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# **WATER, SANITATION, HYGIENE & HEALTH STUDIES PROJECT**

**Aga Khan Health Service Northern Areas & Chitral**

**Fourth Progress Report**

**January to December  
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IR:W 12595  
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# INTRODUCTION

## FOREWORD

This report covers the period January to December 1994 which is the first complete operational year for the WSHHS Project. During the first part of the year considerable time was spent by the Director and senior staff, on preparing a revised proposal and budget for combining additional research activities in the field of community water treatment - see section 1. Two other unexpected developments requiring the attention of the Director and the senior staff, have been the rural water supply and sanitation (RWSS) component of the Social Action Programme (SAP) - see section 3, and a collaborative project with the International Water and Sanitation Centre (IRC) on the role of communities in the management of improved rural water supplies - see section 4a.

Rather than attempt to summarize here the many activities described on the following pages, a few important characteristics of the studies will be mentioned. Firstly is the practical nature of the research which has already resulted in the application of some of the findings in the programmes of LBRDD, AKRSP and AKHSP. Secondly is the amount of effort that has been given to listening to the views and ideas of women, especially concerning sanitation and hygiene issues. And thirdly is the participatory, action oriented methodology used in many parts of the studies, which encourages people to say what they really think.

December 1994 marks the half-way point for the Project and it is an appropriate moment to be planning a 'developmental' evaluation with the help of an external consultant. This activity is scheduled for April 1995 and it is anticipated that the results will pin-point adjustments that could be beneficial to the Project outcome. Looking further ahead, it is also anticipated that this activity will contribute to the formulation of the implementation proposal for follow-on after these studies have been completed.

## 1. EXTENSION OF THE PROJECT

Early in the year, discussions were held between AKFP, AKHBP and AKHSP concerning the implementation of a proposal for a Water Quality Project prepared for AKHBP by Mr. Jamie Bartram in 1993. The WSHHS Project was requested to consider the feasibility of incorporating the proposed activities into its work programme. Resulting from this, the Project Director with the assistance of senior staff, prepared a new proposal and budget combining the two sets of activities into one programme, planned for the period July 1994 to December 1996. This document was circulated to the members of the Project Liaison and Advisory Committee for review and discussion at their 7th meeting. The final outcome was an approval by AKF in mid-1994 for this unification. The extended project is financed jointly by the EC and CIDA till December 1995 and thereafter by CIDA for the final year.

## **2. ADMINISTRATIVE MATTERS**

The transfer to Gilgit in August of an accountant from AKHS Chitral, permitted releasing the Project secretary from his financial responsibilities. The new arrangement, whereby the AKHS Gilgit accountant works part-time for the Project and coordinates with Chitral has been a welcome development.

In the first half of the year three additional chowkidars and three additional drivers were recruited, bringing the total number of support staff to ten. Recruitment of another driver and chowkidar, and an assistant engineer will be finalized in early 1995. The other positions that were contemplated in the 1994-1996 Proposal now appear to be unnecessary. Assistance with computer programming during the year was arranged locally on a part-time consultancy basis.

As it proved impractical to combine office space in Baltistan with AKRSP, AKHS or ABWA, a small house was rented for the field office and laboratory. Also, to help reduce the cost of accommodation when staff visit Chitral and Baltistan, some additional space was included. In Gilgit, due to limitations of office space an extra building has been rented jointly with AKHS since October.

Two additional second-hand vehicles for facilitating the expanded programme, were procured in the second half of the year as planned in the 1994-1996 Proposal. Another vehicle was donated in December by AKRSP for mobilizing the IRC team, and in November, the long-awaited Land Rover spare parts finally arrived.

## **3. POLICY DEVELOPMENT AND THE IMPLEMENTATION PROPOSAL**

The discussion between the Ministry of Local Government and Rural Development (MLGRD), AKRSP and the WSHHS Project in 1993, concerning support for the implementation of the Social Action Programme RWSS component, resulted in the signing in April 1994 of a MOU between AKRSP and the NAs Administration. A partnership approach between LBRDD and AKRSP with assistance from the WSHHS Project has been initiated, and a more participatory implementation process is now being used for new water supply projects - see Box 1. Project staff participated in many of the discussions, including a two day workshop organized by the MLGRD Federal Support Unit in Gilgit in June, during which a draft action plan was prepared. Initial reactions to these developments from Federal level and from donors have been favourable. It has been reported that other Provinces have not yet shown much sign of the kind of change in practice being pioneered in the NAs.

Resulting from the decision to extend the Project beyond mid-1995, the plans to develop a concept paper and implementation proposal in 1994 were rescheduled for the first part of 1995. The new date for submitting the proposal is July 1995. This should allow sufficient time for preparatory work, to enable implementation to follow on without interruption after the studies end in December 1996.

SOCIAL ACTION PROGRAMME:  
COLLABORATION WITH LBRDD AND AKRSP

BOX 1

In August 1994 AKRSP and LBRDD started joint implementation of activities for the SAP rural water supply and sanitation component. The first set of schemes will be implemented in about 20 villages in the NAs (1994-1995). Dialogues were held in the first of these villages in September and the WSHHS Project was requested to participate. The Project was subsequently asked to help with adapting the Diagnostic Process - the proven AKRSP methodology based on three sets of village dialogues - to the implementation of water supply.

In Autumn the Project worked on the development of a socio-technical survey format. The survey consists of three elements. In the first dialogue there is a Needs Assessment Baseline Survey, for which a questionnaire and a data sheet were developed for both men and women. In the second dialogue a participatory village planning exercise (based on village mapping) and an improved technical survey methodology have been included. For the planning exercise, sets of models have been developed that will be made available for AKRSP field teams. For the technical surveying an initial set of design criteria were proposed for incorporating into the design process.

Together with AKRSP a number of workshops were developed to familiarize field staff of AKRSP and LBRDD with the new methodologies. Four 2-day workshops were conducted in October and November in Khaplu, Skardu, Gahkuch and Gilgit. On the first day, staff of the two organisations got to know each other while working in groups to discuss the present and future work methods. The baseline survey and village planning exercise were explained. On the second day the whole group attended a first dialogue in a village and carried out the baseline survey.

In December it was planned that two Project members would accompany LBRDD and AKRSP staff during the second dialogues in 14 villages. After starting with one of these in Kachura, Baltistan, rain and later snow made it impossible to work. These activities are now reprogrammed for Spring 1995.

A second series of workshops was held in December covering technical surveying and the design process. Mr. Allah Javaya, engineer of the World Bank presented two workshops in Gilgit and Skardu for AKRSP and LBRDD staff. During two days, the technicalities of water supply design were discussed and a tentative training plan was developed. One decision, is that in order to improve the quality of design of schemes, better topographical survey techniques are required. Training in these techniques will be provided by AKRSP with the help of the WSHHS Project. Also Mr. Javaya will return to Gilgit to give a demonstration on designing water supply schemes with the help of computer programmes in March.

#### **4. COLLABORATION WITH OTHER INSTITUTIONS**

During the year, the Project developed closer working relationships with AKRSP and LBRDD as a result of the SAP RWSS developments - see Box 1. In August and September, with AKHSP, assistance was given again to the Government health services in their cholera control activities. The Project Liaison and Advisory Committee met once in June to discuss the 1994-1996 Proposal and again in October, under the new chairmanship of Dr. Imam Yar Baig, for a comprehensive progress report and discussion. Following the June meeting the committee invited the NAs Development Commissioner to nominate a suitable person from the Planning and Development Department to attend: this was finalized in November.

In July the Project Director and two staff members made a three day visit to the water supply implementation project of the LGRDD in Muzzafrabad, Azad Jamu Kashmir. The visit was organized by the Technical Advisory Unit of the Binnie-Hunting-Techred consortium who are assisting LGRDD during the pilot phase of implementation. Besides meetings in the office, the team made a two day field visit to the Bagh District. Although the conditions in AJK differ from the Project area, there are enough similarities to learn some useful lessons from their experience. Noteworthy is the issue of whether the policy of providing community stand-posts should be changed to provision of individual domestic connections. Also it was noted that programme flexibility was restricted by Government and donor rules, regulations and procedures, and it was clear that the original production targets had been unrealistic.

In July the Project coordinated a three day visit by a group of eleven members of the PAK Community Development Programme, an NGO working near Peshawar. Informal contacts were established with Action Aid, an NGO working with participatory methods on integrated rural development in NWFP, and with the Water & Sanitation Cell in Baluchistan.

The Chitral Area Development Programme (CADP) requested the Project to assist them in a rural water pilot project. In Spring, assistance was given in water source sampling, participatory village mapping and providing feed-back on their implementation strategy. Due to lack of time these activities could not be continued in the second half of the year.

Contacts at the Federal level have been maintained on an informal basis with the Federal Support Unit for the RWSS sector, with the World Bank RWSS SA and with UNICEF.

##### **4a. IRC Participatory Action Research Project on the role of communities in the management of improved rural water supplies**

This project, coordinated by the International Water and Sanitation Centre (IRC) in The Netherlands, initially approached AKRSP in 1992 as one of its six potential country collaborators. After a long delay, the project was reactivated in 1994 and after a series of discussions between AKRSP, LBRDD and the WSHHS Project, it was agreed to form a joint team to participate. The team members who work on the project on a part-time basis, are a senior programme monitoring officer from AKRSP, a senior LHV from AKHS and an assistant anthropologist from the WSHHS Project. The IRC project manager is the Director

of the WSHHS Project and advice and supervision are provided by senior staff. Office space and logistical support are coordinated by the Project. The in-country activities which are funded by the IRC are expected to run from mid-1994 to mid-1997. From mid-October to late November the team attended a six week planning and training workshop in The Netherlands after which preparations commenced for the 1995 field work. The project which will concentrate on four villages in the NAs, is building on the work already undertaken by the WSHHS Project and will enable community management aspects of piped gravity flow water supply systems to be thoroughly investigated.

## **5. CONSULTANTS, STAFF TRAINING, WORKSHOPS AND CONFERENCES**

At the request of ODA and AKFP the 1993 consultancy and training request was revised and resubmitted. It was finally confirmed at the end of June that the proposal had been accepted by ODA in London. Of the three UK short courses that had been identified for 1994 one was officially availed and a second was attended by the Project Director during UK leave. The other course was missed due to the late approval and field work commitments. Five consultancies were planned for 1994. The health education consultant was postponed after combining interests with AKHS Chitral and the Community Water Treatment consultancy proved unnecessary after a fact-finding tour by the Project Engineer - see below. The remainder were rescheduled for 1995. Plans for a consultant from the London School of Hygiene and Tropical Medicine to visit in January 1995 to advise on health and technical aspects of composting sanitation were canceled due to ill-health and unfortunately the recommended alternative consultants were also unavailable. For 1995 preparations have commenced for organizing inputs by various consultants, including an in-country training in March and an external evaluator in April.

### **5a. Consultants**

In June Ms. Korrie de Koning spent three weeks in Chitral as a consultant for AKHS on health education. Her main objectives were to make a strength and weakness analysis of health education in AKHS and to design a training programme for the AKHS field staff. At the end of her stay she presented a proposal for a two and a half year training programme in Chitral for discussion with funders. Two staff anthropologists accompanied her for part of the period to brief her and to discuss with her the activities and findings of the Project related to hygiene and health education. Some very useful feed-back and suggestions were given for further improving planning and development of methodologies and materials.

In August the Project Engineer undertook a fact-finding tour in relation to the Project's new activities on community water treatment. First he attended a week long tailor-made briefing programme at the IRC in The Netherlands. This week was followed by a visit to CINARA<sup>1</sup>,

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<sup>1</sup>. Centro Inter-Regional de Abastecimiento y Remocion de Agua, Universidad del Valle, Facultad de Ingenieria, Cali , Colombia.

for familiarization with their long-term research on village water treatment technologies. On the way back a visit was made to the Robens Institute in the UK, former consultants to AKHBP, where plans for the installation of a pilot plant and the modification of the existing systems were discussed extensively.

#### **5b. Staff training**

In March the Project artist spent two weeks receiving practical training in Lahore. He worked with the artist of Nirali Kitaben, a publisher of books on literacy and with the staff of Adult Based Education Services (ABES), one of the most innovative health education organisations in Pakistan. This instruction helped to enhance his skills and highlighted the importance of making sure that drawings are simple and understandable.

In September the Project's female assistant anthropologist attended a short course on 'Health Education for Water & Sanitation Projects' in the UK. The course, given by Dr.J.Hubley, was organized by the Robens Institute at the University of Surrey. The objective of the training was to provide a better theoretical understanding of health education but the duration of five days was too short and did not allow practical work, exchange of ideas or much social interaction. The course was followed by an additional week for studying the literature and for consulting people at the University of Sussex, the Institute of Child Health and the Appropriate Health Resource & Technology Action Group. On arrival back in Gilgit a study note and a brief evaluation was prepared. An important conclusion was that in future, clearer learning objectives should be defined before departure, and that where available, courses with a minimum duration of three weeks should be given preference.

For a period of six weeks in October and November, the three members of the IRC Research Project team attended a planning and training workshop in The Netherlands, during which the research programme and methodology was discussed and developed with the other five country teams.

In November preparations commenced for organizing two south to south study visits planned for the first quarter of 1995. It is anticipated that the first of these will be to Nepal in February, and the second to the ICDDR in Bangladesh in March.

#### **5c. Workshops and conferences**

In May, one of the Project's anthropologists attended a two day workshop given by the Health Education Development Resource Unit (HEDRU) in Lahore. Health education methods and materials were explained to the participants. These had been developed by ABES and were based on their innovative methodology of working with real life stories with a negative and a positive ending to events.

One of the assistant anthropologists assisted a Seminar on Environmental Conservation, that was organized by IUCN and Hindu Kush Trails for schools in Chitral. In discussions with school children and other participants, issues of water contamination and proper sanitation



were emphasized and the VIP latrine and simple trench latrine were explained.

By invitation of the Federal Support Unit for the Water and Sanitation Sector, the Project Director attended a one day Workshop on Monitoring and Evaluation in Islamabad in May.

Three members of the Project attended the AKHS Annual Senior Staff conference in March. Presentations included an overview of the Project and special sessions on sanitation, cholera and health education.

In July a three day annual staff workshop and outing of the WSHHS Project took place in Rawalpindi, attended by all staff.

In November the Project Director participated in a three day workshop on composting sanitation in Mexico City. The workshop, organized by the SIDA sponsored Sanitation Action Research Project, was attended by 23 participants from ten countries. Ten papers were presented and five ad hoc working groups reported back after discussion of key points. The workshop report will be circulated by the organisers in February.



Figure 1. Outside and inside views of the experimental twin pit compost latrine

## PROGRESS IN THE FIELD

### 6. SANITATION

#### 6a. Experimental compost latrines in the Northern Areas

The experimental twin-pit compost (TPC) latrines in the villages of Misgar, Hoper and Baltit in the Hunza valley were in use throughout the year. The families appear to be generally satisfied when comparing them with their traditional systems. They mention less smell and fly nuisance, and better privacy. Smell, which like the flies is mainly a summer problem, depends on the amount and type of material put into the pits to cover the faeces. Only small amounts of ash are available due to its use for other purposes, and the periodic moving and levelling of the pit contents, which was part of the recommended latrine management procedure, has not been performed by any of the owners on a regular basis. The metal lid which is provided to cover the squatting hole, appears to help reduce smell and flies entering the latrine superstructure. The proper functioning of the vent pipe was checked by carrying out tests at each site during construction. For determining the pit size, guidelines from a recent WHO publication were used and adjustments were made according to local experience and specific site conditions. Measurements taken after six months of use showed that the filling rates were close to the calculated design figure of 9.5 cu.ft/capita/year.

For recording data about the performance of the latrines, observation forms were designed for use by the families. These forms covered weekly observations of the general aesthetic conditions: weekly records of the number of users; weekly records of types and amounts of materials put into the pits; and bi-weekly maximum and minimum temperature readings inside the latrine superstructure. Male members of the family were instructed in the use of the forms but despite their firm assurances during the planning and construction phase for keeping these records, the observation forms were not maintained properly. Insufficient motivation was thought to be the main reason, and in one case absence of an educated person was the difficulty. During periodic visits by Project staff they have managed to obtain some of the data but this has been hampered by the owners' unease with frequent visits to study the latrines, especially by male outsiders. Consequently, in order to obtain more reliable information about the use and acceptability of the latrines a different strategy will be used in 1995. Staff will carry out a short intensive exercise once in the winter and once in the summer. The idea is to talk to different members of the family, neighbours and masons to get their different opinions and ideas.

After starting the experiments in 1993, three families from Misgar and some people in Oshikhandass village near Gilgit town, showed interest in copying the latrine at their homes. One family in Misgar and three in Oshikhandass, were selected for construction of TPC latrines under a second phase of experimentation in which several modifications to the initial design were made. In Misgar this resulted in reducing the pit size to provide a six month retention period instead of one year, and substitution of the pit vent pipe with two fresh-air ventilators in the superstructure.

These changes were made to lower the construction cost, to compare the quality of a six month retained compost with the one year product, and to assess the smell and fly conditions without the vent pipe and lid. Construction of this latrine took nearly four months because of the non-availability of a mason. The actual cost of this latrine was calculated to be Rs. 5,750 which although 25 percent lower than the one built previously in Misgar, is still considered very expensive for many village families. The visiting staff detected more smell in this latrine compared to the other experimental latrines and so the family was encouraged to add more covering material to the pit and to use a lid for covering the squat-hole. Functioning of this latrine is being compared with the earlier latrines to help determine whether vent pipes are really necessary for the TPC latrine.

The three experimental TPC latrines constructed in Oshikhandass have been designed for a one year retention time to fit in with the local practice of latrine emptying once a year. Compared to the earlier latrines, construction time was much reduced through closer supervision, and about 20 to 30 percent reduction in the labour cost was achieved. However, the average cost of about Rs. 7,000 is still a very high figure. It was demonstrated in Baltistan that considerable reduction in cost can be achieved by using alternative materials to the expensive stone masonry used in Gilgit.

In Baltistan three TPC latrines were built in the second half of the year. The first latrine was built at the office premises to provide a learning opportunity for the Baltistan sub-engineer, and the other two were constructed with families in Gole and Gohari villages. Sun-dried mud bricks were used for building the superstructure in all three of these latrines with stone masonry for the pits. The average cost of the Gole and Gohari latrines was approximately Rs. 4,500, which is nearly 35 percent less than the cost of the latrines built in Oshikhandass using stone masonry for the whole structure. The owners in Baltistan seem to be satisfied with the general aesthetic conditions of the TPC latrines but they have said that the size of the pits is not big enough to add the usual amount of cattle-shed manure, which is a common practice in many parts of Baltistan.

During the year discussions about sanitation in Baltistan were held with a Baltistan based NGO, the Marafie Foundation, with the UNICEF sponsored Womens Integrated Development Project managed by the NAs Planning and Development Department, and with CARE Canada who formed part of an IFAD feasibility study team which visited the NAs in June.

#### **6b. Indepth studies of traditional compost latrines in Baltistan**

Almost every household in Baltistan has a Balti-latrine, commonly referred to as the Chaksa. There are many variations, but all of them have in common a two-story construction, the lower part of which is like a small room or chamber at ground-level. When this becomes full, an access hole is opened and the compost is removed. The types of material put into this 'household compost factory', the manner in which this is done, and the management and uses of the compost after its removal, are also very variable. The main objective of the first study was to gain a better understanding of the system and to assess the health risks associated with

it, including the likelihood of contamination of drinking water supplies. This study started in mid-February when many villagers were emptying their latrines in preparation for fertilizing their fields.

The study included microbiological sampling of latrine contents for detection of pathogens like *Ascaris* eggs and *Trichuris Tricura*. 18 Balti-latrines in 9 villages were randomly selected. The contents of most of these latrines were found to be very wet which may favour survival or even the growth of certain pathogens. This was mainly the consequence of ablution water getting into the pits, and in the case of latrines without roofs, of the snow-melt from the latrine floor.

The results of the Chaksa sampling exercise in pits show that in 16 of the 18 latrines members of the household were infected by *Ascaris*, as eggs were present at the top. Some pathogen destruction is evident in the pits, since in the middle and the bottom less eggs were found. Nine of the 18 latrines had no eggs on the bottom. The destruction of pathogens in the pit however, is not complete. For example one sample from the bottom of a latrine whose contents were 24 months old, contained viable eggs of *Ascaris* and *T. Tricura*, and larvae of *S. Stercoralis*. Similarly, in the bottom of the fullest latrine containing 10 feet of materials, larvae of hook worms were detected.

Microbiological results of Balti-latrine sampling, February 1994

S. #	Village	Latrine #	Depth of contents (ft.)	Age (months)	Temperature (C)		Viable pathogens in latrine contents (egg/gram)						Larvae latrine contents		
					Contents	Ambient	Ascaris			T. Tricuri			Top	Mid.	Bot.
							Top	Mid.	Bot.	Top	Mid.	Bot.			
1	Sundus (Skardu)	1	2.5	9	6	6	24	Nil	27	06	Nil	06	<i>S. Stercoralis</i>	Nil	Nil
		2	5.0	9	4	4	37	06	02	17	01	Nil	Hookworm	Hook worm	Nil
2	Zadonghore (Skardu)	3	6.0	11	-	-	160	159	111	Nil	03	02	<i>S. Stercoralis</i>	Nil	Nil
		4	4.3	11	-	-	105	86	49	04	01	03	Pin worm	Nil	Nil
3	Alchoti (Shiger)	5	2.5	10	0	-2	110	104	30	07	02	01	Nil	Nil	Hook worm
		6	2.5	11	1	-2	100	30	18	03	Nil	01	Nil	Nil	Nil
4	Chorka (Shiger)	7	2.5	24	1	-3	107	102	20	03	14	01	Nil	Nil	<i>S. Stercoralis</i>
		8	5.5	6	0	-3	52	Nil	Nil	02	Nil	Nil	Nil	Nil	Pin worm
5	Karis (Daghoni)	9	10.0	12	20	11	09	Nil	Nil	02	Nil	Nil	Nil	Nil	Hookworm
		10	5.0	12	9	11	52	54	Nil	01	02	Nil	Nil	Hook worm	Nil
6	Nar (Skardu)	11	9.0	12	16	10	204	03	Nil	02	Nil	Nil	Nil	Nil	Nil
		12	5.0	12	15	10	07	Nil	Nil	73	Nil	Nil	Hook worm	Nil	Nil
7	Sermik (Skardu)	13	4.0	12	4	6	11	13	Nil	Nil	Nil	Nil	Nil	Nil	Nil
		14	3.0	12	1	6	Nil	11	Nil	28	01	Nil	Nil	Nil	Nil
8	Kamango (Kharmung)	15	4.5	12	1	8	Nil	Nil	Nil	Nil	01	Nil	Nil	Nil	Nil
		16	2.5	5	2	8	04	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
9	Gohari (Kharmung)	17	2.0	11	0	9	29	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
		18	4.0	12	0	9	92	415	90	Nil	01	Nil	Nil	Nil	Nil

Figure 2. Microbiological results of Balti-latrine sampling

Also to obtain some preliminary microbiological data about the manure heaps in the fields, 6 locations were randomly selected. These heaps contained cattle-shed manure mixed with the latrine contents which had been emptied two or three days before. It was expected that there would be a second stage of decomposition marked by a significant temperature rise in the fresh field-heaps as a result of emptying, mixing and exposure of the contents to air. Temperature in the middle of the field-heap contents was recorded consecutively from day 4 to day 7. The maximum temperature in one case was 19°C, where the ambient temperature was 6°C. Generally, temperature in the heaps was found to be lower than the ambient temperature, during the day time. Viable *Ascaris* eggs were detected in 25 percent of the 36 samples taken from the middle of the heaps. In about 30 percent of the samples the presence of larvae of *Ascaris* and *S. Stercoralis* was also confirmed.

The preliminary findings of the microbiological study can be summarized as follows:

- \* Pathogen destruction or inactivation takes place in the Balti-latrine although often incomplete; in 50% of the samples pathogenic organisms were not detected on the bottom.
- \* Moisture content appears to have a significant effect on pathogen survival, but the exact relationship has not been determined.
- \* Temperature rise in field-heaps was not generally detected, and whether secondary decomposition takes place in heaps has not been confirmed.
- \* Because of the large variation in manure management practices, a more extended study is required to help pin-point potential hazards.
- \* Health risks due to direct contact with latrine manure by children, men and women, or indirectly through the contamination of the drinking water supplies, are expected but have not yet been proven.

Although most of the results indicate a process of pathogen inactivation in the pits, the data is quite variable, and it raises questions about whether complete destruction takes place. Further study to help make final recommendations for improving Balti-latrines are needed. It was therefore decided to repeat the tests in February 1995 and to initiate a socio-technical indepth study that would focus on management practices of the latrine.

In November a team of six Project members carried out an indepth study of the Balti-latrine. Considerable effort was put on developing a survey format with the whole team together. In total 124 people were interviewed about their latrine and 129 Balti-latrines were observed with the help of an observation sheet. A report analyzing the survey data, and synthesizing it with the findings of previous studies is in its final stages. The report will incorporate the results of the microbiological sampling planned to take place in February. The report will conclude with a set of recommendations for the improvement and modification of the Balti-latrine and the proposed twin-pit compost latrine.

### 6c. Ventilated Improved Pit (VIP) latrines in Chitral

In Chitral, dialogues to finalize the selection of families for constructing experimental VIP latrines, were made in four villages in April. Many families expressed interest in participating in this activity. With the exception of Kushum village, where most of the families were planning to shift to their pastures, final selection of the families was agreed. Four families were chosen in Hassanabad, four in Shotkhar and two in Bokhtoli village.

During the development of the initial design of the VIP latrine for water-short areas of Chitral, several factors were taken into account. Builders had serious doubts about the smell problem of pit latrines, so it was thought important to provide an effective ventilation system. In addition to a 6 inch diameter vent pipe for the pit, two fresh-air ventilators in the cubicle were suggested, as well as a metal lid for covering the squatting hole. Like the TPC latrines, the option of a separate ablution place has been of interest to avoid disposal of cleansing water into the pits which may be the cause of smell problems and may encourage fly and mosquito breeding. The ablution waste water is carried outside to a small soak-pit by means of a PVC pipe. Considering the difficult ground conditions, it was agreed that an 8 feet deep pit is acceptable though 10 feet or more is preferred. Figure 3, on the next page shows a schematic diagram of the VIP latrine. In both Hassanabad and Bokhtoli, villagers have innovated with pit covers made of stone slabs with the squatting hole chiselled out in the middle. In Shotkhar, Sanplat slabs have been used in three latrines. These concrete slabs were manufactured in the Chitral Office and transported to the sites.

With a few exceptions, it took two months for the families to complete construction of their latrine. Compared to Gilgit and Baltistan, villagers in Chitral showed greater enthusiasm for building latrines. This is demonstrated by their willingness to pay the cost of skilled labour which was generally not agreeable in Gilgit and Baltistan. The main reason for this is thought to be the greater need of sanitation facilities in Chitral; in Gilgit and Baltistan people do have some organized excreta disposal systems even though these may not be entirely hygienic.

The average cost of the first ten VIP latrines was approximately Rs. 4,000. For the latrine roof, GI sheets were used, that cost about Rs. 1,000. By using a traditional mud and timber roof this cost can be reduced. Where mud-bricks were used in the superstructure the total cost was further reduced to around Rs. 3,000, a figure which might just about qualify the system as 'low cost'.

At all the households who have constructed VIP latrines a health education session has been held. A *participatory session with picture cards* helped all family members -men, women and children- to understand the reasons for proper sanitation and how they have to use and maintain the latrine, as well as the need for hand washing after defaecation.

For monitoring the acceptability of the latrines, a questionnaire was developed for completion by field staff during their monthly visits to the latrine sites. Besides asking the users questions about their satisfaction with the system, the staff make their own observations.

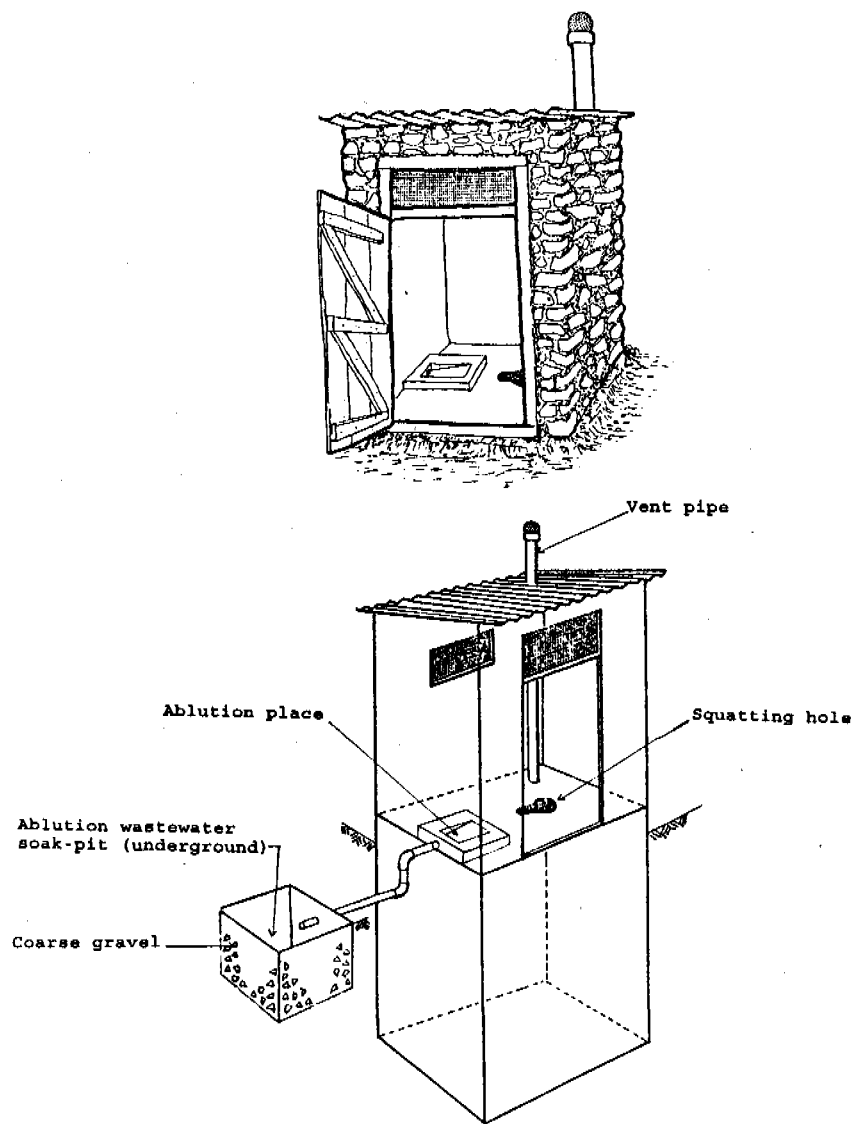


Figure 3. Schematic diagram of the experimental VIP latrine



Initial results indicate that the users are generally satisfied. In two places users complained about a smell and fly problem. Others thought that there was a danger of small children falling into the latrine through the squatting hole.

Opinions like these were taken into consideration during the second phase of experimentation that commenced with dialogues in four high altitude villages towards the end of 1994. In this phase it was intended that more emphasis would be given to the involvement of women in the planning, decision making, site selection and design details but in practice this proved to be difficult for the male staff. This experience illustrates the need for female sanitation promoters in future implementation programmes. It is expected that about 20 families will complete construction of the phase two latrines during the first half of 1995.

#### 6d. Other sanitation related activities

##### A SANITATION NEEDS ASSESSMENT IN THE KALASH VALLEY BOX 2

After receiving a request for assistance from the people of the Kalash valley, the AKHS Lower Chitral field module asked the WSHHS Project for advice on improving bashalenis. A bashaleni is a house with a compound where Kalashi women stay during their menstruation periods and deliveries. According to their beliefs women are polluted during these occasions and should live in a secluded place. For men the area is completely taboo and non-menstruating women can only enter if they take a ritual bath before going back into the village. Outsiders are required to leave immediately with the vehicle they came in.

It was reported that the bashalenis did not have any latrine, that the hygienic circumstances were very poor, and that the community would appreciate assistance for improving the situation. At first the Project expressed reluctance to work on bashalenis as the Kalash valley is a relatively small community with a very distinct culture and any experience gained would not really be applicable to the rest of Chitral. However, it was finally agreed to do a needs assessment before making any firm commitment.

The Rumbur and Bumburet valleys were visited on three occasions, once by the sub-engineers and twice by the anthropologists. Interviews were held with women and men in the villages and with women inside three bashalenis. This small study revealed that pour-flush latrines had been installed but were now blocked, that the hygienic circumstances of the bashalenis were indeed quite poor and that running water was not available inside the bashaleni. To AKHS however, we have recommended that intervention is not required because in all three main valleys initiatives for improvement are already being planned by other institutions. A German supported Kalash organisation was going to build an improved bashaleni in Rumbur and Ms.Lines, a British woman ~~working~~ with Kalash people had planned construction in Bumburet and Birir. Funding is being provided by the Dutch Embassy in Islamabad. Also AKRSP had already been invited to provide technical assistance.

## 7. DRINKING WATER

### 7a. Evaluation of the Musaffa Water Filter Bags

The Musaffa water decontamination bag is manufactured by the private sector with technical assistance from the Pakistan Council for Scientific and Industrial Research. In the Northern Areas, the Musaffa bag was distributed at a subsidized cost by AKHBP in the mid-80's as a component of its Living Conditions Improvement Programme. Since little scientific data about the efficacy of the Musaffa bags could be found it was proposed that the Project should carry out a detailed assessment to obtain a clearer picture of the strengths and limitations of this household water treatment technology.

The experiment was divided into two phases. The first phase tests the bag in clear but faecally contaminated water typical of supplies in the winter, whereas the second phase uses turbid, contaminated water, which is common in many villages throughout the summer months.

The experiments were initiated in February. In the first phase the bactericidal efficiency of the Musaffa bag is being evaluated over a period of one year. The main variables are the position of the filter bag in the water containers and the frequency of washing the bags. In five water coolers, the bag is fitted against the outlet tap by means of the plastic clip available with the bag. These bags are washed every day, every three days, every week, every month and the fifth one is never washed. In another five coolers, the bags are simply placed on the bottom, as would happen in the case of most water containers without a tap. The frequency of washing is the same as for the first set.

To assess the bactericidal efficiency of the bags, microbiological water sampling of each cooler is undertaken every month. Each cooler is filled and drained with 12 liters of water every day to simulate actual daily use. On the sampling date for the particular cooler, a series of samples are taken at different intervals of time. Sampling is started after five minutes of re-filling and is repeated at 15 minutes, 30 minutes, 1 hour, 2 hour, 3 hour, 4 hour, 6 hour, and 8 hours. This procedure enables determination of the time taken to achieve complete decontamination.

The initial microbial quality of the test water was standardized between 150 and 400 E.Coli per 100ml, this being the typical range of faecal contamination shown by the results of a water sampling exercise in more than 120 villages. For maintaining the test water within this range of contamination, a few drops of sewage were added when necessary.

Recorded periodically is the water discharge through the taps when the water cooler is full, 3/4 full, 1/2 full and 1/4 full. Flow rates for one set of coolers are compared with the other set.

By the end of the year the microbiologists were completing the 7th series of tests in Phase I. Nearly 1400 bacteriological samples were analyzed during this Phase. The final series of

Phase I tests are programmed for February 1995. The Phase II experiments with the turbid contaminated water, were conducted using Gilgit river water during the summer. In order to compare the bactericidal efficiency and flow rates for raw water with different turbidity levels, raw water samples of varying turbidities were prepared by dilution.

A summary report was prepared at the request of AKHBP in November. The final report will be produced after conducting the last series of tests in February, 1995. The following are the provisional conclusions:

- \* The flow rates from water coolers with the bag placed in the clip against the tap are very low. To fill a glass of water takes half a minute or more; without the bag this takes only 5 seconds. Practically it can be assumed that villagers will not use the bag in the clip but will put the bag on the bottom to overcome this inconvenience.
- \* If the bag is placed against the tap and the water is clear (less than 5 TU turbidity) with a contamination level below 400 E-Coli/100 ml, the water filtration bag decontaminates the water within five minutes.
- \* If the bag is placed on the bottom of the container, a much longer period is required for the decontamination process. It is therefore inadvisable to consume the water until six hours of contact time has been allowed during the initial four months and for a longer period thereafter. Refilling the container every night and leaving it till morning may be the only practical routine for ensuring a long enough period for satisfactory disinfection.
- \* Frequent washing of the filter bag has a counter productive effect on the bag's bactericidal efficiency and its physical condition. It is suggested that the bags should be washed only once per month.
- \* The bag is not a promising option for treating turbid waters. When the filter bag is placed against the cooler-tap, the flow rate is even lower than with clear water. Placed on the bottom of the container, even after eight hours, the new filter bags did not produce decontaminated water.
- \* It is important that any promotion campaign of the Musaffa bags will give proper attention to guiding potential users and giving adequate instructions in ways that are communicable to both, educated and illiterate groups of people.

#### **7b. Other household water treatment investigations**

In December a research protocol was designed for checking the practicality and comparing the cost of a number of simple household level purification methods including boiling, and the use of iodine, bleaching powder or alum. In Phase I the methods will be tested on clear but contaminated water, while in Phase II turbid water will be used. The Phase I boiling experiments were completed in December.

#### **7c. Seasonal water quality sampling**

Summer and winter water quality sampling continued this year in 60 villages, spread equally between Gilgit, Baltistan and Chitral regions and incorporating different types of water supply systems. The summer sampling was conducted between June and August. A local computer programmer was contracted to develop programmes for input and analysis of the data. Data entry for Gilgit region has been completed and for Chitral and Baltistan the work is in progress. Final analysis and presentation of the Gilgit data is in progress and the whole exercise is scheduled for completion by mid-1995.

#### **7d. Intensive water quality investigations**

Two villages in each of Gilgit, Chitral and Baltistan regions have been selected where the microbiologists will conduct weekly sampling of the water supply systems in 1995. Three villages have traditional water supply systems and three have piped water. The objective of this investigation is to obtain a detailed picture of water quality variation and the factors contributing to these changes over the year. In the case of Oshikhandass village it is planned to link this investigation to the diarrhoeal disease study of AKHS. This activity is scheduled to start in January in Gilgit, Chitral and Baltistan.

#### **7e. Village water treatment research and development**

Arising from the agreement to combine the proposed AKHBP Water Quality Project with the WSHHS Project, several new activities have been planned for the period 1994-1996. These include construction of 4 village water treatment systems, 6 spring protection systems, improvement of 15 traditional water pits and the modification of 3 of the existing AKHBP village Water Filtration Units.

The village water treatment work commenced in August with a preparatory study visit by the Project Engineer to CINARA in Colombia, to see the results of a long-term rural water treatment research programme. This was combined with a one week briefing at the IRC in The Netherlands on rural water treatment technologies, and three days at the Robens Institute UK to discuss the proposed modification plans for three existing AKHBP WFUs with Jamie Bartram. During this visit the problem of very high turbidities was discussed with different resource persons. On the basis of these consultations, it was agreed that instead of immediately building village-level treatment systems, a scaled down modular pilot plant could be established for testing the proposed technologies. Designs of the full-scale treatment plants would then be developed on the basis of the results of this pilot-study. Design, manufacture and installation of the pilot plant was accomplished in the last quarter of the year. It has been located at the premises of the NAPWD's Danyore Water Supply Complex and it is expected that the pilot plant will be put into operation in February 1995 and monitored with their help.

Concerning the experimentation with spring protection and improvement of traditional water pits a start was made with surveys and dialogues for selecting suitable sites in December.

## **8. WATER AND SANITATION INVENTORIES**

This inventory exercise progressed substantially during the year. By the close of the year, approximately 720 villages in the Project area had been visited, signifying 70 percent of the villages in Gilgit, 80 percent in Baltistan and 70 percent in Chitral. The inventory questionnaire was standardized in consultation with a computer programmer. By computerizing this information a data-base will be developed which can be examined and presented according to different needs. Programming has been completed and the field-engineers and microbiologists have been trained to enter the data. Analysis of the Gilgit region data is scheduled for early 1995 and for the other regions, in Spring.

## **9. CHOLERA CONTROL**

The cholera epidemic in the Northern Areas in summer 1993 was an unexpected event. In 1994, workers in the health sector prepared for a repeat outbreak. Headed by the Director of Health Services, a District Cholera Control Committee coordinated these efforts. The Committee has recommended control measures in several areas including diagnosis and treatment, health education, and water disinfection. The Project was requested to assist in the latter two tasks. Development of messages about proper hygiene was undertaken by the social scientists while technical staff tested methods for water disinfection under emergency conditions.

### **9a. Pot chlorinators**

In 1993 a household-level water disinfection methodology was designed and promoted in the cholera effected areas. Bleaching powder was made available to individual households who were given practical instruction about how to add a predetermined amount to their drinking water containers on a daily basis. Actual adoption of this advice was variable, the major complaint being about the taste and smell of the chlorinated water.

For disinfecting communal supplies such as the traditional water-pits, wells and village tanks, it was agreed to try pot-chlorinators. After studying the literature, a double pot chlorinator was selected for trials. As it was not clear from the literature whether the inner pot should be covered or not, in one trial it was sealed with polyethylene sheet and in the two other trials it was left open. In each of the inner pots, one kg of 33 % bleaching powder was mixed with 2 kgs of coarse sand. For ease of handling and easy availability, plastic containers were used. The pots were installed in public water pits, submerged one meter below the water surface according to the recommendations.

The sites were visited every day over a period of about two weeks to measure the chlorine residual in the water. Acceptable levels of free chlorine residual were only detected during the first two days at two of the sites but thereafter there was no indication of free chlorine residual. Due to these unsatisfactory results it was decided not to promote the double pot chlorinator as a water disinfection technique.

## 9b. Radio drama

During the 1993 cholera control discussions it was agreed that a radio drama would be prepared by the Project for broadcasting on Radio Pakistan in the event of another outbreak in 1994. In Spring, preparations began and two scripts were written by local drama writers. After several changes in the scripts, one was recorded in Burushaski by five actors and another in Shina by six actors. In September, during the cholera outbreak it was broadcasted on the popular Burushaski programme 'Rakin'. The drama in Shina was recorded and broadcasted around the same time. Both dramas were on the air only once, though it had been the intention that there would be repetitions. This was not possible as a commercial rate was being charged for broadcasting and interest was fading as the outbreak diminished. After only one transmission it was difficult to evaluate any listeners' response. Some work was also started on the preparation of a script in Balti but this was halted when cholera ceased to be reported.

## 9c. Posters and leaflets

Project staff worked together with AKHS on further improving a poster and designing a small brochure for awareness raising and advice. Finally the draft of the poster was approved by the District Cholera Committee for production. 5,000 two-colour posters were printed and were distributed to the DHO in Gilgit, for display in health centers and in the bazaar. The posters were offered to the DHO in Skardu for use in Baltistan but none were availed.



ہیضہ ایک خطرناک بیماری ہے  
جو پانی کے ذریعے اور آس پاس کی گندگی سے  
پھیلتی ہے

اِسٹپلے :- ● اگر آپ کے گاؤں میں ہیضہ کی بیماری پھیل چکی ہے تو پانی  
آبل کر یا لیچنگ پاؤڈر ماکریشیں ● پتلے ہانی کے نزدیک براہِ شتاب ہرگز نہ کریں

 <p>مریض کی آلتی اور بڑے پیشاب کو خلی سے ایسی طرح ڈھانپ دیں</p>	 <p>مریض کے ٹالاب اور آلتی سے گندے کپڑے الگ برتن میں دھوئیں اور چلتے پانی میں گندے پانی کو ہرگز شامل نہ ہوں دیں</p>
 <p>تمام پھیل دھو کر کھائیں</p>	 <p>کھانا اچھی طرح گرم کر کے کھائیں، کھانے پینے کی چیزوں کو ڈھانپ کر رکھیں تاکہ وہ گھسیوں اور سختی سے محفوظ رہیں۔</p>
 <p>بڑا پیشاب کرنے کے بعد ہاتھ دھونا ضروری ہے ہاتھ دھونے کیلئے صابن کا استعمال بہتر ہے</p>	 <p>کھانا پانے اور کھانے سے پہلے ہاتھ دھونا ضروری ہے۔</p>

● انسانی فضلہ کا سبز یوں کیلئے کھاد کے طور پر استعمال صحت کیلئے نقصان دہ ہے۔

● معمولی دست دھو بیانی صورت میں بھی پیکٹ والا نمکوں یا ایسی نمکوں (آٹا یا پاؤں) استعمال کریں۔

● اگر دست دھونا یا آلتیاں زیادہ آئے لگیں تو ہیلتھ ورکر/ ہیلتھ سٹیشنر/ ڈسپنسری یا ڈاکٹر سے رجوع کریں۔

منعاً ہے — فیسٹ ٹریکٹ ہیضہ کنٹرول کمیٹی

Figure 4. Poster used during the cholera outbreak

## 10. SPECIFIC PARTICIPATORY RESEARCH ACTIVITIES

### 10a. Indepth study of community participation in rural water supply schemes

In order to help define a more effective approach for future rural water supply projects, a study was made of the present implementation practices. Over a four month period the study investigated villagers' participation in 20 schemes in the Northern Areas. A distinction was made between villages with water supply schemes functioning, out of order, or under construction.

The report, that will be finalised in early 1995, records the experience and lessons learned from implementation strategies, water committees, water fees, collective work traditions, resolution of internal conflicts, technical problems and constraints. The report identifies crucial elements of the implementation process that need more careful attention during the planning and design of the scheme. It also provides a series of practical suggestions and recommendations.

### 10b. Village mapping



Figure 5. Village mapping in Ishkoman

One of the recommendations for planning and designing RWSS is to use a participatory planning exercise called 'village mapping'. In Spring the method was field tested in Baltistan,

Ghizer and Chitral. During village mapping a group of villagers is asked to make a map of their village with the aid of simple models depicting roads, channels, houses, mosques etc. The facilitator then uses this map to encourage an open discussion about the existing water and sanitation situation. The next step is to introduce models of tanks, pipes and taps. These are used as a means of consulting and involving villagers in the design details of their future RWSS, or to discuss the shortcomings of their existing scheme.

The main objective of this mapping is to provide a social tool for achieving a more authentic participation of villagers in the implementation process. It motivates villagers to take responsibility for their scheme, it involves them in the design of specific details of importance to them, it helps to identify their priorities and preferences, and finally it can pinpoint possible social and technical bottlenecks that might arise during construction and in the later operation and maintenance of the scheme.

The Project will continue to use and experiment with this and other participatory exercises during field work. Village mapping has been taught to some staff of CADP in Chitral and to AKRSP and LBRDD staff in Gilgit and Baltistan regions. It will very likely be an integral part of the diagnostic village survey for the SAP rural water supply schemes now being jointly implemented by AKRSP and LBRDD in the Northern Areas.

#### **10c. Indepth domestic observation studies**

One of the objectives of the Project is to gain a better understanding of the present attitudes and practices of villagers towards water and sanitation in order to recommend practical interventions and to help develop appropriate health messages. To achieve this objective a domestic observation study was initiated.

This study concentrated on observation of water use and management and on hygiene and sanitation practices in households. The decision to use this technique was influenced by the findings of recent literature about studies of water demand and hygiene behaviour. This clearly shows that observation, of for example hand washing or water collection, is generally a much more reliable research tool than using a questionnaire. Often there is a big difference between what people answer in surveys and what they actually do in practice.

Nine villages were included in the study, three in each region. A female anthropologist stayed overnight for five days in each village and did structured observations in four households, once in the morning and once in the afternoon. For the study, a set of research tools was developed, including structured observation sheets on hand washing and spot check lists of household hygiene and water management. During observations questions were also asked to help clarify any uncertainties.

For measurement of water use a cloth chart with pockets and pictures of various water containers was used. In each village women from seven to ten households were included in this activity for two or more days. They were asked to put a token (a piece of maize or



button), into the appropriate pocket every time they carried a container of water into the house. In this way a reasonably accurate picture of household water use could be obtained. An example of the pocket chart is shown in the figure below.

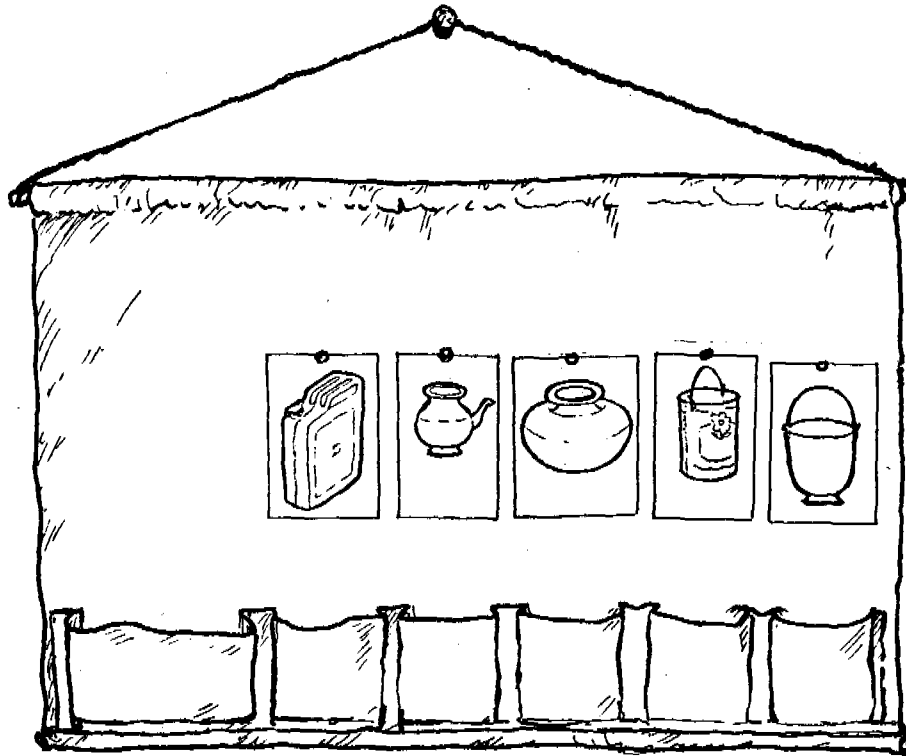


Figure 6. Example of the pocket chart exercise

For the investigators and their assistants staying in villages has been physically and mentally quite demanding. As they preferred to stay with average families, their houses often provided little privacy, no bathroom, problems with insects and other discomforts. It was also difficult to find suitable and willing hosts and translators, but eventually the investigators formed good relationships in several of the villages, and in spite of the practical difficulties the results have been very worthwhile.

For example, the fact that the investigators had to use the traditional sanitation facilities of the family during their stay, gave them a better understanding from which they could make practical and realistic recommendations for improving the situation. Likewise their stay in the villages helps to develop specific health messages aimed at the priority needs articulated by their hosts.

A draft report has been prepared and will be completed in June after the results of a KAP survey planned for spring 1995 have been analyzed.

## 11. HEALTH EDUCATION ACTIVITIES

### 11a. Development of methods and materials

Activities in this area are a combination of identifying, selecting, testing and assessing communication methods by trying them out on a small scale, and then introducing them to interested field workers for putting them into practice on a trial basis. Various methods are being investigated in this way. The main emphasis so far has been on participatory techniques that actively involve villagers, a method that is based on the SARAR methodology. Much use is made of exercises with picture cards, see Box 3 and the examples on the next page.

To complement the technical work on sanitation a new exercise and a set of cards has been prepared to assist families in understanding how and why they should use the particular latrine of their choice. The 'improved pit latrine package' has been successfully used during family sessions in Chitral. During these sessions father, mother and children of the whole household should be present. With the help of the cards and the facilitator, the household members learn and understand in a lively way about the proper use of the latrine and about personal hygiene. A similar package has been developed for compost latrines and positive experience has been gained on the use of story telling and story cards.



Figure 7. Family session using the 'Pit Latrine Package' in Shotkhar, Chitral

## DEVELOPING, PRETESTING AND ADJUSTMENT OF PARTICIPATORY HEALTH EDUCATION METHODS BOX 3

With the help of the Project artist, a series of pictures have been developed for use in participatory health education. After working with the materials in the field, the pictures are improved, some are rejected, and some new ones are added. Pictures are coloured with water colours to aid comprehension. Some material is sealed in plastic to make it durable. In the future it is hoped that the development of these ideas will be one of the functions of a proposed Health Education Support Unit.

Exercises that have been used successfully are for example the 'story with a gap' and 'three pile sorting cards'. In the latter, participants have to distinguish between a set of pictures that show 'good', 'bad' or 'in between' behaviour. After putting the cards in piles the participants' choices are discussed in more detail. With a good facilitator this exercise helps to stimulate participants to identify with the subject and helps to create an enjoyable and lively atmosphere that encourages group discussion.

The above-mentioned exercises have been pretested and used in sessions with women and children. They provoked a lot of interaction and discussion among participants who very much enjoyed the experience. In the majority of the sessions, LHVs were present and they remarked favourably about the interaction that was achieved. Many said that they would like to adopt these methods in their work.

### **11b. Hygiene and health education training with AKHS**

A conclusion of the Project's work on health education is the need to give additional training to those who will develop and use participatory materials in the future. A training programme is now scheduled for LHVs between March and July 1995. 12 health centres in Gilgit will be included initially. The programme will consist of two workshops of three days and follow-up visits. The latter will be an essential part of the training to monitor activities and receive feed-back from the LHVs after they have worked with the materials in the field.

After evaluating the training, it is anticipated that a decision will be taken by AKHS about how to continue this activity and make it sustainable. Once LHVs and support staff are trained in these methods, materials could be developed for other health topics such as ARI, EPI, diarrhoea, rational use of drugs etc.

Arising from AKHS interests to develop staff capacity in health education and from the above mentioned developments, discussion has commenced about the idea of establishing a modest Support Unit to sustain the development and local design of participatory health education materials. The responsibilities of the Unit would include material development, training,

maintaining a resource library and providing a forum for sharing ideas for health education. In future water and sanitation implementation initiatives for such a Unit could play a vital role.

### 11c. Training workshop and study by LHVs on the strengths and weaknesses of Community Health Workers and Trained Birth Attendants

In October 1994, a staff member of AKHS and one of the Project anthropologists conducted a training workshop for seven LHVs from the Hunza/Nagar module. The aim was to train LHVs for doing a study of CHWs and TBAs by involving them in the whole process, i.e. to design and develop the research methodology and to conduct the study and analyze the data. During the four day workshop the LHVs prepared their own questionnaires for interviews with CHWs and TBAs and guidelines for a focus group discussion with village women. In November the LHVs carried out field work in five villages. During a follow-up meeting in December, the data were discussed and compiled and many interesting points emerged that were analyzed by the Project anthropologist and the LHVs. They prepared a presentation on the strengths and weaknesses of CHWs and TBAs for the annual LHV workshop to be held in January 1995.



Figure 8. A set of story cards on disease transmission

#### **11d. Dahi Tanzeem**

The Project has continued to contribute regularly a one page topical message to AKRSP's bi-monthly magazine for Village Organisations. Messages in 1994 included hand washing, washing fruit, cholera and personal hygiene in relation to skin infections.

#### **11e. Health education for the Social Action Programme**

In late 1993 the Project was requested by AKRSP-HRDI to develop a 'hygiene training for trainers' module for WO specialists. This module was pretested in Gilgit, Baltistan and Chitral during the first half of the year. Women Social Organisers and the WO managers and specialists were enthusiastic about the methods; the Joint Monitoring Mission of AKRSP in October also commented favourably. However it was finally decided that the proposed module was too complicated for the village specialists, particularly considering their other duties in the WO.

Subsequently developments with the SAP RWSS component took place and one result is that AKRSP field staff will be involved with LBRDD in implementation of water supply and, at least in Baltistan, in health education. Consequently the module will now be used for training which the Project will provide to AKRSP WSOs and field coordinators in Baltistan in late spring 1995.

Another development related to the SAP is that in villages a female Public Health Worker (PHW) will be nominated. In areas where AKHS is working this will be the existing Community Health Worker; in other areas these women will have to be trained. There is now an understanding between the LBRDD, AKHS, AKRSP and the Project that an initial set of health education materials needs to be developed for the CHWs and PHWs.

## WORK PLANS FOR 1995

### Reports:

- Finalize report of the indepth study of community participation in RWSS (February)
- Finalize reports on the Balti-latrines (March)
- Produce draft of implementation scenarios (February-March) and finalize implementation strategy proposal (May-July)
- Finalize report on the Musaffa bag assessment (March)
- Report on domestic water purification methods (June)
- Finalize report on domestic indepth studies, after analysis of KAP baseline survey results (June)
- Report on Cholera control (July)
- Report on District water and sanitation inventories (July)
- Interim report on the initial performance results of the pilot village water treatment plant (August)
- Report on seasonal Water Quality survey results (September).

### Sanitation:

- Develop participatory monitoring tools for experimental sanitation (February and July), and perform monitoring of sites
- Develop and implement ideas for 'minimum sanitation options' (January-July)
- Microbiological study of Balti-latrines and TCP latrine contents (February and November)
- Dialogues and construction of VIP latrines in Ghizer and Chitral, and of TPC latrines in Baltistan (March-July)
- Give health education sessions ('pit and compost latrine packages') for families involved with experimental latrines (April-August)
- Prepare first drafts of constructors, caretakers and users guidelines, water and sanitation field manuals and training materials
- Draft a sanitation implementation strategy.

### Rural water supply and water treatment:

- Continue cooperation and assistance to AKRSP and LBRDD in the implementation of the SAP RWSS component. Activities will include assistance during village dialogues, providing village planning and staff training (January-December)
- Finalize data entry and analysis of district water and sanitation inventories
- Identification, sampling, implementation and monitoring of sites for improved water pits, spring protection and village water treatment
- Construction of 15 improved water pits and 3 protected springs
- Modification of two existing WFUs, and construction of two new systems.

### **Microbiological water quality work:**

- Weekly sampling of two villages in Baltistan, Gilgit and Chitral
- Sampling of improved water pits, spring protection and village water treatment sites
- Analysis of water quality work
- Finalize evaluation of Musaffa bag and perform test on other purification methods (February-July).

### **Training and consultancies:**

- Carry out training for LBRDD and AKRSP staff in the use of the Abney level for surveying (February)
- Undertake study tours in Nepal and Bangladesh (February and March)
- Organise an 'in country training' for technical staff by WEDC (March-April)
- Assist external evaluation and monitoring missions (March and April)
- Develop and conduct a health education training programme for LHVs including follow-up (March-July)
- Conduct a hygiene training module for female field staff of AKRSP in Baltistan (May-June)
- Workshop with local organisations to discuss findings of the studies (October)
- Assist consultants on village water treatment and parasitology (June and November).

### **Hygiene behaviour and health education:**

- Continue development of health education materials (January-October)
- Develop ideas and perform experiments with health education methods for men and experiment with the use of stories (March-July)
- Design and conduct a KAP baseline survey including approximately 200 respondents per region (February-June)
- Design and perform microbiological study of hand washing in relation with water recontamination (March-April)
- Develop health education material for CHWs and PHWs involved in the SAP RWSS implementation (February-July)
- Perform a brief study of visual literacy, and prepare a short report (July-August)
- Assist the development of a Health Education Support Unit (January-December).