



WATER AND SANITATION
FOR HEALTH PROJECT

Operated by
CDM and Associates

Sponsored by the U.S. Agency
for International Development

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TRAINING PLAN FOR THE WATER AND SANITATION COMPONENT OF SANRU II

WASH FIELD REPORT NO. 160
November 1985

The WASH Project is managed
by Camp Dresser & McKee
International, Inc. Principal
cooperating institutions and
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in Rural Development, Inc.
International Science and
Technology Institute, Inc.
Research Triangle Institute,
Training Resources Group,
University of North Carolina
at Chapel Hill.

Prepared for
USAID Mission to the Republic of Zaire
Activity No. 187

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COMPONENT OF SANRU II

Prepared for the USAID Mission to the Republic of Zaire
under WASH Activity No. 187

by

Fred Rosensweig

November 1985

Water and Sanitation for Health Project
Contract No. 5942-C-00-4085-00, Project No. 936-5942
Is sponsored by the Office of Health, Bureau for Science and Technology
U.S. Agency for International Development
Washington, DC 20523

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ACKNOWLEDGEMENTS

I would like to thank several people for their help during this assignment. Special thanks go to Cit. Itoko, with whom I worked closely throughout my stay in Zaire. He was of invaluable help and a pleasure to work with. I would also like to thank Cit. Sowa, the Director of SNHR, for his cooperation and interest in my work. Frank Baer, the SANRU II Project Manager, made SANRU II's resources available to me and provided helpful comments.

USAID/Kinshasa was very supportive and interested in the assignment. Felix Awantang provided all the assistance I could ask for and was especially helpful in guiding my work.

ACRONYMS

ECZ	Eglise du Christ au Zaire (Church of Christ of Zaire)
RWC	Rural Water Coordinator
SMHR	Service National d'Hydraulique Rurale (National Rural Water Agency)
USAID	United States Agency for International Development
VJP	Ventilated Improved Pit Latrine
WASH	Water and Sanitation for Health

EXECUTIVE SUMMARY

The WASH Project assisted the USAID Mission in Zaire in developing a training plan for the water and sanitation component of the SANRU II Project. The purpose of the SANRU II Project is to establish sustainable community-supported primary health care systems in 50 rural health zones in Zaire. Because of the emphasis on training in the water and sanitation component of the project, USAID/Zaire requested WASH assistance in developing an overall strategy in which the training could take place. The assignment was carried out October 10-22, 1985 in Zaire.

The water and sanitation component is composed of two separate but interrelated elements. First, it will strengthen the National Rural Water Agency (SNHR), which is responsible for constructing rural water systems throughout Zaire. Second, the project will provide support to SANRU II-assisted rural health zones to improve their ability to plan and carry out water and sanitation activities. The project therefore has training needs both within SNHR and the rural health zones.

The assignment consisted of two major steps. The first step was to identify the training needs and the second step was to develop a strategy to meet these needs. The strategy which resulted included both the development of an overall training system as well as the details of a training plan, i.e., a schedule of courses and their content.

The personnel who need to be trained during the life of the project are as follows:

- 14 to 18 national trainers for rural water supply and sanitation
- 125 rural water coordinators, including 95 new coordinators and 30 existing ones whose training began in SANRU I
- 30 to 40 village health workers for each zone
- 26 rural water brigades, of which 10 are presently formed
- 3,000 local development committees
- 75 to 100 Peace Corps volunteers who will serve as counterparts to the rural water coordinators

There are three main elements of the suggested training strategy. The first is training of trainers. The second is the use of a standardized curriculum because many of the courses will be repeated. The third is a regular system of individual follow-up after each training event.

The training system proposed has several levels. The top level is a national training team for rural water supply composed of individuals from government agencies and organizations working in Zaire. This team will be responsible for training the rural water coordinators, who supervise all water and sanitation activities at the health zone level, and the top personnel in the SNHR rural water brigades, who plan and install rural water systems. The rural water coordinators will in turn train village health workers and assistant nurses at the health center level.

The report outlines the training that is needed for each of the groups that must be trained. Below is a summary of the proposed training for each level.

National Training Team	Three two-week training of trainers workshops
Rural Water Coordinators	Three one-month workshops on rural water supply and sanitation
Village Health Workers	Two two-week workshops on spring improvement, latrine construction, and health education
Assistant Nurses	One four-day workshop on the basic concepts of community participation and health education
Brigades	
SNHR Central Office	Six short-term overseas training programs
Station Chiefs	Three approximately one-month workshops on management and administration, technical skills, and community participation
Technical Assistants	Two one-month workshops on management and administration and technical skills
Administrative Assistants	One one-month workshop on administration

Recommendations are also given regarding the resources and next steps that will be necessary to carry out the training. This includes the technical assistance, logistics, and equipment and supplies that will be needed.

Chapter 1

INTRODUCTION

1.1 Purpose of the Mission

In September 1985, USAID/Kinshasa requested the Water and Sanitation for Health (WASH) Project to assist in developing a training strategy for the water and sanitation component of the SANRU II Project. The SANRU II Project, which was signed in September 1985, has significantly more emphasis on water and sanitation than its predecessor, SANRU I. SANRU I assisted in establishing a community-supported primary health care system in 50 rural health zones in Zaire. There are 300 such health zones in Zaire. Project assistance included the provision of basic equipment, technical assistance, and training, all with the aim of establishing functioning primary health care systems in the rural health zones. SANRU II will expand these efforts into 50 new rural health zones. To expand its water and sanitation activities, SANRU II will use training as one of the major vehicles to improve services in the rural areas.

Because of the emphasis on training in the water and sanitation component of the project, USAID/Kinshasa requested WASH to carry out the following scope of work.

1. Develop a strategy to train a team of rural water supply and sanitation trainers at the national level.
2. Suggest an approach to develop a training program for rural water and sanitation technicians at the regional level.
3. Develop an approach for the rural technicians to in turn train village-level workers.
4. Plan out WASH assistance that would be needed in carrying out the strategy.

Upon arrival in country, the scope of work was slightly clarified to include the development of a training calendar for the first 12-18 months of the project.

Fred Rosensweig, WASH Associate Director for Human Resource Development, visited Zaire from October 10-22, 1985, to carry out this assignment under WASH Activity No. 187.

1.2 Overview of the SANRU II Water and Sanitation Component

The water and sanitation component of SANRU II is composed of two separate but interrelated elements. First, it will strengthen the National Rural Water Service (SNHR), which is responsible for constructing rural water systems throughout Zaire. Second, the project will provide support to SANRU II-assisted rural health zones to improve their ability to plan and carry out water and sanitation activities. The project will provide, in addition to extensive training, materials and logistics support for the construction of

rural water and sanitation facilities. The implementing organization for the rural health activities is the Eglise du Christ au Zaire (ECZ). SNHR was created in 1983 and currently has ten operational field stations dispersed throughout the country. These stations provide support to the health zones in the planning and installation of water systems. Each of the health zones participating in SANRU II will select a rural water coordinator (RWC) who will report directly to the chief medical officer and be responsible for coordinating all water and sanitation activities in the zone. The working rural water coordinators with the zonal medical chief, local health committees, and the rural water brigades, will develop an implementation plan for the zones. Peace Corps volunteers will serve as counterparts to the rural water coordinators. The rural water coordinators will in turn train rural health workers, the village-level agents responsible for simple improvements and health education. In addition, SANRU II will also provide support to some nongovernmental organizations which have developed a strong capability to implement water projects.

1.3 Methodology

The methodology used to carry out the assignment consisted of two major steps. The first was to identify the training needs of the project. The consultant had in-depth discussions with staff from both SANRU and SNHR as well as other agencies involved in rural water supply and sanitation. A list of the people interviewed is found in Appendix A. These discussions attempted to carefully define the jobs of the various categories of personnel to be trained in order to determine all the tasks that they need to perform. In some cases, job descriptions existed; in other cases preliminary job descriptions were written during the consultancy as a means to identify the training needs. Once all these job descriptions were available, it became a matter of determining which of the tasks were critical and required training. Two particularly useful activities during the consultancy which made this task easier were a visit to the nearby health zone of Sona Bata to talk with health zone personnel and a lengthy meeting with the SNHR brigade chiefs, who were in Kinshasa for a week-long meeting. Both of these activities afforded an opportunity to talk with field personnel and get their perspectives on their training needs.

The second step was to develop a strategy to meet these training needs. To do this a number of factors had to be assessed, including prior training carried out under SANRU I, the number and capabilities of existing rural water and sanitation trainers, existing training materials, the commitment of various agencies to participate in the training activities, and the use of local training and educational institutions. These factors were assessed through discussions with various individuals and a review of existing documents. Once these factors were assessed, a strategy could be formulated which would include both the development of an overall training system as well as the details of a training plan, i.e., a schedule of courses and their content.

1.4 Existing Situation

One of the tasks during the assessment of training needs was to identify what training had been done during SANRU I and what resources existed that could

form the basis for the training strategy in SANRU II. Below is a summary of the existing situation regarding training.

- Thirty rural water coordinators were trained in three separate workshops of 10 participants each. These workshops were three weeks in duration.
- A curriculum was developed for these three-week workshops.
- An approximately three-week training-of-trainers workshop was held in which several of the existing rural water coordinators participated.
- At least one of the rural water coordinators trained 30 village health workers by organizing two eight-day workshops for 15 village health workers each.
- There are two experienced trainers at the national level for rural water supply and sanitation who have both the requisite technical and training skills.

Chapter 2

NEEDS ASSESSMENT

2.1 People To Be Trained

During the course of SANRU II, the following personnel need to be trained.

- 125 rural water coordinators, including 95 new coordinators and 30 existing ones whose training began in SANRU I. The RWCs have a post-secondary school education, either in nursing or as a sanitary technician. The latter have no rural experience in their formal training.
- 30-40 village health workers for each zone. These are community members with a primary school education.
- 26 rural water brigades, of which 10 are presently formed. Each brigade consists of approximately 17 people, including a chief (generally an engineer), a technical section headed by a technical assistant (an engineer or technician), and an administrative section headed by an administrative assistant. Figure 1 shows how a typical brigade is organized.
- 3,000 local development committees that must be organized by the rural water coordinators and village health workers.
- 75-100 Peace Corps volunteers.

2.2 Specific Training Needs

2.2.1. SNHR: Central Office

- With the anticipated expansion from 10 to 26 brigades over the next five years, the management and administrative needs of the central office will increase dramatically. This will require the development of sound administrative systems in accounting, budgeting, procurement, inventory, and personnel and management skills to direct the activities of a significantly enlarged staff. These management skills include supervision, delegation of tasks, problem-solving, work planning, and monitoring of staff performance.
- As SNHR's level of activity increases, the need for systematic planning will also increase. The central office will have to develop a system which allows it to set targets, anticipate human and physical resource needs, and develop operational plans for meeting its goals. Another planning need is an enhanced ability to plan specific projects including feasibility studies and other technical studies that precede project implementation.
- SNHR will also benefit from an ability to use the micro-computers that will be purchased under the project. An ability to use the micro-computers for

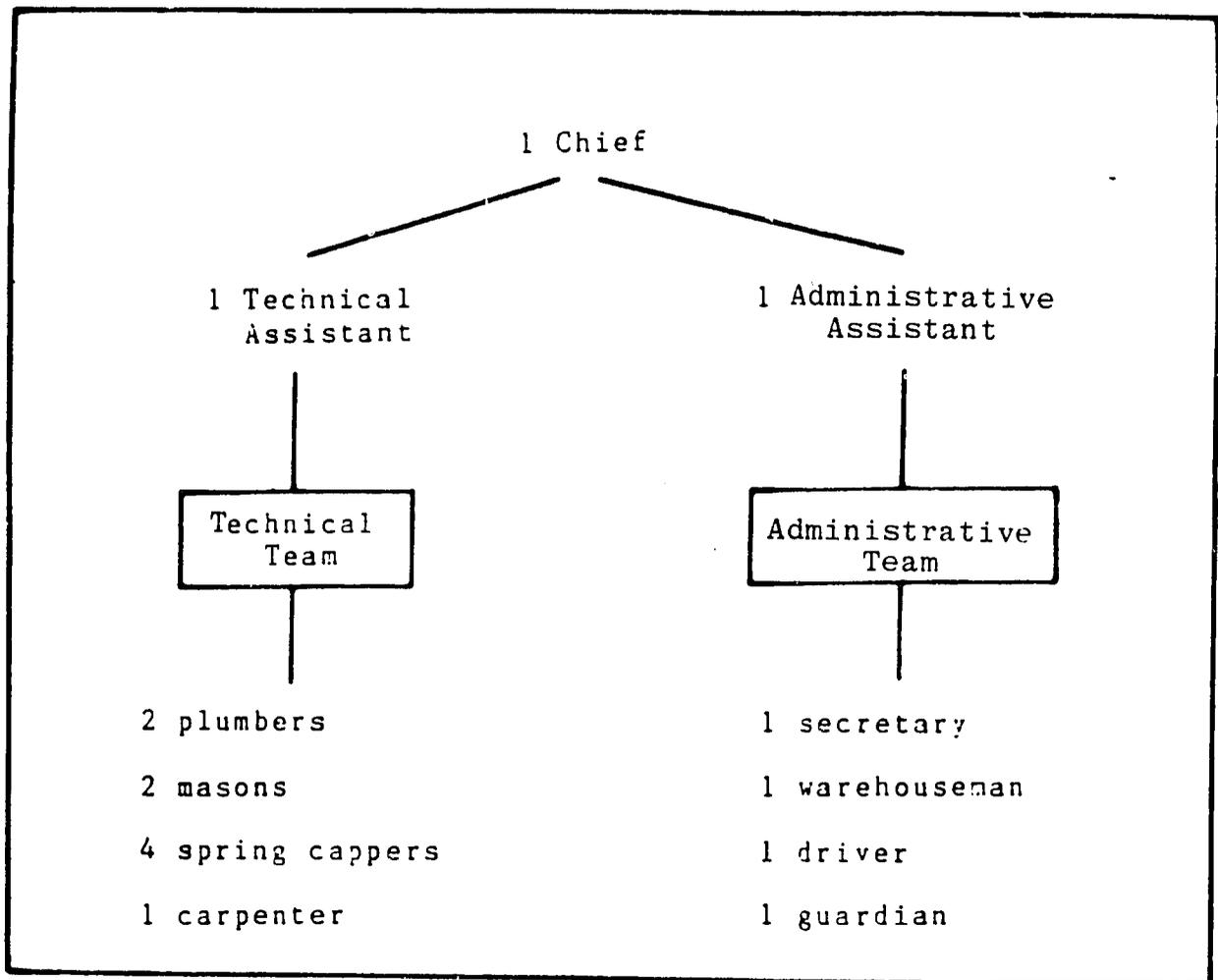


Figure 1. Typical SNHR Brigade

administrative purposes as well as for the technical design of a project will assist the central office in managing a growing operation.

2.2.2 SNHR: Brigades

Station Chiefs

- The station chiefs will need significantly improved skills in administration. This area was identified as one of the present weaknesses, primarily because the chiefs have never received any training in these skills. Training in administrative skills should include accounting, budgeting, and inventory control.
- As in the case of administration, the station chiefs have very little management experience; yet, they are required to select, train, and supervise their staff. Skills in delegating work, giving feedback,

monitoring performance, planning work, and organizing would help to improve the performance of the brigades.

- Planning skills constitute the next area of training need. Planning is defined as setting objectives, determining the inputs that are needed, defining the indicators of progress, and developing a detailed work plan that includes the tasks that need to be accomplished, the personnel required, the resources necessary, and a detailed schedule.
- As the brigades begin to undertake more complex systems they will require upgrading in a number of technical areas. Up to now they have mostly been improving springs. They are also skilled in hand-dug wells. However, in the future they will have to be skilled in a number of other types of systems. The technical skills they will need include data collection and analysis for the technical studies that precede implementation, the design and construction of distribution systems (especially gravity-fed systems), the design and construction of reinforced concrete storage tanks, well-drilling, the installation and maintenance of handpumps, and water quality analysis on both hand-dug and drilled wells.
- Most of the station chiefs felt they could use improvement in dealing more effectively with communities. In areas where there is no rural water coordinator the station chief is required to do all of the community participation work. Given the importance of community involvement in rural water projects, training in this area is likely to improve the long-term outlook for the maintenance of the systems.

Technical Assistants

- One of the main deficiencies of the technical assistant is the ability to supervise the construction site. He must be able to organize the site, make sure that the supplies are available, delegate work, supervise the work force, and monitor the expenses against the budget. Training in this area is a priority.
- The ability to carry out the necessary surveys is another training need. This includes data gathering and data analysis as well as knowing how to use the various survey instruments.
- Under the project guidelines the technical assistant will be required to do a number of reports on the brigade's activities. His role will be to provide information on the technical activities as well as carry out the overall reporting requirements of the brigade when the chief is away from the station. The technical assistants currently do not know how to do this reporting.
- The technical skill needs of the station chiefs described previously are also relevant to the technical assistants. It is anticipated that as new brigades are organized the technical assistants will become the new station chiefs. Therefore, they need to have the same technical capability as the chiefs.

Administrative Assistants

- Most of the day-to-day administrative responsibilities will fall to the administrative assistants. Therefore, they must be skilled in accounting, inventory control, budgeting, procurement, as well as in submitting the required reports to the central office. Since most of the current administrative assistants have no formal training in administration, training in this area is essential. If in the future, new stations hire people already trained in basic administrative skills, this training need will have to be modified accordingly.
- The administrative assistant is also responsible for managing the administrative section of the station. Skills in hiring administrative personnel, training them when necessary, supervising them, and delegating tasks will be required.

Plumbers and Spring Cappers

The brigades have four types of skilled workers: plumbers, spring cappers (fontaniers), carpenters, and masons. It was the general feeling that of these only the plumbers and spring cappers will need additional training so their skills will be more oriented to installing water systems.

2.2.3 Rural Water Coordinators (and Peace Corps Volunteers)

The rural water coordinators and their Peace Corps volunteer counterparts have a key role in the improvement of water and sanitation conditions in the communities. Their training needs are the following:

- Improvement of water points is one of the primary roles of the rural water coordinators. They must be able to construct two types of spring improvements, a retaining wall and a spring box; install and maintain handpumps; and hand dig and protect an open shallow well, i.e., construct a headwall and apron. They must also be able to do some basic water quality analysis.
- Sanitation is also the responsibility of the rural water coordinator. In SANRU sanitation activities consist of constructing the VIP latrines and carrying out health education. Health education includes the use of latrines, water storage (including making cement water jars), water transport, drainage around water points, disposition of wastewater, disposal of garbage, and control of animal wastes.
- SANRU II is committed to full community involvement in its water and sanitation activities. Therefore, training in the techniques of community participation is critical. This will include skills in entering a community, carrying out a sanitary survey, organizing a local development committee, identifying and analyzing environmental health problems, helping the community reach a decision, and planning the community's contributions.
- The rural water coordinator will be responsible for planning the various water projects that will be undertaken in his zone. This includes the systems that the brigades will build. Training in this area should center

on developing skills in setting objectives, determining the inputs, establishing benchmarks, and developing a detailed work plan which includes the resources needed and a schedule of activities.

- Project management, another area of training need, consists of supervising project personnel, i.e., the village health workers and the assistant nurses who head the rural health centers (the end of the chain of the primary health care system); advising the local development committees before, during, and after the construction of the system; keeping basic budgets and accounts, using the procedures established by SANRU; and following through on all the steps of the project cycle from pre-planning to evaluation.
- Because the rural water coordinators can only do so much themselves, they will have to train the village health workers and assistant nurses in the health centers in order to serve as many villages as possible. The rural water coordinators will therefore need to be trained as trainers of the 30-40 village health workers that there are likely to be in each zone. Systematic training will only happen if the rural water coordinators are skilled in conducting short training programs.

2.2.4 Village Health Workers

- The village health workers will be responsible for improving springs, although they will only work on the retaining-wall type.
- They will also have an important role in the area of sanitation. They will be trained to build a VIP latrine as well as carry out the health education activities that were described in Section 2.2.3 for the rural water coordinators.
- Community participation is another important area of training. The village health workers will be required to work with the local development committee to help it decide what types of projects to undertake and assist in planning and carrying out the project. This role is critical because the rural water coordinator will not have the time to work closely with all the villages in his zone.
- The village health worker must be clear on his role and responsibilities vis-a-vis the rural water coordinator, the community, and the assistant nurse. He must also be able to fill out simple reports for the rural water coordinator.

2.2.5 Assistant Nurses

The assistant nurses and the village health workers must work closely together. In fact, the assistant nurses are responsible for primary health care in the surrounding communities and are therefore carrying out activities directly related to the work of the village health workers. It is important that both have similar perspectives on such things as community participation or they will work at cross purposes with each other. For these reasons,

training of the assistant nurses becomes necessary. Their training needs are the following:

- The assistant nurses must have a clear idea of their role and responsibilities with regard to the village health workers and the rural water coordinators.
- They must be able to work collaboratively with communities in planning, implementing, and maintaining water and sanitation projects.
- The assistant nurse should also be able to carry out health education activities and should approach them in the same manner as the village health worker.

2.2.6 Peace Corps Volunteers

The Peace Corps Volunteers, in addition to having the same technical training needs as the rural water coordinators, will go through the standard Peace Corps pre-service training program where they will learn French and a local language, acquire cross-cultural skills, and gain a sense of the role of the volunteer in development. These volunteers will not be able to cover all of the technical skill areas in pre-service training; the ones not covered will have to be covered during in-service training.

Chapter 3

TRAINING STRATEGY

3.1 Basic Principles

Several basic principles underlie the training strategy which is being proposed. These principles form the basis for many of the recommendations which are made in this report.

- All training must be based on carefully written job descriptions which are consistent with overall SANRU II objectives.
- Training in isolation will have very limited benefits. If such factors as transportation, materials, equipment, and timely salary payments are not taken care of, the skills learned in the training program will not be put into practice.
- If training is to be effective, there must be individual follow-up after each workshop. This means that on-site visits should be made within two or three months after the workshop by one of the trainers who would act as coach and mentor to assist in applying the skills learned in the workshop.
- The various workshops should be carefully coordinated and integrated. For example, the approach towards community participation used in the RWC workshops should be the same as in the village health worker's and station chief's training programs. Another example is that Peace Corps volunteers, who will work as counterparts to the rural water coordinators, should have essentially the same training as the rural water coordinator.
- Since many of the courses will be repeated, the curricula which are developed should be standardized. Trainers should not have to recreate a curriculum each time the course is conducted. This will require that the curricula be developed, tested, revised, and shared with all trainers involved in that aspect of the course. This standardization should also allow a high degree of integration and consistency among the various courses.
- A training-of-trainers approach should be used at every level of the project, since almost every level will be responsible for carrying out training at the next level down. Good training will not take place in the absence of training skills. It is essential that those who will be doing training be comfortable planning and conducting training.
- Training should integrate theory and practice. Trainees should have the opportunity to put into practice the skills and knowledge that they learn. This applies not only to the technical skills, but also to such skills as community participation, planning, and administration.

- If there are enough participants, each workshop should aim for two trainers and 20 participants. There are simply too many workshops to plan and conduct to have fewer than 20 participants in a workshop. Experience has shown that this size, even for hands-on skills, is not too large.

3.2 Elements of the Strategy

The training strategy has three main elements. If any of these is missing, the training will have limited effectiveness. These three elements are training of trainers, the use of a standardized curriculum, and a specific system for follow-up.

3.2.1 Training of Trainers

As stated previously, training of trainers is at the core of the strategy because of the many different levels at which training will occur. The overall training system is represented graphically in Figure 2. As this figure shows, the national training team will train the rural water coordinators, several kinds of personnel from the brigades, and possibly the Peace Corps volunteers. The next level down the rural water coordinators and volunteers will train the

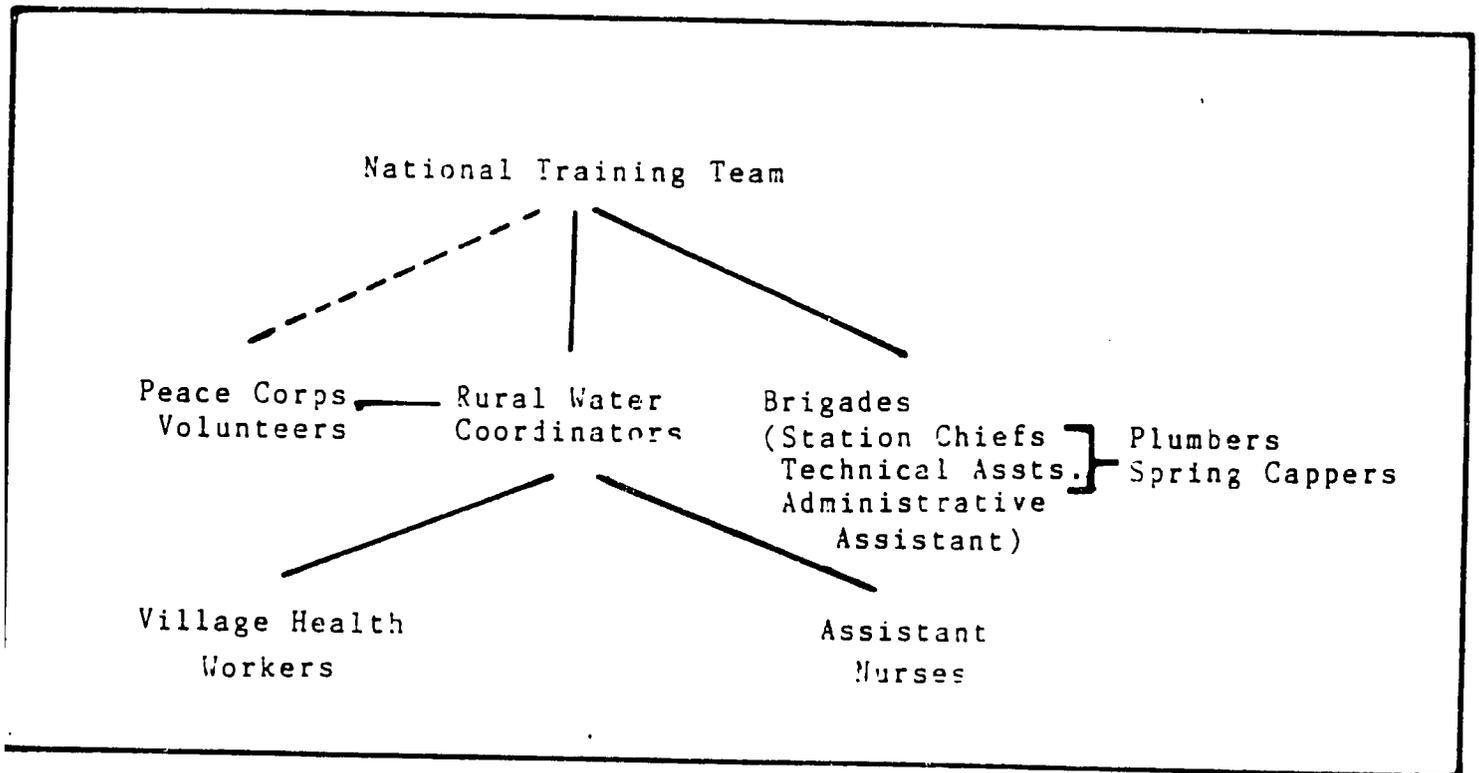


Figure 2. Training System

village health workers and the assistant nurses. Finally the station chiefs and the technical assistants in the brigades will train the plumbers and spring cappers as well as other members. The training system goes from the national to the zonal to the community level, and at each stage skills must be passed on. The training strategy proposes to include training of trainers as part of the curriculum at every level except for the community level.

3.2.2 Standardized Curriculum

The argument for using a standardized curriculum has already been made. The difficulty will be in developing it. Curriculum development requires more than a knowledge of the subject matter. It also requires an understanding of training design and an ability to write instructional materials, skills which are often more difficult than stand-up training. For these reasons, the project should ask for some assistance in developing the standardized curricula.

3.2.3 Follow-up System

A follow-up system should be instituted. As this is the part of training that is most often left out, extra attention should be paid to developing it. Follow-up is best done by the trainers who conducted the workshop. So, for example, the two trainers who conduct the spring improvement part of a workshop for the rural water coordinators should do the follow-up for that part of the workshop. The two trainers might each assume responsibility for half the group. For the system to work, all trainers must realize that follow-up is an integral part of their job descriptions. A schedule for carrying out the follow-up visits must be established and adhered to. Finally, the trainers should be trained in methods of observing and coaching, two essential skills in follow-up. The follow-up system applies both to the national training team and to the rural water coordinators and Peace Corps volunteers.

3.3 Proposed Training

3.3.1 National Training Team

There is general agreement that there are Zairians available who have a sound grasp of the various subject matters that will form the basis of the courses for the rural water coordinators and brigades. If this is indeed the case, then what is needed is systematic training of trainers for the national team so they can convey effectively what they already know. Because of the number of courses that will be given over the next two years, it is recommended that 14-18 Zairians be selected for the national training team. While 14 trainers is the ideal number, a few more should be recruited to allow for a few who are likely to drop out for various reasons.

The national training team should be capable of training in the following areas:

- Water supply (i.e., springs, handpumps, and hand-dug wells)
- Sanitation (i.e., latrines and health/user education)
- Community participation
- Planning/administration (i.e., accounting, budgeting, etc.)
- Management (i.e., supervision, work planning, etc.).

This means that there must be three to four trainers who are able to train in each of these areas. Of course, some trainers may be able to train in more than one area. It is not necessary, however, to expect trainers to be strong in several areas. Many of the workshops will require a rotation of trainers since almost all of the workshops deal with two or three subject areas.

To be selected for the national training team, applicants must meet the following criteria. They must be:

- available up to six months a year for SANRU II training activities;
- willing to take part of the full training-of-trainers program, participate in the development of the curricula, conduct training programs, and carry out follow-up visits;
- willing to travel as much as four or five months a year;
- knowledgeable about and skilled in at least one of the major areas of training; and
- receptive to learning a method of training which is highly participatory and practical.

The training-of-trainers program for the national training team is as follows:

Workshop 1: Introductory Training-of-Trainers

The introductory training-of-trainers workshop should be two weeks long (90 hours) and begin in late January 1986. Two full-time consultant trainers will be required. It should cover the following subjects and skills:

- Principles and concepts of adult learning
- Experiential learning cycle
- Basic trainer communication skills
- Use of feedback in training
- Introductory interactive presentation techniques (use of small groups, lecturettes, etc.)
- Use of demonstration techniques
- Introduction to training aids
- Introduction to group processes
- Needs-assessment techniques
- Writing training objectives and goals
- Basic training design.

Workshop 2: Intermediate Training-of-Trainers

This workshop would also involve two consultant trainers, at least one of the two being from the team that conducted the first workshop. This would also be a two-week workshop and would be conducted in August 1986. It would cover the following skills:

- Use of case-study techniques
- Use of role-play techniques
- Use of written instruments
- Facilitation skills
- Design and use of job aids for technical training
- Intermediate training design skills.

Workshop 3: Advanced Training of Trainers

This workshop would also be two weeks long and would be conducted by a two-person team, at least one being from the previous workshop. It would be held in February 1987 and would cover the following subjects:

- Special problems in training facilitation and presentation
- Consultation skills
- Coaching and observing skills
- Training evaluation techniques
- Advanced training design and materials development.

It should be noted that the national trainers will not wait until they have completed all three workshops to start training. The first training of trainers workshop is scheduled in January and the first RWC workshop in late February or early March. Every trainer should conduct at least two workshops before the second training-of-trainers workshop and at least two more before the third. The opportunity to apply what is learned as soon after the workshop as possible is an important part of the process of developing a trainer.

3.3.2 SNHR: Central Office

Because the central office of SNHR is relatively small in size and because the training needs are somewhat different than the brigades, it is recommended that these needs be met by short-term overseas training. The following is a training plan for the SNHR central office. The details of the course are not given since they correspond directly to the explanation of the training needs in Section 2.2.3.

<u>Subject</u>	<u>Position</u>	<u>Date</u>
Planning (overall SNHR planning)	Director	April 1986
Planning (technical planning)	Technical Assistant	August 1986
Management	Director	April 1987
Administration	Administrative Assistant	June 1986
Micro-computers (administration)	Administrative Assistant	May 1987
Micro-computers (technical)	Technical Assistant	August 1987

3.3.3 SNHR: Brigades

The primary training needs for the brigades are the development of the top three people: the chief, the technical assistant, and the administrative assistant. Because there are currently 10 brigades, and they all have common needs, a workshop approach is recommended. The workshop size will consequently be limited to 10 participants in each workshop, unless new brigades are formed

in the near future. In the proposed strategy, the three key brigade positions will be trained separately so that two of the top three people will not be away from their posts at the same time. The training plan for the brigades is outlined below. Only the content headings are provided; the details can be found in Section 2.2.2.

Station Chiefs

Workshop 1: Management and Administration

The first workshop for the station chiefs is on management and administration. During the needs assessment there was almost unanimous agreement that this is the overriding need of the chiefs at this point. It was felt that if a technical workshop were given at this time, it would push the critical need of management and administration further into the background. This workshop will be one month in duration and will be conducted by one or two trainers, the latter being necessary if the number of participants goes above 10. This workshop will take place in the second quarter of 1986 and will be four weeks long. It will cover the following subjects:

- Management
- Administration
- Planning
- Role and responsibilities.

Workshop 2: Technical Skills

This workshop will be six weeks long and require one trainer for 10 participants and a second trainer if there are additional participants. It will be held in the fourth quarter of 1986, nine months after the first one. It will cover the following topics:

- Data collection and data analysis
- Design and construction of distribution systems
- Design and construction of reinforced concrete storage tanks
- Well-drilling
- Installation and maintenance of handpumps
- Water quality analysis.

Workshop 3: Community Participation

The brigade chiefs should use the same approach to community participation as the rural water coordinators. The brigade chiefs felt this was their biggest weakness. It is proposed as the third workshop for two reasons. First, in the initial years of the project the brigades will be working primarily in areas supported by SANRU II, which means that community participation will be primarily done by the rural water coordinators. Second, the other needs appear to be more critical at this point. This will be a three-week workshop and is scheduled for the fourth quarter of 1987, nine months after the second workshop. It will cover the following topics:

- Community participation (i.e., entry, problem identification and analysis, deciding on the community's contribution, and training a local person for maintenance)

- Training-of-trainers.

Technical Assistants

Workshop 1: Construction Supervision

The first workshop for the technical assistants will focus on their primary responsibility -- making sure that the systems are constructed properly, on time, and within budget. Most of the station chiefs do not feel that their technical assistants currently have these skills. This workshop will be held in the third quarter of 1986 and cover the following topics:

- Supervision of the construction site
- Organization of the site, including materials and equipment
- Supervision of the workforce and delegation of tasks
- Carrying out surveys, including data collection and analysis
- Reporting requirements.

Workshop 2: Technical Skills

This workshop will be the same as the one given for the station chiefs. It is given separately only because both the technical assistants and station chiefs cannot be away from their jobs at the same time. It is a six-week workshop and will cover the same topics. It is scheduled for the second quarter of 1987.

Administrative Assistants

Workshop 1: Administration

Only one workshop is planned for the administrative assistants. It is a four-week workshop to be held in the fourth quarter of 1986. It will focus on the following topics:

- Budgeting
- Accounting
- Inventory Control
- Procurement
- Reporting
- Management of administrative section.

Plumbers and Spring Cappers

No formal workshops are proposed for these workers. It should be the responsibility of the technical assistants and station chiefs to train them on the job. Training aids should be prepared for the technical assistants to use in this training. The aids could consist of such things as checklists or perhaps some simple visual aids.

3.3.4 Rural Water Coordinators

The rural water coordinators will have a series of three workshops, each nine months apart. Each workshop will be four weeks in length and will be conducted by at least two trainers. Each of the workshops will cover several topics,

which means that several training teams are likely to be used. For example, two trainers might conduct the first part of the workshop on planning and management, while two different trainers would conduct the part on spring capping. The 30 existing rural water coordinators would only participate in the second and third workshops, since they have already been through a workshop which closely approximates the first workshop in the rural water coordinator series.

Workshop 1: Planning and Spring Capping

This workshop will cover planning and project management first, since they are critical skills for getting a project started. So they will have something to plan, the participants will also learn how to improve two types of springs. Springs are chosen, as opposed to handpumps, since they are the predominant type of water source that will be improved under the project. The workshop will cover the topics listed below. (Again, only the major headings of the topics are given. For more detail see Section 2.2.3).

- Spring capping, both the retaining wall and the spring box types
- Planning
- Project management including basic administrative and supervisory skills
- An introduction to community participation (It was felt that understanding the basic concepts of community participation could not wait until the second workshop; therefore three days of introductory material will be presented here.).

Workshop 2: Community Participation, Handpumps, and Latrines

This workshop will focus on three major topics. Community participation will be given a much more detailed treatment than the brief introduction given in the first workshop. The workshop, which should be adapted from the WASH training guide on community participation should include community practicums. The second half of the workshop will cover the installation and maintenance of handpumps and latrines. The curriculum of this part of the workshop should draw heavily on the WASH training guides on latrine construction and handpump installation and maintenance. The topics in this workshop will therefore be:

- Community participation
- Latrine construction (VIP type)
- Installation and maintenance of handpumps.

Workshop 3: Health Education, Hand-dug Wells, and Training-of-Trainers

The last workshop in the series for rural water coordinators will focus on health/user education, hand-dug wells, and training-of-trainers. Health/user education includes all domestic sanitation topics such as water storage, garbage disposal, and latrine usage. Open hand-dug wells is one of the technologies that will be used in the project, but only if springs and installing handpumps are not a viable option for technical or maintenance reasons. Finally, training-of-trainers is the last topic of the workshop series, not because it is least important, but because it was felt that only when the rural water coordinators are fully familiar with the subject matter of water and sanitation will they be ready to train others. This is not to

say, however, that on-the-job training and perhaps some formal training will not take place prior to this workshop. It does mean that the rural water coordinators will not be formally responsible for conducting workshops for the village health workers and assistant nurses before this workshop. The following will be included:

- Hand-dug wells
- Water quality analysis
- Health/user education
- Training-of-trainers.

3.3.5 Village Health Workers

The village health workers will be trained in two two-week workshops by the rural water coordinators. The workshops will be held six months apart. Each of the rural water coordinators will train the village health workers in groups of 10 to 12 since it is unlikely they will have a second trainer. It is also felt that it is preferable to train in smaller groups at this level. The training of the village health workers will be much more limited in scope than the training of the rural water coordinators and will emphasize those aspects that they can realistically learn in a short time.

Workshop 1: Spring Capping and Community Participation

The first workshop will start with spring capping since water is generally more in demand by villagers than latrines. Only the retaining-wall type of spring improvement will be covered since the spring-box type is technically more complex. Community participation, which is perhaps the most critical area of support that the rural water coordinators need, is also covered in this first workshop. The following topics will be included:

- Roles and responsibilities
- Community participation
- Spring capping; retaining-wall type.

Workshop 2: Sanitation

This workshop will cover both aspects of sanitation as defined in SANRU II -- latrine construction and health/user education. The latter is important since it is one of the roles of the village health workers to be the eyes and ears of the rural water coordinators in the village to insure that the water and sanitation facilities are being properly utilized and maintained.

3.3.6 Assistant Nurses

The assistant nurses will undergo a short training program primarily to make sure that their work is coordinated with the work of the village health workers. Their training will cover the same concepts covered in the training program for village health workers, but will not actually involve any construction. It will be approximately four days in length and will be conducted by the rural water coordinators for groups of 10 to 12 nurses.

Workshop 1: Water and Sanitation

The workshop will focus on the following topics:

- Community participation
- Health/user education
- Roles and responsibilities.

3.3.7 Peace Corps Volunteers

As has already been stated, the Peace Corps volunteers will have the same job as the rural water coordinators and therefore should have similar training. There appear to be three ways to coordinate the training of the volunteers with the training of the coordinators. First, the volunteers could use the same curriculum. In their pre-service training, which would be held separately from the rural water coordinators, they should, at a minimum, cover the same topics as in Workshop 1 of the RWC series. Second, the volunteers and the coordinators could be trained together in the second and third workshops of the program. This could coincide with regularly held in-service training for the volunteers. Holding joint training programs would depend in part on scheduling, since the volunteers are only in Zaire for two years. Third, if scheduling precluded joint training, Peace Corps could perhaps use several trainers from the national team for in-service training. One prime consideration is that the volunteers must understand and speak French well enough to participate in a workshop with the rural water coordinators or to be trained by French-speaking trainers.

Coordination with the Peace Corps is one aspect of the training strategy that has not yet been clarified. Discussions should take place between the Peace Corps, SANRU, and possibly the Peace Corps training center in Bukavu.

3.4 Total Number of Workshops Proposed

Tables 1 and 2 break down the number of training events (both short-term overseas training and workshops) by quarter. The numbers show the sequence of workshops for a given category of personnel to be trained. The tables present two options for the strategy. In Table 1 a new group of rural water coordinators would start up each quarter. In Table 2 a new group would start up every six months. All other factors are the same. The only implication for selecting the second option is that it would require fewer national trainers, since the rural water coordinator workshops would be more spaced out. The tables do not include the workshops for the village health workers and assistant nurses for two reasons. First, the number of workshops for these groups will be in the hundreds, and second, the planning and scheduling will be the responsibility of the rural water coordinators and not of the central SANRU office.

125 Rural Water Coordinators

95 new RWCs (5 groups X 3 workshops)	= 15 workshops
30 existing RWCs (2 groups X 2 workshops)	= 4 workshops
	<hr/>
	19 workshops

SNHR

Station Chiefs (1 group X 3 workshops)	= 3 workshops
Technical Assistants (1 group X 2 workshops)	= 2 workshops
Administrative Assistants (1 group X 1 workshop)	= 1 workshop
	<hr/>
	6 workshops

National Trainers

1 group X 3 workshops	= 3 workshops
	<hr/>
	28 workshops

Table 1. Sequence of Workshops (Option 1 - New RWCs Quaterly)

Job Title	Number to be trained	86				87				88			
		1	2	3	4	1	2	3	4	1	2	3	4
SNIIR													
Central Office													
Director	1		1				2						
Technical Assistant	1			1						2			
Administrative Assistant	1		1				2						
Brigades													
Station Chiefs	10		1				2					3	
Technical Assistants	10			1				2					
Administrative Assistants	10				1				2				
Health Zones													
Rural Water Coordinator - New													
Group 1	19	1				2				3			
Group 2	19		1				2				3		
Group 3	19			1				2				3	
Group 4	19				1				2				3
Group 5	19					1				2			
Rural Water Coordinator - Current													
Group 1	15					2				3			
Group 2	15						2				3		
National Trainers													
	16	1				2				3			
Total	174	3	4	5	5	4	4	4	3	1	1	1	

Table 2. Sequence of Workshops (Option 2 - New RWCs Biannually)

Job Title	Number to be trained	86				87				88				89				90			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SNHR																					
Central Office																					
Director	1		1					2													
Technical Assistant	1	1		1					2	2											
Administrative Assistant	1	1						2													
Brigades																					
Station Chiefs	10		1					2													
Technical Assistants	10			1					2												
Administrative Assistants	10				1																
Health Zones																					
Rural Water Coordinator - New																					
Group 1	19	1			2				3												
Group 2	19		1					2		3											
Group 3	19			1						2		3									
Group 4	19				1						2		3								
Group 5	19					1						2		3							
Rural Water Coordinator - Current																					
Group 1	15			2				3													
Group 2	15				2				3												
National Trainees	14	1		2		3															
Total		2	3	5	3	3	5	4	2	2	1	1	1	1		1					

Chapter 4

RESOURCES NECESSARY

4.1 National Training Team

Fourteen to 18 Zairian water and sanitation trainers must be identified. These individuals should come from the various agencies and educational institutions that are involved in rural water supply and sanitation. The criteria for selecting these individuals were provided in Section 3.3.1.

4.2 Equipment and Materials

The workshop will not require elaborate or expensive training materials. The following list of materials should be sufficient:

- 15 flipchart stands (preferably collapsible)
- 300 magic markers (varying colors)
- 5,000 sheets of large flipchart paper
- 6 slide projectors
- 6 overhead projectors
- 300 transparencies
- 6 packets of special pens for writing on transparencies
- routine office supplies (paper, pens, pencils, etc.).

In addition to the above training materials, costs for reproduction should also be included. Because many of the workshops will have actual construction associated with them, there will also be costs for cement, rebar, various tools, etc. In many cases, zones or brigades may already have these materials available. Some costs may also be needed to provide repairs to renovate a regional training center. This may include buying some basic furniture, painting, etc.

4.3 Logistic Support

Given the difficulty of logistics in Zaire and the sheer number of workshops in the next two years, the support needs for these workshops will be extensive. These include the following tasks:

- Arranging the training site
- Notifying the participants
- Arranging transport for the participants
- Finalizing arrangements with the trainers
- Obtaining per diem for the trainers and participants
- Procuring all supplies and equipment and making sure they are on site
- Budgeting and keeping track of all expenses
- Reproducing training materials.

These needs are in addition to the substantive tasks of managing the development of the curriculum, monitoring the overall training plan, assigning trainers to specific workshops, and coordinating among the various agencies.

To deal with the level of training activity, it is recommended that SANRU hire a full-time logistic coordinator to work with the water and sanitation coordinator. Similarly it is recommended that SNHR hire a full-time training coordinator. This person would be part of the national training team and would be responsible for the coordination of SNHR training activities.

4.4 Technical Assistance

The following technical assistance is proposed to carry out the training strategy.

1. The trainers should be hired to conduct all three training-of-trainer workshops. Each workshop will require approximately three weeks, a total of five person months (3 weeks X 2 trainers X 3 workshops). A scope of work for these consultants, who will carry out the first workshop in late January 1986, is found in Appendix B.
2. These trainers should remain after each training-of-trainer workshop to assist in curriculum development. They will assist in the development of the curriculum of the first rural water coordinator and SNHR courses after the first workshop, of the second RWC and SNHR courses after the second workshop, and of the third RWC and SNHR course after the third workshop. The consultants should remain three weeks following each consultancy, a total of five person months.
3. Two consultants, one a trainer and the other a specialist in community participation, should be hired the first time the second workshop in the RWC series is given to conduct the community participation component of that workshop. This will allow the WASH training guide on community participation to be field tested and then adapted for use in later courses. This will require two consultants for one month each, or a total of two person months.
4. One management trainer should assist in the development and delivery of the management skills part of the SNHR and RWC courses. This trainer will co-train this component with the Zairian trainers responsible for management. This will require one consultant for one month.
5. A technical trainer may be needed for the design and delivery of the first six-week SNHR technical skills course. The decision should be based on the availability of a trainer on the national team with necessary background. The specific background of the technical trainer, probably an engineer, should be decided at a later date when it is determined what skills are needed. This will require six weeks of consultant time.
6. Two follow-up visits to monitor the overall training strategy should be made during the next two years. The first should be next August and the second approximately 9-12 months after that. Each visit will require about two weeks, or a total of one person month. The consultant carrying out this visit should have experience in developing training systems.

In summary, the technical assistance needs are as follows:

Training of trainers	5 person months
Curriculum development	5 person months
Community participation	2 person months
Management training	1 person months
Technical skills	1.5 person months
Monitoring visits	<u>1.5 person months</u>
	16 person months
	(@ US \$14,400 per person month)
	US \$230,000
WASH management	3.5 person months
	@ US 11,000
	<u>US \$38,500</u>

Total Cost

Technical assistance	230,000
	38,500
	<u>US \$268,500</u>

Chapter 5

NEXT STEPS

In the immediate future there are several steps that must be taken if the calendar that has been established is to be followed.

1. SNHR and ECZ should select the Zairian trainers for the national training team. The number depends on whether option one or two is chosen for the start-up of RWC training groups.
2. USAID/Kinshasa should arrange the technical assistance for the first training of trainers workshop in late January 1986.
3. ECZ and the Peace Corps should decide on the best way to coordinate the training of the rural water coordinators and Peace Corps volunteers.
4. ECZ should hire a full-time logistic coordinator for the training component.
5. SNHR should consider hiring a full-time training coordinator who would be part of the national training team and would be responsible for the organizational aspects of SNHR training.

Appendix A

LIST OF PERSONS CONTACTED

SNHR

- Cit. Sowa Lukono, Director, SNHR
- Cit. Luvula Agnen-Amba, Adjoint Technique, SNHR

Chefs de Stations

- Cit. Biduaya Kabeya, Ngandajika Kasai Oriental
- Cit. Lunu Kateba Mwana, Luputa, Kasai Oriental
- Cit. Lobati Assombo, Nsioni, Bas-Zaire
- Cit. Mayinga Lelo, Rutshuru, Kivu
- Cit. Vita Wa Ngongo, Misele, Bandundu
- Cit. Njunba Muakulayi, Adjoint Administratif, Bunia, Haut Zaire

- Cit. Kabeya Mukengi, Directeur, Programme Nationale d'Assainissement
- Cit. Kadima Mwamba, Secrétaire Général Adjoint, Comité National d'Action de l'Eau et de l'Assainissement (CNAE)
- Cit. Itoko Yoluki, Responsable Eau et Assainissement, SANRU
- Cit. Kidinda Shandungo, Coordinator de Formation, SANRU
- Cit. Dueme, Superviseur, Sona Bata
- Cit. Ngiengo, Agent de Santé Communautaire, Nkakina
- Cit. Tuvidide, Agent de Santé Communautaire, Kinkanga
- Cit. Mbabala, Infirmier Auxiliaire, Kinkanya
- Dr. N.O. Akmanoglu, Organisation Mondiale de la Santé
- Mr. Tom Wayman, Associate Peace Corps Director, Agriculture/Rural Development
- Ms. Ruth Deer, Associate Peace Corps Director, Water and Sanitation
- Dr. Frank Baer, Directeur Adjoint, SANRU
- Dr. Glenn Post, Chief Health Officer, USAID/Kinshasa
- Mr. Felix Awantang, Project Manager, Health Office, USAID/Kinshasa

Appendix B

SCOPE OF WORK: TRAINING OF TRAINERS

Responsibilities

1. Carry out a needs assessment to determine the level of training skills of the national training team.
2. Become familiar with the SANRU II project and with the training plan for the water and sanitation component.
3. Design a two-week introductory training-of-trainer workshop which will cover the following topics:
 - Principles of adult learning
 - Experiential learning cycle
 - Basic trainer communication skills
 - Use of feedback in training
 - Interactive presentation techniques (small groups, lecturettes, etc.)
 - Use of demonstration techniques
 - Introduction to training aids
 - Introduction to group process
 - Needs-assessment techniques
 - Writing training objectives and goals
 - Basic training design.
4. Conduct the two-week workshop making sure to cover the above topics.
5. Evaluate the results of the workshop and write a final report.
6. After the training-of-trainer workshop, assist the Zairian trainers in developing a curriculum for the first RWC workshop to take place in late February 1986.

Timing

The consultants should arrive in Zaire on or about January 20, 1986, for six weeks.

Experience

Two consultants are needed, both with training-of-trainers experience. They should have experience in Africa and speak fluent French. Prior experience in the water and sanitation sector is preferred but not required. Since this workshop is the first of a series of three over the next 12 to 14 months, it is hoped that at least one of the consultants, preferably both, would be available for the subsequent workshops.