

OBJECTIVES:

- ?? **To create awareness among the activists about the significance of clean drinking water.**
- ?? **To create awareness among the activists about the source of drinking water and safe drinking water.**
- ?? **Strengthening of linkages between the CBOs and line department.**
- ?? **To create awareness about water born diseases.**
- ?? **To identify born diseases in Palas valley.**
- ?? **To educate village activists about preventive measures from water born diseases.**

Goal:

To enable the village activists /farmers/CFs to enhance their knowledge in safe drinking water and replicate their learning at village level at different occasions, and capable them to implement their skills for better health of human being.

INTRODUCTION:

The overall goal of the Palas Conservation and Development Project (PCDP) is to *“Safeguard the biodiversity of the Palas Valley by enabling the local communities to tackle the linked causes of poverty and incipient natural resource degradation”*.

The PCDP extends and expands the work and approach of the “Himalayan Jungle Project” (HJP), which was fully operational from 1991-1994 and continued during a bridging period of another 5 years (1995-1997 with Birdlife support and 1997-2000 with WWF support).

The PCDP has started its 5 years operation in January 2001 and addresses key national and provincial policy objectives. These objectives are focused on natural resource management and poverty alleviation, notably those of the National Conservation Strategy (NCS), the Sarhad Provincial Conservation Strategy (SPCS), the Forestry Sector Master Plan and the Social Action Program. As noted in the project PC-1, the PCDP will also help Pakistan to meet its obligations under the Biodiversity Convention, which the country has ratified. Palas contains Pakistan’s most important remaining tract of natural Western Himalayan Forest and provides the habitat for a number of endangered species like the Western Tragopan pheasant. The PCDP has the challenging task to find a viable approach to link conservation and development in one of the least developed districts in Pakistan.

The people of the Palas, women and children in particular suffer serious problem of health, nutrition and sanitation. Child mortality is high and female reproductive health is precarious.

Health problems common to women, men and especially children in Palas Valley include: Gastroenteritis, Hepatitis, Cholera, Worm infestation, Poliomyelitis, Dysentery, Skin infection, Peptic ulcer, Typhoid and Malaria due to contaminated water.

To overcome these problems PCDP organized three day training course at PCDP HQ office for village activists and CFs on following aspects.

- ?? Pruning and training
- ?? Source of drinking water
- ?? Type of water
- ?? Source of safe drinking water
- ?? Significance of safe drinking water
- ?? Reason of availability of unsafe drinking water in Palas Valley
- ?? Water born diseases
- ?? Water born diseases in Palas
- ?? Effect of water born diseases
- ?? Preventive measure from water born diseases
- ?? Practical work

DAY ONE:
15-09-2003

Day first started with the recitation from Holy Quran by the participant of the training.

INTRODUCTION:

After recitation Dr. Zulfiqar introduced himself in detail. He dilated upon the objectives of the training. The participants were informed about the importance of the introduction.

The participants introduced those selves thereafter.

The details provided by the participants have been reduced in writing and are produced in appendix-I

RULES AND REGULATIONS:

After Introduction session Dr. Zulfiqar shared the importance of rules and regulations and their affects on training. Then with the help of the trainer the participants formulated the following rules and regulations on flip chart.

- ?? One person cans speak at one time.
- ?? Smoking and snuffing will be prohibited.
- ?? No permission of irrelevant joking.
- ?? Trainer will only use Urdu language.
- ?? Listening with full concentration.
- ?? Speaking with reasonable voice.
- ?? Use of stationary and equipment's with care.
- ?? No whispering.
- ?? To respect each others ideas.
- ?? Strict time observance
- ?? Participants will take care of sanitation.

EXPECTATIONS:

The following expectations were expressed by the participants.

- ?? We will learn about safe drinking water.
- ?? We will be taught about the Human diseases.
- ?? Significance of safe drinking water.
- ?? Reasons of availability of unsafe drinking water in Palas valley
- ?? Water born diseases
- ?? At the end of the training we are able to improve our health by using safe drinking.
- ?? We will be taught about the preventive measures of water born diseases.

FEARS:

The participants expressed the following fears.

- ?? Difficult for us in divesting traditions.
- ?? We will learn a lot about safe and unsafe drinking water but it would be a difficult to implement with out resources
- ?? Time period of training is very short.
- ?? May be people not believed us.
- ?? Time observance will not be respected

WATER

The trainer told the participants that the three quarters of the Globe is covered by water, this ratio is the same as in the human body. There are about 330 million cubic miles of it. Every second, the sun's heat evaporates 16 million tons, which reach the atmosphere and then cooled and condensed to get back to the earth in the form of rain, hail, dew and snow. These are the available supplies of water so as to maintain the WATER CYCLE.

Water for civilizations has been considered 'THE SOURCE OF LIFE'. But today the fact is that more people are un-served than the previous era. About 50% of the populations in developing countries have no reasonable access to safe drinking water.

Above said situation is leading to a heavy percentage of water related diseases.

Naturally available water is distributes as follow:

- ?? 97% of water is salty and is in the oceans
- ?? 02% as ice on poles
- ?? Only 1% of whole amount is fresh water in lakes, ponds, springs, rivers, tanks & wells.

REASON OF SHORTAGE OF WATER

In this session trainer told the participants that the shortage of fresh water is becoming increasingly apparent throughout the world thus so as to elevating the graph of water related diseases.

There are three main reasons for this shortage of water

Not only the populations are increasing rapidly but also the life style because of the advanced ideas about personal hygiene, preparation of food and washing and excessive consumption of fresh water in industries. Irrigation projects as more schemes are required to feed the World's growing population.

After that the participants were informed about the major significance of safe drinking water which is as under

- ?? Minimize diseases problems
- ?? Good health
- ?? Saving of money
- ?? Reduced mortality rate especially in children

DAILY REQUIREMENT OF WATER

Trainer briefed the participants that the amount of water used in a house depends on standard of living and number of people as well.

He also explains that in hospitals daily requirement per head is much more as compared to that of house.

A healthy man requires 1800- 2100 c.c of water in 24 hours for drinking purposes in addition to 600 c.c taken in as part of solid food.

A cow requires 12 gallons per day.

Cooking, washing clothes, utensils, floors etc. is in addition.

Considerable wastage is also observed in urban areas and is much less in Palas valley.

Main causes of water wastage are as follow:

- ☞☞ Leakage from main service pipes.
- ☞☞ Defective house fittings & leakage.
- ☞☞ Waste from un-metered connections.
- ☞☞ Storage in faulty reservoirs.

DAY 2nd

17-09-2003

Day second started with the recitation from Holy Quran by the participant of the training. The review of the previous day was done by Dr. Zulfiqar Ali Qazi and resource person Dr. Dr. Syed Shahid Hussain. In this review the participants told the trainers that we have learnt a lot yesterday about the importance of water, reason for unsafe water in Palas valley and daily requirement of the water for human beings. They told the trainers that we will implement your knowledge in our respective villages.

SOURCES OF WATER

Trainer told the participants that the chief source of water are the aqueous vapors in the atmosphere in the form of clouds which on cooling and condensation falls to the surface of earth as rain, snow or hail.

Part of this water provide us the surface water to this planet in the form of lakes, ponds, streams and rivers ending in seas and part percolates into the ground to various levels to give life to the underground reservoirs which is then availed from wells and springs.

So the main source of water is rain.

Rain water is the purest in nature. Physically it is clear and bright. Rain water from clean districts particularly the hilly ones is almost free from germs. In urban areas it has much more impurities as compared to the rural areas. Its impurities are dust, microorganisms and gases most of which are not human friendly.

Rain water is further distributed as

1. Surface water
2. Underground water

1-SURFACE WATER

When rain water touches the ground it is called surface water and includes lakes, ponds, streams, rivers, and impounding reservoirs.

River water is pure at its source but as it passes along its course it gathers all sorts of impurities particularly from the population at its banks. River water undergoes natural purification by

(a) Dilution

Quantity of water is more than the impurities and makes it less harmful.

(b) Oxidation

Oxygen in the air get mix with river water on its way down and decreases the organic matter and also act as germicidal.

(c) Sedimentation

Slow movements of river make the water suspended impurities to settle down at the base.

(d) Sunlight

Ultraviolet rays of Sun are much of help in killing germs and sterilization of water.

(e) Aquatic animals and plants help in natural purification.

However, river water must be treated before its use for human beings and it is one of the sources to spread different water related disease such as Enteric fever, Cholera, Dysentery, Polio and Hepatitis.

Danger of surface water:-

Main damages are

- 1- Organic infection
- 2- Presence of peat in catchments area.
- 3- Growth of algae in the reservoir

Organic infection:

Main danger of surface water is the contamination of the catchments area by human and animal excreta.

This can be encountered by surrounding a reasonable area with barbed wire so as to prevent the incursion by animal.

Peaty area:

Most hilly areas contain deposits of peat and peaty water has solvent action on lead resulting in the lead poisoning.

Filter the water through a bed of fine sand to make it useful.

Algae growth:-

Water collected in reservoirs is capable to produce algae and in turn foul odor.

It can be prevented by the calcium chloride to the reservoir.

2-Ground water:

Rain water which percolates into the ground to various levels is know as ground or under ground water and is taken out by means of wells it comes out itself in the form of from spring.

When it percolates through layers of earth on its way to the under ground natural reservoirs, it is highly purified by natural process of purification which breaks down organic matter where the ground water is near the surface the level of purification is low.

Heavy rain can add impurities to wells and spring so to avoid this we have to cover them with lid.

Types of water:

Soft water: In general it means the water suitable for cooking washing and dyeing .

Hard water: It can not be used for human purposes

It has two types.

?? Permanent

?? Temporary. It can be made suitable for human use by boiling.

COLLECTION, STORAGE AND DELIVERY OF WATER:

In providing safe drinking water to the population it is essential to carefully consider not only the source but also its methods of storage and delivery.

Source depends upon local conditions such as river, streams, lakes, canals, wells etc whatever the sources it must be protected from contaminations.

If the source is river or canal it must be stored in sedimentation tanks and be treated with chlorine and then will be allowed for human consumption.

Storage of water is generally necessary and depends upon the local source and conditions for surface water storage are done in form of lakes or impounding reservoirs. Size depends upon the availability of land and the population.

Water is supplied through iron pipes laid under ground. Main pipes should be at least three feet's in the depth to protect them from sun and the frost. Similarly the surface pipes should also be protected but must be accessible.

In hilly districts supply is mainly by small channels from river and main streams.

WATER POLLUTION:

Water contains impurities both dissolved and suspended. Dissolved such as minerals and gases and suspended such as silt, clay, mud, sand and plants (microscopic).

More serious aspect is suction from leakages in water pipes.

Industrial wastes containing toxic agents, agricultural pollutants (fertilizer and pesticides) all add to the water pollution.

WATER RELATED DISEASES.

In this session trainer told the participants that the following are the major diseases which are present in Palas valley is due to unsafe drinking water.

?? **Hepatitis:** - It is highly infectious. Spread by contamination of water with human excreta. Good hygienic conditions help in spread of the disease. Safe drinking water reduces the spread considerably.

?? **Poliomyelitis.** It's a viral disease. It causes fever followed by paralysis of limbs (lower). Prevention is by oral vaccination and safe drinking water.

?? **Cholera:** It is caused by contamination of food and water. Loose motions are followed by vomiting. It is accompanied by fever. Skin becomes cold and clammy, eyes sunken and mouth dry.

It can be prevented by use of safe drinking water and by improvement of personal hygienic conditions.

?? **Gastroenteritis.**

?? **Bacillary dysentery.**

?? **Worm infestation:** - More common in Palas valley are round worm and pin worm.

In Cholera and gastroenteritis special attention should be paid to the hydration status of the patient and boiled water should be used for the drinking purposes.

ORS (oral re-hydration salt) should be used continuously to avoid/treat the dehydration and home drinkable remedies must be given to the patient according to the age group and severity of the diseases.

To prevent polio the use of safe drinking water and proper vaccination should be encouraged and the vaccination status should be improved by giving a helping hand to the Govt. sector to make the Polio eradication campaign a success.

Above all is to make every effort to make your drinking water clean and safe and pay attention to save the water supply line. Make efforts to get rid of water pollution by adapting the above said measures and by observing strict personal hygiene.

DAY 3rd **18-09-2003**

Day 3rd started with the recitation from Holy Quran by the participant of the training. The review of the previous day was done by the trainers jointly. In this review the participants told the trainers that we have learnt a lot yesterday about the source of water, water born diseases, pollution of water, collection storage and delivery of water.

IODINE DEFICIENCY:

In this session trainer told the participants about the importance of iodine and after that he briefed the participants that in Northern areas of Pakistan are Iodine deficient as the result of excessive rain causing different diseases in human race.

- ?? Mental retardation
- ?? Goiter
- ?? Muscular weakness
- ?? Growth retardation
- ?? Weak Eye sight
- ?? Abortion

Prevention and treatment:

Use of Iodine in food is helpful in prevention of Iodine deficiency

Iodine is available as Iodized salt for this purpose. Iodine is also available in other forms for treatment purposes.

PREVENTIVE MEASURES FROM WATER BORN DISEASES

In this session trainer told the participants that by adopting following preventive measures we can save our self from water born diseases

- ?? Separation of livestock water points
- ?? Provision of water through pipes
- ?? Linkages with PHE department
- ?? Boiling the water before drinking
- ?? Increasing the forest in the area
- ?? Decreasing the livestock population
- ?? Creating awareness regarding the use of Latrines
- ?? Creating awareness regarding the use of safe drinking water
- ?? Linkages with health department
- ?? Adopting immunization program's
- ?? Water tank must be situated on high altitude
- ?? Thorough fare must be below the water channel
- ?? Water tank must be protected through fencing of herbs and shrubs
- ?? Use of alum and KMNO₄ in the water tank
- ?? Waste materials must be poured out in protected place
- ?? Stagnant water pits near the houses will be filed well in time
- ?? Water used in the houses must be saved in pits
- ?? Sprinkling of kerosene oil on stagnant water pits

ACTION PLAN:

Dr. Zulfiqar Ali Qazi with the involvement of participant's formed the following action plan for ensuring the provision of safe drinking water, He also told the participants when you are going to prepare an action plan you must have six things in your mind which includes 5-W and 1-H i.e. what, when, where, why, who and how

#No.	Plan	Basic Responsibilities	Support	Initiating time
1.	Separation of livestock water points	CBOs + Jirga	PCDP + CBOs	19-09-2003
2.	Provision of water through pipes	Line department	PCDP + CBOs	On going
3.	Linkages with PHE department	CBOs + People of the area	PCDP	On going
4.	Boiling the water before drinking	CBOs + People of the area	PCDP Health department	On going
5.	Increasing the forest in the area	Forest department CBOs	PCDP	March 2004
6.	Decreasing the livestock population	CBOs + People of the area	PCDP + Line Dept	On going
7.	Creating awareness regarding the use of Latrines	PCDP + Line department	CBOs Ullama	Every time, at mosque meetings and Jirgas.
8.	Creating awareness regarding the use of safe drinking water	PCDP + Line department	PCDP + Line department	Every time, at mosque meetings and Jirgas.
9.	Linkages with health department	CBOs PCDP	Line dept Ullama	On going
10.	Adopting immunization program's	Health department	CBOs PCDP Jirga	On going
11.	Water tank must be	CBOs	PCDP	19-09-2003

	situated on high altitude	Jirga PHE		
12.	Thorough fare must be below the water channel	CBOs Jirga	Line department PCDP	October 2003
13.	Water tank must be protected through fencing of herbs and shrubs	CBOs Jirga	PCDP	November 2003
14.	Use of alum and KMNO4 in the water tank	CBOs	Ullama	On going
15.	Waste materials must be poured out in protected place	CBOs	Ullama People of the area	On going
16.	Stagnant water pits near the houses will be filed well in time	CBOs	Ullama People of the area	On going
17.	The water used in the houses must be saved in pits	CBOs	Ullama People of the area	22-09-2003
18.	Sprinkling of kerosene oil on stagnant water pits	CBOs	Ullama People of the area	On going

GROUP WORK:

The trainers divided the participants in four groups one each for significances of safe drinking water, source of safe and unsafe drinking water, water born diseases and preventive measures from water born diseases. Then the participants involved themselves for the preparation of their assignments. After completion of the assignments the groups were asked to choose a group leader for the presentation of their work. Then each group leader presented his work one by one to whole class

EVALUATION: -

After the completion of group work and presentation Dr. Zulfiqar Ali Qazi with the help of resource person evaluated the participant, about the training. It indicated that participant knowing a lot of thing about source of safe and unsafe drinking water, water born diseases, significance of safe drinking water and preventive measures from water born diseases. It was also noted that the participants liked the Action plan session very much. Participants requested the PCDDP that they must organized this type training in the field.

CONCLUSION: -

It was concluded that the participants taken a keen interest in the training, so there is dire need of arrangement of this type of short term trainings at village level by cluster making. The training ended with the vote of thanks.

SCHEDULE OF THE TRAINING

1st DAY
16-09-2003

Appendix 1

# No.	Subject	Time	Facilitators
1.	Recitation	9:00	Participant of the Training
2.	Introduction	9:05	Dr. Zulfiqar Ali
3.	Expectation	9:30	Dr. Zulfiqar Ali
4.	Fears	10:00	Dr. Zulfiqar Ali
5.	Rules and Regulation	10:30	Dr. Zulfiqar Ali
6.	Tea Break	11:00	
7.	Water	11:15	Dr. Shahid Shah
8.	Reason of shortage of water and safe drinking water	12:00	Dr. Shahid Shah
9.	Lunch and prayer break	01:00	
10.	Daily requirements of water	02:00	Dr. Shahid Shah
2nd Day 17-09-2003			
1.	Recitation	9:00	Participants of the Training
2.	Review of day first	9:05	Dr. Zulfiqar Ali
3.	Source of water	9:30	Dr. Shahid Shah
4.	Surface water	10:15	Dr. Shahid Shah
5.	Tea Break	11:00	
6.	Ground water	11:15	Dr. Shahid Shah
7.	Type of water	12:00	Dr. Shahid Shah
8.	Collection, storage and delivery of water	12:30	Dr. Zulfiqar Ali
9.	Prayer and lunch break	01:00	
10.	Water pollution	02:00	Dr Shahid
11.	Water related diseases	02:30	Dr Shahid

3rd DAY
18-09-2003

1.	Recitation	09:00	Participants of the Training
2.	Review of the day 2	09:05	Dr. Zulfiqar Ali
3.	Water born diseases	09:30	Dr. Shahid Shah
4.	Tea Break	11:00	
5.	Iodine deficiencies	11:15	
6.	Preventive measure from water born diseases	12:00	Dr. Zulfiqar
7.	Action plan	02:00	Dr. Zulfiqar Ali
8.	Group work	03:00	
7.	Evaluation of the Training	03:30	Dr. Zulfiqar Ali
8.	End with the vote of thanks	04:00	Dr. Zulfiqar Ali