of reliability and sustainability. The revolving fund system for assuring that maintenance funds are available when needed is becoming a model for community-based water projects nationwide, and the PSSC training activities have provided the country with a cadre of skilled trainers able to transfer their skills to both agency staff and community members. In Zambia, the new demonstration schemes focused on one of the country's greatest needs – rehabilitation of defective systems. When they functioned well, the tap committees proved to be an effective way of improving maintenance operations, but it remains to be seen whether the system can be made to work consistently when agency support is more dependable.



5.3 Integration of sanitation with water supplies

Multi-sectoral approach

Both national programmes sought to promote better hygiene awareness and to foster the parallel development of water supply and sanitation improvements. Both achieved some success and both envisage longer term and more widespread benefits as a result of their PSSC programme experiences. In each case, the multisectoral project management teams have played an important part in providing support for hygiene education and sanitation promotion. Involvement of health ministry staff has kept the issue prominent in all project planning, though, on the negative side, the resources provided through the health ministries in Malawi and Zambia were not fully adequate to sustain all the support needed to community initiatives. Resource constraints for sanitation activities limited the achievements of the programmes in both countries.

Malawi activities

In Malawi, the HESP programme was judged to have made significant contributions to raising hygiene awareness both within the PSSC programme and further afield. Monitoring on the demonstration schemes found “remarkable improvements” in water handling practices, handwashing, and use of standpost water for hygiene purposes. Installation and use of latrines also increased over the baseline figures, but progress was hampered by a shortage of funds which prevented full demonstration of the San Plat latrine. Significantly, the progress in hygiene behaviour and sanitation provision is credited to the communities themselves. Promotional activities have been conducted by the tap committees and village health committees, with programme staff providing supervisory support. The PSSC project team are therefore confident that improvements will be sustained even though the special support provided through the PSSC programme has ended.

Zambia activities

Despite very severe resource constraints, a hygiene and sanitation education component was included in the Zambia programme. Training materials were developed for education initiatives directed at tap committees, community members and primary school pupils. District-based extension workers received some hygiene education training and extension workers from the former PSWS demonstration schemes were given refresher courses and took part in upgrading workshops. A practical monitoring system was developed for assessing environmental sanitation conditions, but was not tested or implemented during the programme period. The programme resulted in the introduction of a few demonstration latrines in the Soloborn scheme, including a demonstration pit latrine constructed on raised ground because of the high water table and vulnerability to flooding.

5.4 Additional knowledge generated by the PSSC programme

In pursuing the objectives laid out at the start of the programme, PSSC teams extended the existing experience of community-managed water supplies in a number of new areas. Once again comparison of experiences in the two participating countries enables some important conclusions to be drawn on the necessary ingredients for achieving sustainability. Circumstantial evidence is strong for three significant conclusions:

- * ***Decentralization.*** The type of support needed to sustain community management of water systems is best provided through strengthened provincial/district offices of implementing agencies. Just as centralized agencies find it difficult to organize effective maintenance of widely dispersed community water systems, so also do they struggle to provide support services from a central point. Locally based staff are better able to respond promptly to community needs and to develop the trust and confidence needed for a successful partnership approach.
- * ***Intersectoral collaboration.*** One of the main achievements of the Zambian PSSC programme has been the way that it has fostered integrated activities by the three participating institutions – the Ministry of Health, the Department of Water Affairs, and the Department of Social Development. In Malawi too, the multisectoral project management team is credited with effective coordination of resource inputs and information dissemination. The project/programme management team approach is recommended as a model for intersectoral collaboration.
- * ***Information exchange.*** Even the best organized community/agency partnerships rely on access to knowledge and experience from outside, as a means of developing their own approaches and guidelines. Information sharing was always a major element of the PSSC programme and included international exchanges through publications, conferences and workshops. The PSSC programme has shown that the most valuable type of information exchange is often that within the same country. Ethnic and cultural differences are then less significant, and information is therefore easier to interpret and to adapt to local circumstances. Provision for exchanging knowledge, experience and monitoring data between projects and between agencies is a worthwhile element of any community water supply programme.

6. *Sharing and dissemination of PSSC programme experiences*

As a development and demonstration programme, the PSSC programme had a continuing commitment to information sharing on three levels: nationally among participating institutions and project staff; between the two participating countries; and internationally with all interested countries and agencies. A full list of project seminars, workshops and courses, and project publications is appended (Appendix 5).

6.1 **Country-level information sharing**

Information sharing within departments

The schedule of programme activities (appendix 2) shows the emphasis given to data collection and information sharing, throughout the country programmes. Monitoring, evaluating and reporting require continuous resources and so were more readily achieved in Malawi than in Zambia. Nevertheless, regular meetings of the project teams, project management committees and project working groups ensured that key staff were kept up to date on progress and achievements in both national programmes.

Information sharing among sector agencies

Information also needs to be analyzed and acted upon and the programmes therefore included periodic workshops to provide forums for discussion of major topics of interest. Production of guidelines and manuals on key approaches ensured that programme experiences were documented for possible replication by other interested agencies. In Zambia, for instance, the three manuals – on operation and maintenance, pit latrines, and community participation – produced by the programme are now being used on other water programmes and have been issued to external agencies participating in the water field, including UNICEF, WHO and the Rural Water for Health Programme. The special studies commissioned in each country have also yielded authoritative reports on key issues which are now available to other agencies for reference.

Information sharing with communities

Community management also requires that communities should keep up to date with the information needed to operate and maintain their systems and to plan future enhancements. Informal discussions involving agency staff and community members were regular features of the PSSC programme, and proved to be an effective way of cementing the partnership without any need for formal agendas or structured discussions.



6.2 Inter-country exchanges

As noted in section 4.2, there were regular dialogues between the Malawian and Zambian project staff throughout the PSSC programme. With similar activities and special studies carried out in the two countries, these exchanges gave the staff valuable extra insights into such topics as community organization (Tap Committees), cost recovery, technology and design, and hygiene education and sanitation. Each national workshop was attended by representatives from the other country as well as national participants, with mutual benefits.

The PSSC programme also sparked interest in neighbouring southern African countries. Through IRC, information was shared with interested agencies in Zimbabwe, Namibia, Botswana and Swaziland, and Zimbabwean representatives visited PSSC schemes in Malawi.

6.3 International information exchange

In addition to the previously noted participation of national programme staff in international conferences and workshops and the preparation of articles for technical journals, a great deal of PSSC-generated information has been disseminated through IRC publications. The programme's most outstanding publication, based on PSSC experiences, is *"Partners for Progress: An approach to sustainable piped water supplies"* (IRC-TP 28).

Key aspects of the programme have featured regularly in the IRC Newsletter, which has a wide circulation among sector specialists. The literature searches and other information-gathering exercises undertaken by IRC in support of the project teams have led to a number of publications which have been distributed to a wider international audience. Among these are:

Resource mobilization for community-based sanitation projects (literature search)
by E Larbi (1990)

PSSC/PROWESS Report of Workshop on Tools for Community Participation
UNDP/PROWESS (1991)

Status Report on PSSC Zambia Sanitation and Hygiene Education Component in Soloborn
by E Bolt (1991)

Financing operation and maintenance of water supply systems: Experiences from urban and rural water supply sector in Zambia and Malawi (case studies) by Dr IL Nyumbu (1990)

Water by Tap: The need for a continuing effort in development, demonstration and information sharing by M Seager (1989)

Partners for Progress: An approach to sustainable piped water supplies IRC Technical Paper TP 28.



The above publications relate specifically to the PSSC programme. Other IRC publications have drawn heavily on PSSC experiences along with other information in formulating their conclusions and recommendations. PSSC data has featured prominently in:

Manual on community-based operation and maintenance of piped water supplies IRC 1993

The Action-Learning Strategy: Creating capacity for capacity building in community water supply and sanitation programmes by Norah Espejo 1993

Women, water and sanitation: Practical issues of participation by M. Boesveld (1989)

7. *Follow-up and consolidation*

It is clear from the preceding sections of this report that the PSSC programme has had a major impact on national strategies for implementing community water supply programmes in Malawi and that the programme is also having an influence on policy setting in Zambia. Consolidation of this progress will depend on the priorities given to water supply and sanitation improvements in the two countries in the coming years. Both countries face difficult economic climates, but sector staff are convinced that the proven social and economic benefits of the partnership approach will be recognized when investment programmes are being formulated.

Malawi

Capacities and guidelines

To a large extent, the PSSC programme has developed a momentum of its own in Malawi. The capacity-building aspect of the programme has been strong and the Water Department now has a growing cadre of Water Monitoring Assistants involved in both rural and peri-urban water schemes. PSSC-trained trainers are the core of the Ministry of Community Services' programme for training tap committees. The guidelines and manuals produced during the programme are being applied nationally, and interest in applying the partnership approach on future programmes has been expressed by a number of donors and NGOs (previously) active in Malawi.

Establishment of Community Water Supply Management Section

The present political situation has led to a freeze on donor support, but there are hopes that externally-assisted programmes may be resumed before too long. The UK Overseas Development Administration has plans to support a communal standpost project for 14 towns. The PSSC approach is likely to be applied on that project, which will involve the Water Department's Community Water Supply Management Section, headed by the former national PSSC Project Manager. This section will now be responsible for all community water supplies, including urban communal water points, rural gravity piped water supplies and borehole programmes. The Controller of Water Services has announced plans to expand the section, as it plays a crucial role in promoting community participation and community management. Eventually, all urban and rural community water supplies in Malawi will be managed using the PSSC-developed approach.

Zambia

Inter-ministry coordination

Above all, the PSSC programme in Zambia was successful in establishing an effective way of integrating activities of several different ministries to work in a coordinated way towards common goals. The Project Management Committee has already been used as a model for further national and regional initiatives for integrated activities. Among other new initiatives under consideration is a translation of the PSSC manuals into several local languages.

Re-organization and PSSC approach

The water supply sector in Zambia has been in a state of crisis for several years and a restructured sector is only just beginning to emerge. It faces huge problems, particularly in urban areas. Cost recovery has been very bad in the past, and so schemes have depended

on government funds to cover operation and maintenance. Many are therefore in a poor state. A planned handover of schemes from the Department of Water Affairs (DWA) to District Councils depends on DWA being able to rehabilitate the schemes and establish full cost recovery and sustainability within 3-5 years. A Programme Coordination Unit has to be established and guidelines need to be developed. The PSSC approaches may feature as part of the planned activities, but not all sector specialists in the country are yet convinced about the partnership approach.

Need for promotion community management

Greater promotion of the benefits of community management and the results of its application in other countries will need to be part of PSSC follow-up in Zambia. Zambian PSSC programme staff also see opportunities for expansion of the hygiene education and sanitation programme.

8. *Finance*

The Ministry of Foreign Affairs of the Netherlands provided an amount of DFl 2,254,000 for a period of three years (1988-1990). The project period was extended to June 1992 because of the limited absorption capacity of the project in both countries. In Zambia this was due to delays in development of approach and subsequent delay in development of demonstration schemes.

In 1989 DFl 44,000 was added to the budget for cost recovery activities. In 1990 the budget was revised in view of the extension of the project to June 1992.

Appendix 4 gives the revised budget and the expenditures of PSSC over the 4.5 years period.

The country contributions were substantial throughout the project period, particularly in relation to the height of the project country budgets. In both Malawi and Zambia one full-time project manager, three to five part-time project staff, and project support staff were attached to the PSSC project. At district level departmental officers and extension workers were part-time and some full-time involved in the PSSC project. Furthermore, office space, facilities, equipment and transport were provided to enable execution of the project.

9. *Conclusions*

The PSSC programme came a long way towards meeting the objectives set for it in 1987. The programme had to be extended, because of administrative and logistic delays in the participating countries, but the schedule of activities closely matched the original concept. The results of the demonstration schemes and the special studies commissioned as part of the two national programmes have added powerful new evidence in support of a participatory approach to the implementation of community water supply programmes, and PSSC initiatives have made significant contributions to building the capacity of sector agencies and communities in Malawi and Zambia to undertake community-driven development activities.

Although the objective of broadening the experience of the partnership approach to cover different types of piped water supplies was not achieved in the demonstration schemes (all the schemes were based on public standpost supplies), the extensive data gathering and information exchange undertaken by IRC in support of the national programmes did yield comprehensive guidance on community-led implementation of many different technologies and levels of service. It was thus possible to fulfil the programme mandate through the publication of *Partners for Progress: An Approach to Sustainable Piped Water Supplies*.

Particularly in Malawi, where there was a strong institutional base in the water sector from the start, the PSSC programme has had an important influence on sector policy and national approaches to community water supply development in rural and peri-urban areas. The impact in Zambia was less marked and the achievements less immediately replicable, but sector staff remain hopeful that the programme's outputs will prove helpful in guiding sector strategies when the ongoing sector reorganization is fully implemented.

In both countries, the hygiene education and sanitation promotion components have been successful in raising community awareness of hygiene issues and in developing approaches to encourage community demand for and use of improved sanitation facilities. This has been achieved despite severe restraints on the resources available for this component in each country.

Relating the PSSC programmes achievements to its original specific objectives (see section 2), the programme may be evaluated thus:

- * ***Studies and reports.*** The country programmes in Malawi and Zambia initiated a total of 11 special studies on key issues, including cost recovery and sustainability of piped water supplies. National agencies undertook the studies, gathering information from a wide range of sources and preparing useful reports which helped to plan programme activities and to develop innovative approaches.
- * ***Monitoring and evaluation.*** Data gathering and analysis enabled the national programme staff to adjust their approaches as necessary and to formulate new ideas. The analyses revealed shortcomings in existing approaches and provided numerous opportunities for improving methods of working with communities. In Malawi, the data gathering and evaluation were continuous and highly productive; in Zambia, resource limitations made the monitoring more intermittent and its effects more limited.

- * **Implementation public standposts.** A total of five new demonstration schemes were implemented – four in Malawi and one in Zambia – and these were monitored alongside seven schemes continuing from the former PSWS project. All the new schemes were public standpost supplies, but they were selected to represent priorities in the participating countries, and to give a reasonable spread of different socio-cultural settings.
- * **Innovations.** The former PSWS schemes provided valuable initial data for programme planning and useful comparisons as new initiatives were introduced on the additional demonstration schemes. Programme staff were thus able to extend the conclusions from the original PSWS project into the operational phase of the schemes.
- * **Guidelines and manuals.** The guidelines and manuals produced in the two participating countries have proved to be effective ways of transferring the knowledge gained by programme staff to others seeking to replicate the new approaches. In Malawi, the guidelines have covered institutional responsibilities and operational tasks of consumer groups, tap committees, centre water councils, local project coordinating teams, project monitoring assistants, plant operators and communal water point treasurers. Guidance has also been prepared on selection of project centres and siting of public standposts. Several publications have been translated into Chichewa. The Zambian programme developed guidelines for tap committee members and extension workers, covering such subjects as pit latrines, operation and maintenance, community participation, and construction of communal standpoints. The programmes thus achieved good coverage of most designated topics, the exception being the absence of documented guidance on the progressive upgrading of service levels.
- * **Special studies.** The demonstration schemes and the special studies produced definitive guidance on the key issues of local organization, financing, maintenance and rehabilitation. In addition, both country programmes paid special attention to the crucial issue of cost recovery, and the PSSC programme was able to make valuable contributions to the international working group studying this subject.
- * **Application findings.** The programme findings are being applied more widely in both countries. In Malawi, the success of the PSSC approach contributed greatly to the establishment of a new section in the Water Department responsible for all rural and peri-urban water supply management. PSSC intersectoral collaboration became the model for ongoing inter-ministerial cooperation in *national* water supply projects. The PSSC programme has left the Water Department with a core of trained staff, including Water Monitoring Assistants and trainers able to pass on skills to both community members and agency staff. In Zambia, the multisectoral Project Team and Project Management Committee have become models of inter-ministerial collaboration.

- * ***Wider dissemination of findings.*** Beyond the two participating countries, PSSC programme experience has been promulgated widely, through IRC publications, participation of programme staff in international conferences and workshops, and visits by interested agencies from other countries to the national programmes. Regular dialogues have been maintained with Zimbabwe. There are good reasons to believe that the general successful experience of the partnership approach in the PSSC programme is already having an influence on approaches to community water supply planning in other southern African countries.

PIPED SUPPLIES FOR SMALL COMMUNITIES PROJECT

SPECIFIC OBJECTIVES

PIPED SUPPLIES FOR SMALL COMMUNITIES PROJECT

SPECIFIC OBJECTIVES

- * to develop several integrated information development and demonstration projects in the selected countries on piped supplies for small communities;
- * through the country projects, to generate new knowledge on the organizational, economic, technological and socio-cultural aspects of piped water supply systems with appropriate sanitation in developing countries and on the systems as a whole;
- * within each country project, to develop a number of appropriate demonstration schemes in a community setting, from which wider lessons may be learned;
- * to monitor and support the operational phases of demonstration schemes forming part of the previous PSWS country projects in Malawi and Zambia;
- * through detailed studies and analysis of experiences from the demonstration schemes, to prepare publications and guidelines covering selected subjects, including choice and progressive development of service levels, operation and maintenance, financial management, and community-based approaches to piped supplies and sanitation;
- * within the demonstration schemes, studies and written output, to give special attention to local organization, financing, maintenance and rehabilitation;
- * to promote and assist the application of project findings in national programmes, policy formulation and other projects; and
- * to encourage national and international collaboration, transfer of knowledge and exchange of information on aspects of community water supply and sanitation.

PIPED SUPPLIES FOR SMALL COMMUNITIES PROJECT

SCHEDULE OF ACTIVITIES 1987 - 1989

Piped Supplies for Small Communities (PSSC) Programme
 SCHEDULE OF ACTIVITIES 1987-1989

PSSC/1986 12 15

FIGURE 3

PARTICIPANTS:	ACTIVITIES:	1987				1988				1989			
MALAWI, IRC	1. DEMONSTRATION PROJECT IN MALAWI ON PIPED SUPPLIES AND SANITATION A. Planning and preparation. B. Review of experiences to date. C. National workshops to condense and share knowledge. D. Support studies (e.g. on increasing the involvement of women). E. Development of improved approaches and procedures. F. Preparation of preliminary guidelines. G. Selection and preparation of local demonstration schemes. H. Implementation of demonstration schemes. I. Monitoring, feedback, adaptation. J. Observing and supporting operational phase of existing PWS demonstration schemes. K. Interim and main evaluations.	[Gantt chart bars for 1987]				[Gantt chart bars for 1988]				[Gantt chart bars for 1989]			
ZAMBIA, IRC	2. DEMONSTRATION PROJECT IN ZAMBIA ON PIPED SUPPLIES AND SANITATION A. Planning and preparation. B. Review of experiences to date. C. National workshops to condense and share knowledge. D. Support studies (e.g. on increasing the involvement of women). E. Development of improved approaches and procedures. F. Preparation of preliminary guidelines. G. Selection and preparation of local demonstration schemes. H. Implementation of demonstration schemes. I. Monitoring, feedback, adaptation. J. Observing and supporting operational phase of existing PWS demonstration schemes. K. Interim and main evaluations.	[Gantt chart bars for 1987]				[Gantt chart bars for 1988]				[Gantt chart bars for 1989]			
PARTICIPATING COUNTRIES, IRC	3. SHARING INFORMATION AND PROMOTING APPLICATION A. Analysing and describing methods used. B. Assessing cost-benefit and cost-efficiency of procedures developed. C. Comparing new procedures with those currently used. D. Testing, refining and finalising guidelines. E. Helping adapt sector policies and programme procedures. F. Developing training procedures. G. Helping adaptation of national training programmes. H. Staff familiarisation. I. Information-transfer in-country. J. Inter-country information transfer. K. Identifying and planning follow-up action.	[Gantt chart bars for 1987]				[Gantt chart bars for 1988]				[Gantt chart bars for 1989]			
PARTICIPATING COUNTRIES, IRC	4. INTERNATIONAL ACTIVITIES, PROGRAMME MANAGEMENT AND SUPPORT A. Promoting information sharing. B. Co-ordination and support to country projects. C. Development of support studies. D. Development of knowledge bases. E. Interim and final evaluations. F. Programme management. G. Identifying and planning follow-up activities.	[Gantt chart bars for 1987]				[Gantt chart bars for 1988]				[Gantt chart bars for 1989]			

PIPED SUPPLIES FOR SMALL COMMUNITIES PROJECT

LIST OF MAIN INVOLVED PROGRAMME STAFF

LIST OF STAFF DIRECTLY INVOLVED IN PSSC PROGRAMME

Malawi

Mr F. Kwaule	Project Manager, Water Department, Ministry of Works
Mr B. Chandiyamba	Project Officer, Ministry of Health
Mr. G. Malikebu	Project Officer, Ministry of Health
Mr C.K.M. Nyimba	Project Officer, Ministry of Women and Children's Affairs and Community Services
Mr F. Kumwenda	Project Water Engineer, Water Department
Mr A.I.Z. Nkunika	Project Adviser, Ministry of Women and Children's Affairs and Community Services

Zambia

Mr M.K. Chimuka	Project Manager up to 1989, Ministry of Health
Mr O. Chanda	Project Manager since 1989, Department of Water Affairs
Mr D. N'gambi (late)	Interim Project Manager 1989 and Project Engineer, Department of Water Affairs
Mr J. Mate	Interim Project Manager 1992 and Project Officer, Ministry of Health, Chainama College of Health Sciences
Mrs A.I. Simasiku	Project Supporting Officer, Ministry of Community Development
Ms I. Kabombo	Project Supporting Officer, Ministry of Community Development
Mr R.C. Zimba	Project Supporting Officer, Ministry of Health
Mr K.L. Kamalata	Project Adviser, Ministry of Community Development

IRC

Mr M. Seager Programme Manager up to 1990

Mr J.E.M. Smet Programme Manager since 1990

Part-time or during short period:

Ms M.A. Boesveld Programme Consultant

Dr I.L. Nyumbu
(Zambia) Programme Consultant

Ms L. Burgers Programme Support Officer

Ms N. Espejo Programme Support Officer

Mr J. Bockari
(Sierra Leone) Programme Support Officer

Mr. H. Bakir
(West Bank) Programme Support Officer

Mr. E. Larbi
(Ghana) Programme Support Officer

PIPED SUPPLIES FOR SMALL COMMUNITIES PROJECT

OVERVIEW OF BUDGET AND EXPENDITURES OVER THE PERIOD 1988-1993

PIPED SUPPLIES FOR SMALL COMMUNITIES PROJECT

LIST OF PROJECT COURSES AND PROJECT PUBLICATIONS

Training Workshops/Courses

- * Manual/Guideline Development Course I (in Zambia/Malawi) (1990)
- * Manual/guideline Development Course II (in Zambia/Malawi) (1991)
- * PSSC/PROWESS - Workshop on Tools for Community Participation (1991)
- * Self-Evaluation Training Workshop (14 days) Zambia 1991

Malawi :

- Orientation & Training of New Monitoring Assistants
- Tap Committees Training
- Refresher Courses for Tap Committees
- Orientation of local leaders

Zambia :

- Training workshops for Field Extension Worker
- Training for Tap Committees

Outputs Malawi

- * Hygiene Education Material - drawings 1991
- * Cost Recovery Review meeting - Liwonde March 1991
- * "Health Education skills" - Trainees' guide for PSSC Project Areas (Draft) 1991
 - * Guidelines for Cooperation and Maintenance of Public Standposts for Tap Committees, F. Kwaule (Draft) 1991
- * Guidelines series :
 - Responsibilities of Consumer Groups. Nature and composition of Consumer Groups
 - Responsibilities of Tap Committees. Nature and Composition of Tap Committees
 - Responsibilities of Center Water Councils. Nature and Composition of Centre Water Councils
 - Guidelines for Local Project Coordinating Teams
 - Guidelines for Project Monitoring Assistants
 - General Responsibilities of Plant Operators
 - Guidelines for Communal Water Point Treasurers
 - Guidelines for selecting Project Centres, sites and locations for Public Standposts

- * Cost Recovery and Resource Coverage; Pilot Survey Report by Msukwa, L.A.H. et al (1990)
- * Report on PSSC workshop for regional and district officers (Bvumbwe, 24 Febr - 2 March 1991) by F. Kwaule
- * "Kuyambitsa m'gwirizano" translation of IRC - OP5 "Making the Links" in Chichewa by Kwaule, F. et al (1991)
- * "Madzi abwino ukhondondi zimbudzi" Hyg. Ed. manual for Tap Committee, K. Kwaule (1992)
- * Report on course "Preparation and Development of Guidelines and Manuals" (Lilongwe, 23 -26 July 1990) by D. Nyani
- * "Report on the Survey to assess problems affecting sustainability of Tap Committees" by Ndoya, A.H. et al (1992)
- * Self - Evaluation Report PSSC Malawi (Nov. 1991)
- * Report on the National Workshop PSSC Malawi (Blantyre, 10 - 16 October 1988) by F. Kwaule
- * Report on Integrated Training Workshop for PSSC Local Coordinating Teams (Mulanje, 29 Oct - 2 Nov 1990) by F. Kwaule
- * Report on Workshop a Cost Recovery and Resources Coverage for Water Supply Sustainability and Extended Low Cost Sanitation Coverage (Liwonde 20 - 26 Aug 1989)
- * PSSC in Malawi : An overview and forward perspective (Aug 1988) by Chilowa W. and Mawaya A.

Outputs Zambia:

- * PSSC Monitoring system : Water supply
- * " : Sanitation & Hygiene Education
- * " : Comm. Participation

- * Report on short course on preparation and production of guidelines and other communication materials (Lusaka, 25 -28 July 1989)

- * Study design for functioning of Tap and Water Committees

- * Report of Information Workshop for District officer, Kafue District (Feb 1992)

- * ToR for technical extension workers

- * "Why a Pit Latrine" - A manual for Extension Workers and Latrine Builders by J. Mate (1991)

- * A manual on operation and maintenance of communal standpost for extension worker and caretakers, by D. Ng'ambi (1991)

- * A manual on Community participation, by A. Simasiku (1992)

- * Sub-regional Working Group Meeting on Cost - Recovery and Resource Coverage (Working Group Report) Mongu 1989)

- * Report of the National Workshop on PSSC Zambia. (Siavonga, 23 - 28 Jan 1989)

- * Guidelines on Construction of Communal Water Points, by O. Chanda (1992)

- * Report on PSSC/PROWESS Workshop on Tools for Community Participation (Mangochi, 2 - 11 June 1991)

- * Hygiene Education and Sanitation Programme, paper by J. Mate (1992)

- * Guidelines for Water and Tap Committees, paper by A. Simasiku (1992)

- * Self - Evaluation Report PSSC Zambia (1992)

- * Report of First Integrated Training Workshop for Field Workers (Salima, 1 - 6 Aug 1988)

- * PSSC Zambia Report on Planning Workshop (Lusaka, 2 - 14 May 1988)

- * PSSC Zambia Interim Report (Jan 1988 - Dec 1989)

- * PSSC Zambia Report on Re-Planning Workshop (Lusaka, 30 Aug - 1 Sept 1989)

Outputs IRC

- * Status Report on PSSC Zambia Sanitation and Hyg Ed Component in Soloborn by E. Bolt (1991)
- * Resource Mobilization for Community Based Sanitation Projects (literature search) by E. Larbi (1990)
- * Manual on Community-based Operation and Maintenance of Piped Water Supplies IRC 1993
- * PSSC/PROWESS Report of Workshop on Tools for Community Participation, UNDP/PROWESS (1991)
- * The Action - Learning Strategy "Creating Capacity for Capacity Building in Comm. WS&S Programmes" by Norah Espejo (1993)
- * (Case Study) Financing Operation and Maintenance of Water Supply System : Experiences from urban and rural water supply in sector in Zambia and Malawi by Dr.I.L. Nyumbu (1990)
- * Water by Tap: The need for a continuing effort in development, demonstration and information sharing by M. Seager (1989)
- * Women, Water and Sanitation: Practical Issues of Participation by M.Boesveld (1989)
- * "Making the Links" Guidelines for Hygiene Education in Community WS&S Occasional paper by M. Boot (1984)
- * "What Price Water" User Participation in Paying for Community - based water supply; Occasional Paper by C. van Wijk -Sijbesma (1987)
- * "Partners for Progress" IRC Technical paper 1991