EVALUATION OF THE THAR RURAL DEVELOPMENT PROJECT (TRDP)

by

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Contents

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A. INTRODUCTION

1. BACKGROUND

Throughout 1987, Thar, the desert region in the south-eastern part of the Sindh province in Pakistan, was in the news (for Thar's location see **Appendix - 1: Map of Pakistan**). It was reported that there were a large number of animal and human deaths caused by, what was termed as, the worst drought in Thar's recent history. To aid the relief efforts of NGOs and government agencies, and to identify their own roles in the relief process, the Government of Sindh (GOS), UNICEF, and Save the Children's Fund (SCF), in November 1987 undertook a joint assessment of the drought and famine conditions in the desert. The assessment revealed that though conditions were very bad, there was certainly no famine in the desert. In addition, the drought alone was not to blame for the near famine conditions. Social, economic, and demographic changes in the desert had destroyed an old way of life and its supporting institutions and practises, which had made it possible for the people of Thar to withstand and survive long periods of drought in the past. The assessment report therefore came up with two major recommendations (**Appendix - 2: Recommendations of the 1987 Drought and Famine Assessment Report**). These, very briefly, were:

a) A short term intervention consisting of inputs into the health and nutrition sectors to mitigate the effects of malnutrition; and

b) A long term intervention consisting of the establishment of a pilot research and extension project in the desert, to discover and promote appropriate models of development and social participation that were compatible with the nature of changes that were taking place in the desert.

On the basis of the Joint Assessment Report, the Provincial Development Working Party (Planning and Development Department, GOS) approved the PC-1 for a 5 year relief and social services project to be managed by the SCF. The Sindh Arid Zone Development Authority (SAZDA) was appointed SCF's counterpart agency.

The recommended short term intervention was carried out during 1988 and was called the Marvi Project (Marvi being the heroine of a famous Thari folk story). It consisted of seed distribution, supplementary feeding for infants and children, and the provision of Vitamin A capsules.

For carrying out the recommended long term intervention the SCF established the TRDP which started its operations in 1989. These operations consist of community awareness raising, mobilisation and organisation to participate in, and eventually manage projects related to socio-economic development, health services development, and education development and training.

The TRDP has set up its office in the desert at Islamkot and works in a Project Area (PA) which has a population of about 40,000 and consists of 70 villages within a radius of 25 kilometres of Islamkot.

2. REASONS FOR THE PRESENT EVALUATION

The SCF has been working in the desert for 5 years. Of these, 4 years have been spent in developing the TRDP and its programmes. A considerable amount of investment in terms of finance and work has been made in the desert. It is felt that a stage has been reached where

a) the TRDP's work needs to be evaluated against its stated broad objectives which are, one: to contribute to the development of the people of Thar ; and two; to furnish the GOS with a replicable model of community development in the Arid Zone;

b) TRDP's future development, directions and method of operations need to be determined, keeping in view its performance and potential, and the changes taking place in the desert economy and sociology.

3. TOR FOR THE EVALUATION

The Terms of Reference (TOR) for the evaluation are given in **Appendix – 3: Terms of Reference for the Evaluation**. Briefly they consist of

a) Assessing the TRDP performance against its goals and objectives;

b) Assessing the dynamics of social and economic change in the desert;

c) Assessing the impact and performance of TRDP individual programmes;

d) Assessing the performance of the TRDP office and staff and the internal systems of training, monitoring and documentation; and

e) Developing recommendations for the future.

4. METHODOLOGY

The health related programmes of the TRDP have been evaluated by Fiona M. Hardy, SCF's Regional Health Advisor for South Asia. Ms. Hardy has prepared a detailed report on the subject and its findings, conclusions and recommendations have been incorporated in this evaluation report. She visited Thar between September 16-23 and again between November 21 to December 5 (**Appendix - 4: Itinerary of Health Sector Evaluator**).

An assessment of the TRDP's education sector has been made by Raasta Development Consultants and the statistics developed through their surveys have been used for conclusions arrived at in this report.

For the other sections of this report the following procedure was followed.

a) Data collection: Muhammad Noman, assistant to the lead evaluator, visited various government and non-government organisations in Karachi, Hyderabad, Mithi and Islamkot and collected all available post 1987 Thar related publications, reports and statistics. This activity lasted between October 30 to November 17 (Appendix - 5: Organisations Contacted for Data Collection; and Appendix - 6: Thar Related Documents Collected).

b) Field trip to Thar between November 21-26: Fiona Hardy and Muhammad Noman accompanied the lead evaluator on the field visit to Thar. During the visit, detailed discussions were held with the TRDP staff, village organisers (VO), members of the Village Development Committee (VDC), beneficiaries of the programmes, traditional village leaders, middlemen and entrepreneurs, notables of Islamkot, government officials, and village communities outside the PA (**Appendix - 7: Places Visited and Persons Met During Data Collection and Field Trip; and Appendix - 8: Map of Route Taken in TRDP Area During Field Trip**).

c) Analysis of the information in the documents collected and the information gathered during the field trip.

B. CHANGES IN THAR BETWEEN 1987 AND 1992

5. SOURCES OF INFORMATION

Statistics and information in this section have been derived from

a) Observations made during the field trip;

b) Conversations with government officials, TRDP staff members, and the people of Thar during the field trip;

c) Statistics and information given in the Thar related documents and publications collected during data collection and from the SCF office in Karachi and the TRDP office in Islamkot;

d) Report on the TRDP education sector prepared by Raasta Development Consultants, December 1992.

Since 1987 no new figures on human and animal demography, encroachment on *gowcher* lands, migration (human and animal), economy or industrial and mining activity, have been developed for the desert region. TRDP, however, has carried out a baseline survey of its PA, but since no previous figures related to the PA exist, the areas of change and their nature cannot be identified.

6. PHYSICAL CHANGES

6.1 Demographic Changes

The increase in the total population of Thar between 1981 and 1991 has been worked out at the rate of 3.2 per cent, or the Pakistan national average. The population of the urban centres, on the other hand, has been worked out at 4.4 per cent, which is the average urban growth rate of the country (**Appendix - 9: Population of District Thar: Growth Pattern**). Thus, since 1981, the total Thar population has increased from 546,000 to 747,000. The population of the urban areas has increased from 25,000 to 39,000. This is a major increase and must certainly have put pressure on the desert's economy, given Thars meager resources and an enormous fall in the cultivated area in Thar since 1982-83 (**Appendix - 10: Cultivated Area of Important Crops in Thar**).

6.2 Conditions of Human Settlements

Major changes have taken place in the towns and villages of Thar since 1987. In the towns, such as Islamkot and Mithi, a large number of new shops have opened; old *katcha* structures have been replaced by *pucca* ones; and a fairly large number of shacks and houses have been constructed through encroachments on government land by migrants from the rural areas. These encroachments have been informally promoted by government functionaries and are protected by them.

The shops in the town *bazaars* have a larger volume and variety of city produced and imported consumer goods such as biscuits, transistors, soap, henna, textiles, ready-made garments and medicines. An important addition is the availability of newspapers and magazines for sale, which in 1987 was non-existent. Shopkeepers informed the evaluation team that sale of factory produced food stuffs, such as tea, biscuits, *ghee*, powdered milk, was fast increasing and that an increasing number of Tharis were taking to wearing ready-made garments, something very rare in the past. The changes in the physical nature of the *bazaars* certainly pointed to this as well since there was an air of considerable affluence as compared to 1987-88.

However, the towns have become more unhygienic. There is still no sewerage system and almost all neighbourhoods have their cesspools which are increasing in size. The open drains are not maintained and the streets and open spaces are littered with organic waste and polythene bags. An increase in the number of vehicles, and hence in the services sector to them, is also a major pollutant.

In the rural settlements the picture is not dissimilar. In all the villages visited a few of the residents (their number is increasing) have demolished their Thari huts and replaced them with semi- *pucca*,

Traditional Thari homes

A new pucca house in Joglar village

Inside new home

A semi -pucca house in Jogi Marhi

in some cases, with *pucca* structures. Mud utensils, common in 1987, have to a considerable extent been replaced by aluminium, stainless steel and plastic ones. Most *kumaras* (potters) now work at other skills and many of them have migrated to the urban areas and become richer than the higher caste agriculturists of their villages. In addition, a few village shops, non-existent in 1987-88, have come up.

What the future holds for the rural settlements can be seen at the Meghwar Para at the Jogi Marhi village where a large number of *pucca* houses have been built in the last 5 years. Their construction has been financed from remittances from the barrage areas and urban centres and from the wages of children working in the carpet trade.

6.3 Social Services and Civic Amenities

a) Water Supply

Since 1987, SAZDA and PHED have developed a number of water schemes in the desert and an even larger number are in the process of being developed (**Appendix - 11: Completed and Under-Construction PHED Water Schemes in Thar; and Appendix - 12: Statement Showing List of Up to date Progress of ADP/SDP Schemes of SAZDA in Thar Region**). The schemes consisting of tube wells and storage tanks have brought about considerable relief where the subsoil aquifer was not brackish. Here the consumption of water, according to the residents, has more than tripled. The SAZDA engineers consulted during the field trip, were not aware if there was sufficient sweet water in the aquifer to sustain this rate of use. However, no arrangement for waste water disposal near the collection points has been developed, creating unhygienic conditions and wastage of valuable water which could be channelized for the drinking of animals, as is done at traditional hand dug wells.

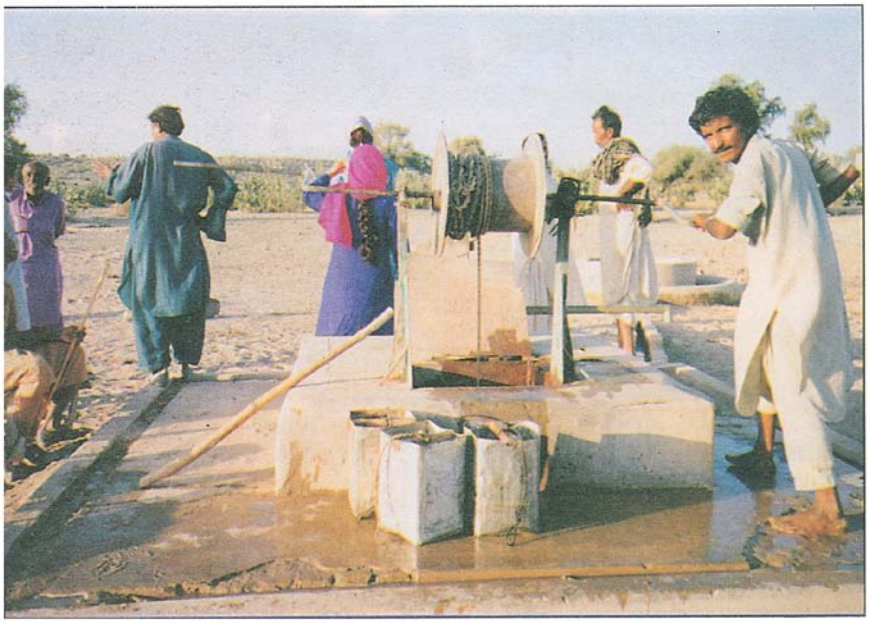
So far the SAZDA tubewell stations in the desert are well maintained and properly staffed. However, it is too early to tell whether such operation and maintenance (O&M) can be sustained, given per capita diminishing finances (in real terms) for this activity; an increasing number of water schemes which will require O&M; no community participation in planning, management and financing of the projects; and local bodies that are technically and financially bankrupt.

In two areas where the subsoil aquifer is saline, SAZDA has installed solar desalinisation panels. The one at Vajoto was visited. It had not been functioning for over 40 days because of a minor defect in its pump. The procedure for having it repaired is long and complicated, and hence expensive. While it was in operation it provided 90 *matkas* of water to the 3 villages nearby which partly met their needs. Three persons have been employed by SAZDA to look after the plant although one would have been sufficient. The village nearest to the plant has a resident teacher who says that the village can operate the plant and look after its day to day O&M at its own expense, provided no major break-down occurs. At present, subsoil water is supplied to the plant through a pump operated by an oil-fed generator. There is need to look into the possibility of using a windmill or a manually operated pump to reduce O&M technical inputs and costs.

SAZDA constructed concrete water tanks in the *tarais*. However, are not too popular with the villagers. They feel that they will silt up quickly and no one will desilt them since they feel it is SAZDA's responsibility to do so. The concrete surfaces are of poor quality and will whether badly, requiring frequent maintenance. In addition, the villagers feel that an additional well in the *tarai* would have been a better investment.

In none of the areas visited, except where water was saline, did people complain of a shortage of water for drinking for humans or animals. In saline water areas, the SAZDA desalinisation plants were appreciated. However, in all areas, people complained about the enormous human and animal labour involved in extracting water and were anxious that efficient hand pumps or other mechanical means of extracting water should be set up on their existing wells.

b) Drainage



SAZDA installed well at Vajoto

SAZDA installed desalination plant at Vajoto

Waste water problems at SAZDA
water supply tanks

SAZDA water tank in Tarai at
Bapuhar

The PHED has a number of drainage schemes for Thar (**Appendix - 13: On-Going PHED Drainage Schemes in Thar**) both in the rural and urban settlements. These schemes consist of open surface drains that dispose into a cesspool. Existing open surface drains, both at Mithi and Islamkot, receive excreta from the toilets of people's houses and are garbage dumps. As such they are health hazards and require intensive maintenance to keep them operational. Underground sewerage lines do not cost more than surface water drains, are less of a health hazard and easier to maintain. In addition, it is not an expensive process to turn cesspools into oxidization ponds. The treated water can then be used for agricultural purposes. This issue was discussed with the notables of Islamkot, and they were of the opinion that there were farmers in Islamkot who would pay for using the 25,000 gallons per day sullage generated by the town, for agricultural purposes.

c) Education

Between 1985-86 and 1990-91 there has been a major increase in the number of schools and teachers in the 4 *talukas* of the Thar district (**Appendix - 14: Educational Infrastructure in Thar District**). However, there has not been a corresponding increase in the number of students, except for enrolment at the mosque schools. Since 1985-86, the number of female students at the primary level has increased from 1,854 to 6,923 in 1990-91. Although impressive in percentage terms, this figure constitutes no more than 9 per cent of all school age going girls in the Thar district. In 1989, this figure was 7 per cent.

In 1985-86, there were only 2 girls' middle schools in the district. Now there are 7. However, there are no girls' middle schools in the Diplo and Nagar *talukas*. In addition, the girls' high school at Diplo, which was operating in 1987, remains the only one in the whole district. The number of students at the school has fallen from 240 in 1985-86, to 131 in 1991-92.

Due to the absence of girls high schools and an acute shortage of girls' middle schools in the district, woman teachers and paramedical staff cannot be locally recruited. In addition, the absence of girls' middle and high schools also means that the only way women can receive education is by going away from their village to a place where there is a school. This is simply not possible in the vast majority of cases and in the recent past, the law and order problems in the province have created an additional psychological barrier to girls moving away from their village or travelling. This is the reason given for the drop in the number of girl students at the high school in Diplo.

d) Health facilities

Between 1987 and 1991, there has been a major increase in the GOS provided health facilities in Thar (**Appendix - 15: Health Facilities in Thar District**). In addition, the Mithi taluka hospital has been upgraded to a civil hospital, and as opposed to a total of 98 beds available in hospitals, RHCs and district council dispensaries in 1987, there are 124 beds available today. Similarly, the number of doctors working at the health facilities has increased from 38 to 69. On the other hand, the number of nurses has increased only from 9 to 11 and the increase in the number of other paramedical and technical staff is not anywhere in relation to the increase in the number of doctors. These statistics do not indicate that there has been much of an improvement in the provision of health services to the Thar district.

However, immunization coverage has increased in the Thar district from 0.2 - 4.8 per cent in 1987 to 22 per cent in 1989 to 34 per cent in 1992. This is a major achievement.

There has been an increase in the number of private medical practitioners, some of them quacks, in the larger Thar settlements. They prescribe patent medicines and as such there has been, according to the shopkeepers that stock these medicines, an over 200 per cent increase in their import and use in the last 5 years.

There has been no visible hygiene related improvement in environmental conditions or the attitudes of people. If anything, the conditions in the larger settlements have deteriorated due to pressure of population, generation of solid waste and waste water, and a break up of the social structure.

e) Roads and electricity

There have been no new roads completed in Thar since 1987 except for a 3 mile metalled stretch from Mithi to Chachro; a one mile metalled stretch from Mithi to Diplo; and a 2 mile brick paved road from Mithi to Islamkot (**Appendix - 16: Roads in the Thar District**). The only effective metalled road in the desert remains the 32 mile stretch from Naukot to Mithi.

Seven grid stations for electricity have been provided in Thar at Umerkot, Chachro, Naukot, Mithi and Nabisar. A grid station at Nagarparkar was to be completed in 1993 but is now to be completed in 1994. The capacity of these grid stations is sufficient to meet the domestic and industrial demands of the Thar district for the foreseeable future. However, transmission and distribution systems have yet to be developed. At present, electricity is available only at the 4 taluka headquarters, Nabisa and the villages of Ohabad and Saeen Usar (**Appendix - 17: Capacity of WAPDA Grid Stations**).

6.4 Natural Environment

In 1987, when the GOS, UNICEF and SCF assessment team visited the desert, the region was drought stricken; whereas this visit was immediately after one of the heaviest monsoons Thar has experienced in over a decade. Therefore, it is not proper to compare the 2 situations. However, a number of changes have occurred in the attitudes of the Tharis towards their natural environment and especially towards trees.

In 1987, none of the notables (except one) or the drought afflicted population showed any major interest in tree plantation or preservation. There was a conviction that desertification could only be averted by adopting the agricultural techniques of the barrage areas and for that it was felt that there was sufficient subsoil water at depths that hand dug wells could not reach. This time the emphasis in all conversations was on protecting trees and gowcher lands. In addition, in large tracks of the areas visited, local *panchayats* or *baras* (elders) had reasserted their traditional roles of protecting and planting trees and of fining persons who felled trees without permission. However, this activity is only taking place in areas where the social structure is still somewhat in tact, such as at Mithrio Soomra. In other areas, such as the village of Lunio (outside the PA), trees are cut with immunity, although the *baras* have tried to impose controls and fines; and at Juglar no attempt to protect trees in the *gowchers* is being made.

Whereas on the one hand attempts to protect the trees are being made, on the other hand demand for fuel is leading to the felling of a large number of trees. Previously people used timber from their own farmlands or from small shrubs in the *gowchers* as fuel. However, an increasing number of people collect it and supply it commercially to the more affluent residents in the rural areas or sell it at the *tals* in the urban settlements. The quantity of timber being used as fuel has increased due to the pressure of population and a change in eating and cooking habits among an increasing number of Tharis.

Similarly, while the district administration has discontinued its policy of giving out *gowcher* lands on lease, the villagers insist that encroachment on *gowcher* lands for agricultural purposes continues. In the village of Jogi Murhi the residents insist that the *gowcher* land had been reduced from about 2,000 acres to less than 150 acres in a period of thirty years and that every variety of tree is felled and used for fuel purposes.

There seems to be considerable weight in what the villagers say because although the cropped area has fallen in the Thar district between 1988-89 and 1990-91, the cultivated area has increased by 11.37 per cent in spite of government policy and the fact that Thar has suffered from a major drought for the past 8 years (**Appendix - 18: Land Utilisation Table 1988-91**).

7. ECONOMIC CHANGES

7.1 Transportation

The most important indicator of social change in the Thar region is the increase in transport activity and its nature. In 1987, there were 3 jeep taxis in Thar. Today there are over 35 and they charge Rs 500 per day. They claim that there is no shortage of business and there is room for more taxis. The

taxi clients are all locals and often fodder, consumer items and Thari dairy products are transported in them.
There has been no addition to the number of GMCs plying on the *katcha* roads in Thar and nor have any new routes been developed. However, the number of trips on almost all the routes have more than doubled in the last 5 years and fares have increased by an average of 66 per cent. Cost of maintaining and operating a GMC has more than doubled. The GMC operators feel that they can easily charge higher fares and people can afford to pay them, but this is forbidden by the government (**Appendix - 19: GMCs at Naukot**).

Discussions with GMC drivers indicate that an increasing number of animals are transported by GMCs from Thar to the barrage area markets. Previously this movement in GMCs was rare.

7.2 Services Sector to Transport

Workshops, spare part shops for vehicles, hotels and tea shops to serve the transport staff and passengers did not exist in the desert in 1987. Now there are over 40 such establishments in Mithi, and according to the shopkeepers, they have generated over 250 jobs. The average daily wage for such jobs is Rs 30. As Kirpal, a waiter in a Mithi teashop put it, "before one had to go out of Thar to earn such a huge amount."

At the Islamkot truck *adda* as well there was a feeling that as electricity was now easily available, welding facilities, lathe works and related activities would soon be established. Everyone at the *adda* felt that there was a need for such functions.

7.3 Carpet Industry

There were carpet looms at more than 50 per cent of the villages visited during the field trip. In all cases the weavers were children who had been trained by a local who had earlier received training at Islamkot when it used to be a major carpet manufacturing centre. According to the relatives of the children working at the looms, their average earnings are Rs 700 per month. The number of looms is steadily increasing and about 80 per cent of the boys who work on them come from the Meghwar community. For example, at the Jogri Murki settlement there were 2 looms in 1987, 12 in 1988, and 41 in 1990. Over 80 persons work on these looms. In the Lunio settlement, outside the TRDP PA, there are 10 looms with 30 children working on them. The hours of work vary between 10 and 14 per day and the conditions of work are unhealthy because of a lack of light and cross ventilation.

Families whose children are working on the looms, have lost interest in agriculture and the children are quite definite that they will not ever be agriculturists. In addition, these families are distinctly more affluent than their neighbours.

The looms are all owned by entrepreneurs and middle men from the urban areas of Thar. Initially, they were installed in the urban settlements where the children were brought from the rural areas and lived in large groups in one room with grown-ups. Many of them became drug addicts and alcoholics. The move to the villages was made because it cut the middle man's overhead costs and made this activity a more low pro-life one, thus reducing government and public awareness concerning it and interference in it.

7.4 The Remittance Economy

Since time immemorial Tharis have migrated along with their animals to the barrage areas in the dry season, or in periods of drought, to work as farm hands. This migration was primarily for feeding and watering their animals, selling their dairy products and surviving drought conditions. However, between 1987 and 1992, an ever increasing number of Tharis are migrating to the urban areas outside Thar to work as masons, tailor masters in garment factories, domestic servants, labour in sugar factories, and as employees in government departments. They earn anything between Rs 1,000 to Rs 4,000 per month. Villagers claim that families who receive remittance money from the cities have lost interest in agriculture and in many cases let out their land to others rather than cultivate it themselves.

In Jogi Marhi there are over 15 persons working in the cities, most of them as tailor masters in garment factories or as masons, out of a population of about 800. Younger boys are being groomed to leave. Since only the Meghwars in Thar possess artisanal skills, and their "low caste" status gives them greater mobility in a decaying social system, the vast majority of skilled out migrants belong to this caste.

In addition to this migration, the Thar elite have also abandoned the desert since 1987. They live in Karachi or Hyderabad with their families where they are engaged in business or "service" and visit the desert only in "in season". Many Tharis have also established shops in the cities where they sell Thari handicrafts and employ Tharis as assistants. A number of such shop owners operate through middle men in the desert, or themselves act as middle men. According to the Islamkot shop owners there are at least 10-15 such operators in the Islamkot-Diplo area alone.

7.5 Increase in Animal Population

There has been no livestock census in Thar since 1986. The census established a growth rate of 8.4 per cent per year. The villagers feel that since 1987 the rate of growth has been much more as people, during the drought period, realised that animals were the only reliable source of income. The TRDP survey of the animal population in the TRDP PA in 1989 and again in 1992 has established a 258 per cent increase between 1989 and 1992. The major increase has been in cows (**Appendix - 20: Livestock Population of Thar**). If this is true (and there is no reason why it should not be), then the rangeland to live stock ratio for Thar, which was already more than twice of what it should ideally be in 1987, has gone up (it was 68 per 100 ha when it should be 30 per 100 ha). This means that if the desert has to regenerate, animals will have to be stall fed and a lot more trees will need to be planted.

Many villagers feel that they could afford to stall feed their animals if there was a market for their dairy products, their animals and a cheaper source of fodder. They point out that the only saleable dairy product is *ghee*, which middlemen buy from them at half the market price. Alternatively, they have to take small quantities of it themselves to the urban areas. The general feeling is that if roads could be constructed, fodder prices would fall and *ghee* and animal prices would go up. Most villagers who owned animals were certain that it was they that sustained them and not agricultural activity. It was pointed out, more than once, that a poor man was one who owned no cattle or goats.

7.6 Agricultural Activity

Due to the long drought, agricultural activity in the desert has reduced considerably (**Appendix - 21: Area of Important Crops Sown 1980-92**). The more aware and vocal villagers feel that agriculture will not go back to the pre-1987 position as people have found alternative sources of income and have started considering it as a subsidiary activity. However, the older generation definitely feels otherwise and has a strong attachment to farming.

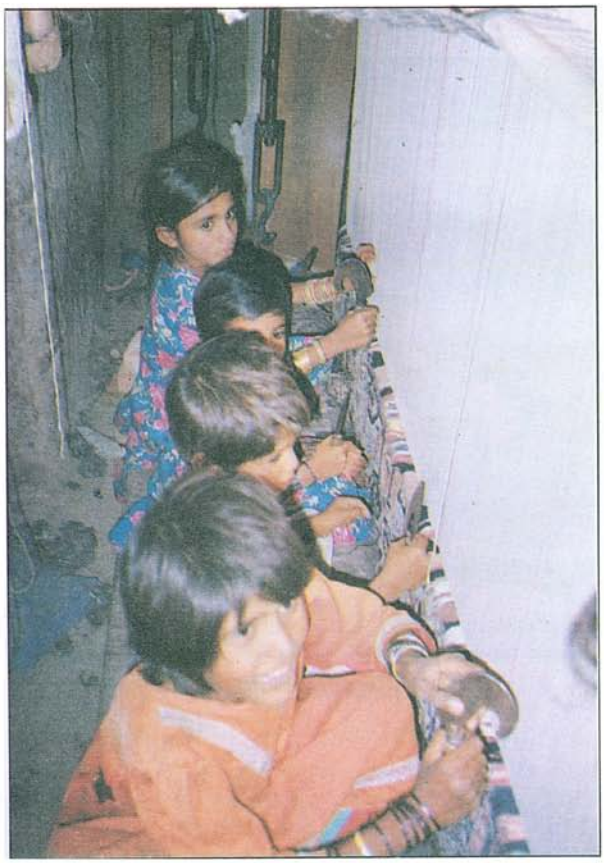
7.7 Artisanal Activity

Artisanal activity in Thar has increased to cater to the city markets. It is entirely financed and managed by Thari middle men and increasingly uses city produced raw materials. As a result, the production of *khata* and *kharal* has fallen (in some areas they are not produced anymore), and that of *shawls* has gone up. Tharis no longer make thread out of their wool but export it raw. The price of Thari wool has increased from Rs 10 per kg in 1987 to Rs 25. Similarly, leather is no longer manufactured or worked in Thar in any substantial quantity but hides and skins are sent to Karachi and Hyderabad in increasing numbers.

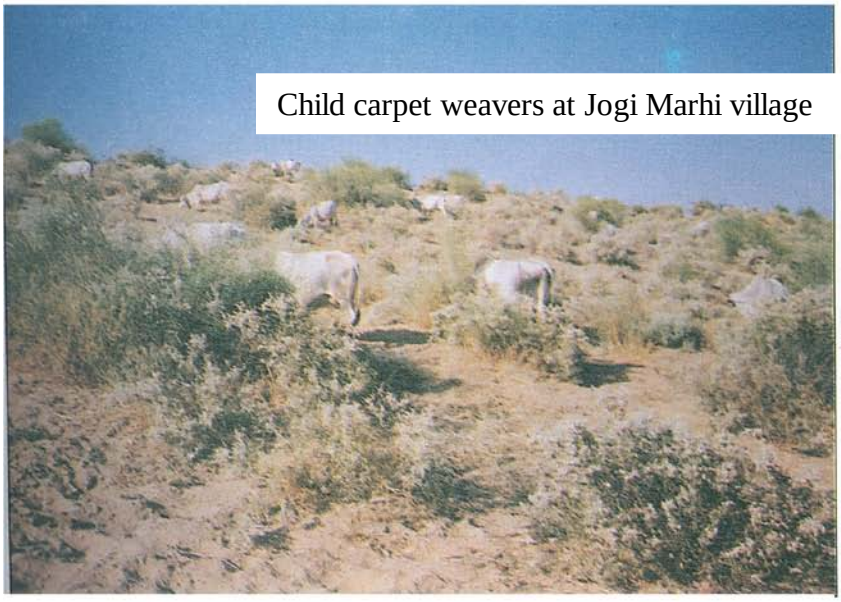
7.8 Thars Mineral Wealth

The exploitation of Thar's mineral wealth has increased. Since 1987 granite is being extracted in Nagar, and according to transporters, the volume of China clay being carried to Mirpurkhas has more than tripled in the last 3 years. However, the general feeling among all Tharis met during the field trip, is that this activity has not benefited the Tharis. The labour employed, both at the China clay and granite mines, is from other parts of Pakistan.

It is rumoured that large deposits of coal have been discovered near Bhatian-ji-Jeri in Thar. The government geologists established camp in that area earlier in 1992 and conducted drilling operations. The people of the area do not believe that there are any coal deposits and if they are, they are sure

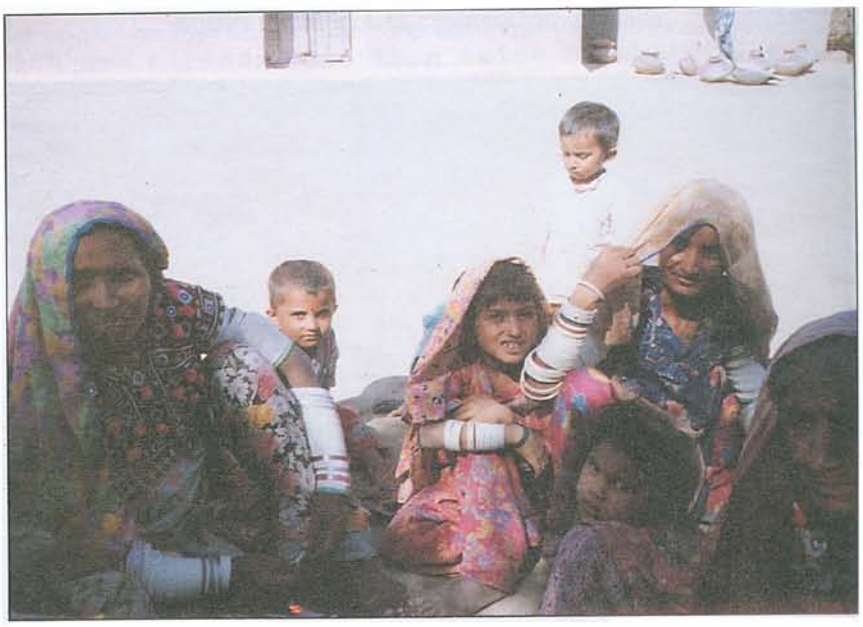


Child carpet weavers at Jogi Marhi village



Cattle grazing near Islamkot

Islamkot notables at the TRDP office



The women at Bhapuhar

that they, like the people near the granite mines in Nagar, will not benefit by them. The DC sees no possibility of coal extraction operations beginning in the near future.

7.9 Debt Status

80 per cent of the Thari households in the PA are in debt to money lenders. 63 per cent of households in PA have debts of more than Rs 4,000 and 65 per cent of Thari households in the PA pay 3 per cent per month as interest on their debts. 75 per cent of the households in debt have borrowed money for food and 25 per cent for other needs. This situation was established by the TRDP baseline survey of 1989. Since there is no previous survey or a survey after that date, the trends in debt cannot be ascertained. However, as average earning according to the survey are only Rs 4,954 per year, and about 46 per cent of this is spent on food, there is no way that these debts can be repaid. According to the villagers spoken to during the field trip, the vast majority of these debts were incurred during the previous drought and only those persons who are working regularly in the cities or the barrage areas, those whose children (more than one) work at the carpet looms; and those who can sell enough cattle, can repay these debts.

8. ADMINISTRATIVE CHANGES AND THE NATURE OF GOVERNMENT INTERVENTIONS

8.1 The Creation the Thar District

The recent decision to create a new Thar district with Mithi as its headquarters has already had a major impact on Thars sociology, economics and politics. Mithi has visibly expanded. Taxis have multiplied; over 40 new shops and tea houses have been established, and according to an estimate by the deputy DEO, over three hundred government jobs will be generated for the residents of Thar. In addition, the volume of traffic between Naukot and Mithi has increased; a petrol station has been set up; and there is talk of shifting the GMCs to Mithi from Naukot. A saw mill, welding facilities and lathe machines have also been established. Normal trucks and buses now operate from the barrage areas and animals are now being transported from Mithi in 2 wheel drive vehicles, thus reducing transport costs by about 40 per cent.

In addition, the residents of Thar will no longer go to Mirpurkhas to settle their government related affairs or disputes and the local politicians, with the administrative power nearer to them, will be able to assert themselves more forcefully. This will definitely improve the functioning of government and political institutions and give the people a greater sense of belonging.

8.2 The Nature of Government Intervention

Given the population of Thar district and per capita government investments in other areas of the country, the GOS has made considerable investments in development of infrastructure and social services in Thar. However, the GOS has not developed roads in the district and has not extended electrification. These two components of infrastructure are essential to economically consolidate the social revolution that is taking place in the district.

Government interventions, like elsewhere in Pakistan, are also not compatible with the social, economic and geographical conditions of Thar and as such are either not sustainable or do not benefit the people of the region. For example, the water schemes that have been developed will face severe maintenance problems due to financial and technical reasons, unless local level institutions can be made to finance, operate and maintain them. Similarly, the veterinary services of the GOS, for all practical purposes, cannot be made use of by the villagers since they are centrally located and have no effective outreach facilities or extension agents in the settlement. Again, the education curriculum in the schools has no relevance to Thar conditions and the centralised nature of the education department makes local action difficult if not impossible; and the government's health input is almost entirely curative in nature.

Another example of inappropriate government policy are the ADBP loans for the desert. It seems that almost all the loans have been used for the purchase of tractors and some for the installation of tube

wells. The use of tractors will produce desertification in Thar as they will uproot trees and shrubs and turn up the soil from a depth that a donkey or camel pulled plough cannot do. Similarly, tube wells of an excessive size will deplete the already meagre subsoil aquifer. In addition, almost all loans are made to affluent people.

9. THE SOCIAL REPERCUSSIONS OF PHYSICAL AND ECONOMIC CHANGE

9.1 The Demise of the Old Social Structure

The physical and economic changes in the desert have had major social repercussions. The traditional social structure based on caste, feudal relations and the *panchayats* has broken down and the extended family is under stress. As a result, there is no longer an institutional arrangement for any form of collective action. In addition, the elite, who organised this collective action and controlled the institutions, are leaving the desert and developing economic interests elsewhere.

9.2 The Rise of the Artisanal Castes

The artisanal classes, traditionally considered "low caste", are becoming increasingly affluent because of the commercial potential of the skills they possess, and as such politically powerful. They are also taking to education, and since they have lesser social taboos and restrictions than the other castes, have adjusted to the changes around them more easily. This process, which was just beginning in 1987, is now well on its way, and the Meghwar community is very definitely developing on the lines of the *kammis* of the Punjab, who now economically dominate the Syeds and Chaudhries of their areas and control the local bodies.

9.3 The Introduction of Urban Values

The links with the cities through the remittance economy and middle men, have introduced urban values in Thar as a whole. This, along with the development of the carpet industry, has diminished the importance of agriculture in the minds of the Tharis. Almost all the young boys spoken to during the field trip wanted to work at the loom, go to the city, or join government service. They did not want to be farmers. In addition, an increasing number of women wish to wear *shalwar-kameez* instead of their traditional clothes, and some have given up their traditional ornaments and bangles as well. Children now play cricket, even in the villages (they did not in 1987), and for them Imran Khan is a well known name.

9.4 Labour is Measured in Time Related Cash-Terms

Many Tharis do not wish to do intensive work anymore as they now measure all labour inputs in cash terms (that is enough to put them off agriculture). Many also know the daily wages at Karachi and Islamabad for skilled and unskilled work and the sale price in these cities of the goods they produce. Thus, the main complaints of the villagers spoken to during the field trip, were the labour involved in pulling out water; the difficulty involved in walking animals to the market; the difficulty of digging wells; the small returns in agricultural activity and artisanal work against labour inputs; and above all "government indifference" to the absence of roads and electricity. There is a complete understanding in the older generation that the old social order is dead and that, as Nagaram, the retired headmaster in Jogi Marhi put it, "everyone can now go their own way".

9.5 The Influence of Higher Level Education

A proportionately high number of Tharis are receiving higher education and becoming doctors, engineers and graduates in social sciences. Many of them are returning to Thar because of difficulties in getting jobs in suitable positions. Their presence in the desert is bringing about attitudinal changes in their homes and neighbourhoods and speeding up the process of social change. In addition, they are increasingly taking over and manning the various government departments in the district.

9.6 The Role of Primary School Teachers

In the various visits to Thar since 1968, one has noticed that the primary school teachers are the most aware and concerned citizens of the region. Before they were reluctant to express their views openly because of the fear of the "powers that be". However, today that fear has gone. It is felt that they, along with the young graduates, can be major agents of change that can balance out the exploitation of the people of Thar by the market forces.

C. THE CONCEPT STRUCTURE AND PROGRAMMES OF THE TRDP

10. HISTORY OF SCF INVOLVEMENT IN THAR

The SCF divides its involvement in Thar since 1987 into 3 phases:

a) Assessment Phase: In 1987, SCF in collaboration with the GOS and UNICEF participated in the assessment of conditions in Thar and the preparation of a report entitled, "A Comprehensive Assessment of Drought and Famine Conditions in Sindh Arid Zones Leading to a Short and Long Term Emergency Intervention Plan".

b) Relief Phase: To address the most immediate needs identified by the Assessment Report, SCF undertook 3 relief activities during 1988 under the Marvi Project. These activities, as mentioned in the introduction, consisted of seed distribution, Vitamin-A capsule distribution and a supplementary feeding programme. These activities have been described and evaluated in Fiona Hardys report on health, an edited version of which forms part of this report as paragraph 12.3 and as **Appendix - 22 (TRDP Health Sector Evaluation: parts not in the main report**).

c) Development Phase: The development phase begins in early 1989, with the setting-up of the TRDP in the desert. This evaluation is primarily concerned with this phase of SCF involvement in the desert.

11. TRDP CONCEPT

With the demise of the feudal system and the traditional barter economy, and its replacement by a cash economy dominated by middlemen, Tharis have become vulnerable to droughts and exploitation by market forces operating from within and outside the desert. In addition, they have lost the possibility of collective action, without which they cannot protect their environment, develop and maintain their water sources, respond to the pressures that the cash economy and its culture is placing on them, and respond positively or lobby to appropriately modify government development inputs.

To create institutions for collective action the people of Thar need to understand the need for them and to be motivated to organise. They need advice and support to identify their problems and find solutions to them. The organisation that provides such motivation, advice and support, should be able to understand social, economic and technical issues and problems, and get the best possible technical advice, which is compatible with local conditions, as and when necessary to tackle them. To fullfil these functions the organisation requires access to the desert communities, extension agents that belong to the desert, research and training potential, and the spirit and expertise to innovate. In addition, it should be able to monitor and understand the desert social, economic and development related concerns and respond to them so as to improve the economic and living conditions of the people. To be able to do all this, the organisation needs to be based in the desert and to depend, as far as possible, on local institutions, people and know-how. The methodology adopted and the programmes developed by the organisation should be sustainable and replicable by government agencies. The TRDP aims at being such an organisation.

In the next 5 year period, the SCF wishes to hand over the TRDP to a local Thari NGO which it hopes will be created with the involvement of local village leaders, TRDP fostered village development committees (VDCs) and local activists.

12. TRDP OFFICE AND STRUCTURE

12.1 The Structure's Relation to the Concept

The TRDP organisational structure and manner of functioning has been developed so as to implement the requirements of the concept spelt out in the previous paragraph. The details of the structure and mode of operation are given in the paragraphs below.

12.2 Office

The TRDP office is located in Islamkot in the heart of the desert. The character and atmosphere of the office is very similar to that of government institutions and as such not in conflict with what Tharis are used to. The office is welcoming and not over-awing for villagers. The choice of Islamkot is a good one. It is not far from Mithi, which is an hour and a half away by car, and as such easily accessible; and the villages around it are in a more advanced stage of social change than the more remote areas of Thar.

12.3 Project Area

The PA has been kept at 25 kilometres radius around Islamkot. This is a reasonable size, given the fact that there are no metalled roads in the area and as such movement is time consuming. The PA has a population of 40,000, which is about 6 per cent of Thar's population. For a pilot experimental project, this is just the right size.

12.4 The Administrative and Extension Structure

The TRDP administrative and extension structure consists of the elements discussed below and is given in **Appendix –23: TRDP Structure**.

a) Sindh office in Karachi: The Programme Director (PD) is stationed in this office. He is the overall incharge of the Project and responsible for setting policy directions, establishing relations with government agencies; maintaining TRDP links with local and international organisations; and reporting back to SCF regional and head office.

b) TRDP office in Islamkot (**Appendix - 24: Details of TRDP Office Staff in Islamkot**):

i) Project Manager (PM): He is stationed at Islamkot and is in charge of coordinating and developing the various activities of the Project and reporting back to the office in Karachi.

ii) Service Section: This consists of 3 officers that deal with issues related to general administration and finance, personnel issues and vehicles. They are all residents of Thar and have ample experience in their fields of work.

iii) Programme Officers (PO): Each programme of the TRDP is headed by a PO. The PO is in charge of developing, monitoring and documenting the programme; dealing with the extension agents and the communities related to it; identifying the technical and research needs and inputs required for its development; and participating in the 2 day monthly workshop of the community organisations held in Islamkot. At present there are the following POs:

– Socio-Economic Development (SED): This section deals with the following programmes:

- Development programmes at household level (seed bank, kitchen gardens, goat raising, village poultry, micro enterprise development, artisan support).
- Development programmes at community level (grain banking, well development, environmental rehabilitation, child protection).

– Health Services Development (HSD): This section deals with the following programmes:

- Operation of a mother and child health clinic in Islamkot
- EPI
- Training of female community health workers
- School health education
- Essential drugs

– Education Development and Training (EDT): This section deals with the following programmes:

- Publication of newsletter
- Adult literacy
- Health library
- Other education related activities.

– Women in Development (WID): This section deals with the following programmes:

- Artisan support for women
- Provision of sewing machines on loan
- Female village development committees.

– Development Research: The purpose of this section is to keep the TRDP informed regarding Thar conditions that have a bearing on the activities, concerns and objectives of the organisation. In addition, this section has to ensure that TRDP activities are adequately research, monitored, reported, evaluated and modified if necessary.

iv) Community Organisers (CO): The COs are extension workers. They are the employees of the TRDP. They have to belong to the rural areas where they are stationed. Each CO covers 'a unit' of the TRDP PA, which consists of about 3 to 5 villages. The function of the CO is to introduce TRDP programmes to the village communities and to motivate and organise them around these programmes. This is done by arranging a meeting of the whole village, which is also attended by the relevant PO and often by the PM as well, followed by individual contacts and discussions. The CO maintains a daily dairy regarding his activities, contacts and the problems he encounters during the course of his work and submits a monthly report to the TRDP office. COs are monitored by the POs and attend the monthly 2 day workshop in Islamkot.

There are 12 COs and 2 Supervisor Community Organisers (SCO): The SCOs are senior COs, and their work is to train, guide and assist the COs in their work. In addition, are 3 female COs.

v) Support Staff: The TRDP has adequate support staff for its office and programmes. This consists of 3 female health workers, clerks, office secretary, 4 drivers, etc.

vi) Village Development Committee (VDC): The VDC is a voluntary organisation created to help the TRDP in identifying the community's development priorities; managing and implementing the programmes fielded; supporting the COs in their work, and in the future to become an independent and aware village level organisation for collective action. The VDC's activities and concerns are reported back to the POs by the CO. The VDC comprises of a president, secretary, treasurer and 2 to 3 additional members chosen almost always by consensus by the villages. At present there are 12 male and 3 female VDCs. There is a TRDP proposal to elect through the VDCs and Advisory Committee (AC) of representatives of 70 villages, covering the entire PA.

12.4 Issues Related to the TRDP Structure and Operations

a) General comments

The TRDP structure and mode of functioning follows the well established rural development model of development through community participation. The success of the model depends on the understanding of the social and economic dynamics of the area and its people at a micro level, and its linkages at the macro level, by the senior staff of the Project; and of building programmes around important issues which are a priority for the rural population. In addition, it depends on the access that this staff can create to the village communities through local motivators and organisers.

The TRDP's great achievement is that it has established a base in the desert, a remote and backward area. Furthermore, at the senior staff level, apart from the PD in the Karachi office and one PO, all members are from the Thar area. It is also remarkable that the TRDP has been able to recruit a female PO from outside Thar for its WID programme. Again, the COs are from the rural areas and work from their base in the village where they live. They are well known to the local population and it seems that most of them are accepted by the younger Tharis in their unit areas. From dialogues with community members, it seems that the older Tharis, by and large, are not interested in the TRDP programmes. In addition, the Project has broken through caste barriers and employs and works with all castes and classes in Thar, though the response from the 'lower castes' is more positive.

All the people met with in the village communities knew of the Project. However, except for a few notables, office bearers of the VDC and some school teachers, few were aware of more than half of the TRDP activities. Even the activities they were aware of, they were unclear about the methodology and details regarding most of them.

b) Qualification and selection criteria of the staff

i. POs: All the POs are from Thar except for the WID PO. They are all master's degree holders from the local universities. Almost all of them are young and none of them, except for the health PO, have had previous experience of similar work. All of them, except one, have been with the project for less than 15 months.

ii. COs: All COs belong to a village in the area of the unit they are incharge of. The TRDP prefers that the COs should be matriculates but in exceptional cases this requirement is dispensed with provided the candidate is literate. In addition, the CO must belong to the majority religion/caste of his unit area. The two SCOs are both senior COs. Of the 15 COs, 4 had been with the TRDP from the very beginning and 6 have joined recently since August 1992.

iii. Other staff members: All other staff members are from Thar region.

c) Staff training

Given the fact that both the POs and the COs, and for that matter the PM as well, have little or no experience of similar rural development work, training is an important component of project development. Details of the training of staff members are given below.

i. Training of senior staff (PM): Senior staff have taken part in training organised by the SCF regional office for SAARC countries, in areas such as education, evaluation, primary health care, training of trainers and management training courses. They have also participated in provincial and national seminars arranged by Pakistani NGOs. These training programmes have been useful for the PM in organising training courses/workshops for FCHWs, FCOs, LHVs and POs and have helped in the preparation of curriculum.

ii. Training of POs: One PO has attended a 2 week training of trainers course in Sri Lanka. In addition, training courses organised by the Teachers Resource Centre (TRC); Community Health Science Department, AKU; Aurat Publication and Information Service; and Raasta Development Consultants Karachi, have been attended by the various POs. These courses have been useful in helping POs in training LHVs, FCOs and COs and in learning how to organise and conduct workshops.

In addition, on joining the senior manager and staff members orient the PO to TRDP aims and objectives and manner of operation. Another form of training is through interaction with the COs and the village community; through participation in the village motivation meetings; and the 2 day staff workshop held in the TRDP office every month.

iii. Training of COs: On engagement, COs are posted for two weeks with the senior CO and learn through association with him and instruction from him. In addition, COs receive a 2-day training per month at the staff workshop when they come to Islamkot to submit their reports and receive their pay. Possibilities for exposing COs to the work of other NGOs is available. However, only one PO has received such training at a workshop on NGO management at the Raasta Development Consultants, Karachi.

iv. Training of LHVs: LHVs are trained after appointment as master trainers. This training is delivered in Peshawar by the trainers of SCF (UK) Afghan Refugee Project and it equips the LHVs to train FCHWs and FCOs. The SCF (UK) Afghan Refugee Project trainers visit the TRDP once or twice a year to monitor training skills and techniques.

v. Training of VDCs: There are no training programmes for the VDCs as yet. However, a programme is being developed and includes

- General training for all VDC members on such concepts as participatory development, self-reliance sustainability, the role of a VDC, and methods of community analysis leading to an action plan for the VDC.

- Specific training of more specialised skills for office bearers selected by the VDC. Such training would include planning, monitoring, keeping accounts and conducting meetings.

- Village level training (VLT): which will consist of a programme of 1-day workshop in villages for selected community leaders who appear to have the most potential as "agents of change" and with whom the TRDP might want to establish a long term working relationship. Whereas VDC members for training purposes will be chosen by the community, VLT members will be identified by the TRDP.

d) Issues raised by the staff

i) Training: Except for the health PO all POs, complained of a lack of training. They all felt that they were not able to understand the technical issues involved in their work and the linkages between the micro and macro level problems and issues; could not identify the government and NGO organisations that could be of assistance or help to them since they were unaware of the existence of such organisation; and they were unable to affectively motivate the COs and the community.

COs also complained of a lack of training and felt that they are really groping their way in the course of their work. Some of them have been told of similar work being done in other parts of Pakistan and they feel that they can benefit by visiting those projects. In addition, some of them felt that there was a greater need to study the "real" causes of the problems people face.

ii. Social and technical research: All the POs, except for the health PO, were of the opinion that they were not fully aware of the issues and processes involved in the programmes that they were dealing with. For example, they did not fully understand the functioning of the middleman economy; the technical aspects of rangeland management, water harvesting and tree plantation; their own limitations in developing support systems to the marketing of Thari manufactured items and other related issues. In addition, they were unaware of the details of related government programmes such as cooperative banks, First Women's Bank, Small Industries Corporation, local body projects and budgets, details of SAZDA's development work in Thar, etc. Maybe this is because the post of the Development and Research PO has been vacant till November 1992.

iii. Limitations of COs and VDCs: Many of the COs admitted that they had difficulty in communicating with the villagers for a number of reasons. First, many of them were too young and it is difficult to get the older generation to support them, and the old generation does matter. Very often caste issues complicate matters. Although it seems that most COs have managed to overcome these problems, they still have difficulty in assimilating so many diverse programmes and in promoting them. Again, in the case of the VDC members met during the field visit, it is obvious that they cannot relate to all the programmes that the TRDP has fielded and can respond with authority to only those programmes in which they are the beneficiaries.

e) Issues observed

i. Staff concerns: In discussions with staff members, VDC members and village communities and beneficiaries of the Project, it has been observed that the problems related to training and capacity of the POs and COs, identified by the TRDP staff, are quite valid and need to be addressed.

ii. Links with relevant organisations: There are a large number of organisations and programmes dealing with rural development in Pakistan. Some of these organisations also offer training and orientation courses. However, the TRDP has not made use of the training and orientation facilities or the expertise that these organisations can offer. Similarly, there are quite a few government research institutions that could also be of assistance. A list of such institutions is given in **Appendix – 25: Relevant Organisations Involved in Rural Development and Research.**

iii. Sources of funding: The TRDP has relied entirely on GOS, UNICEF and its own funds for operating the Project. However, there are various national and international sources of funds available for certain programs of the Project.

iv. Job security of staff members: Most management staff members are very attached to their work. However, all of them, except the health PO, observed that they do not have job security as they were simply under contract for a limited period of time. As such they were interested in searching for more secure jobs. They also felt that the pay offered for a "contract job" was insufficient.

12.5 Budget and Financing

In the 3 financial years (1988-89, 1989-90 and 1990-91) that TRDP has spent Rs 11.139 million. Of this 31.6 per cent has been spent on administration, 15 per cent on HSD, 37.4 per cent on SED and 15.9 per cent on capital expenditure. In the last year, the amount spent of HSD increased to 34.7 per cent, administration was 38 per cent, SED 26.1 per cent and capital expenditure 1.2 per cent. The administrative cost as compared to the amounts spent on SED activities is very high. Again, the amounts allocated yearly have not been utilised fully. Calculations show that only 57 per cent of the allocated budgets have been used over the last 3 years. These figures speak for themselves.

Of the total amount spent on the Project 94.2 per cent has been contributed by the SCF, 4 per cent by UNICEF and 1.8 per cent by the GOS. The interest of the GOS and its functionaries in the Project can only be expected to be in proportion to their financial involvement. UNICEF's entire funding has been for the health related programmes (**Appendix - 26: TRDP Budgets**).

13. TRDP PROGRAMMES

13.1 SED Programmes

a) Seed Bank

i) Background and concept:

The concept of the seed bank is that the TRDP supply seed of millet and *guwar* , the 2 major crops in Thar to seed committees consisting of about 100 members, who then distribute it amongst themselves. After the harvest they return the seed to the seed bank and it thus becomes a revolving activity. The seed banking activity enables farmers to retain seed and as such not fall to borrowing it in cash or in kind at exorbitant rates of interest. The TRDP capital investment for seed is to be recovered by SCF in a period of 4 years.

ii) History and description:

Seed banking was the earliest SED activity of SCF. It began as a relief programme for all of Thar in 1988 when seed worth Rs 3 million was given to about 10,000 farmers as a grant. From 1989 onwards, TRDP set up seed committees with the help of COs and VDCs in its PA. In 1990, 10 seed banks were opened and 959 members benefited from the programme. In 1991, 4 new committees having 310 members were set up. In 1992, 4 of the 10 original seed banks were closed due to nepotism in seed distribution and 5 new seed banks having 500 members were set up. Thus, at present there are 15 seed banks having about 1500 members. Each member pays a fee of Rs 10 to the seed committee.

iii) Recovery of seed:

Recovery of seed has been poor. In 1991, 46.18 per cent of *guwar* and 26.3 per cent of millet seed, distributed in 1989-90, was recovered from the seed committees as there was a reasonable crop. However, in 1991-92, there was no recovery at all, as the monsoons failed and there were almost no crops. In both years TRDP replaced the seed for the seed banks. So far the TRDP total input since 1989 has been, at current rates of seed price, Rs 185,017 and recovery has been to the tune of Rs 50,000.

Given this rate of recovery, there is no possibility that the programme objective of recovering TRDP investment in 4 years can be met. From the tables (**Appendix - 27: Status of Seed Banks 1989-92**), it is obvious that TRDP inputs will increase overtime if the banks are to be sustained.

So as to develop a financial stake of the members in the seed banks, since 1991, the TRDP policy has been that members raise 25 per cent of the cost of the seed in advance and the balance 75 per cent is a capital loan from the TRDP.

iv) The new policy:

The rate of recovery of loan from the seed banks is very poor. To overcome this problem the TRDP has adopted a new policy. This is described below along with the process of motivation and organisation which also formed part of the old policy.

- The CO contacts the villagers.
- The Seed Bank programme is explained and discussed with villagers and interest, motivation and need for increased food production and food security is created.
- Seed Bank bye-laws are discussed with farmers, clarifications about this programme are made by COs and POs, after which the seed committee is formed which chooses its executive committee.
- A warehouse for seeds is selected and provided by the community. It is white-washed and cleaned at the TRDP cost.
- Training is given to the executive committee on seed bank management by the TRDP training unit.
- Seed bank members are involved in purchasing of seed and its transportation to the seed bank. 25 per cent of the cost is contributed by seed bank member and 75 per cent is a capital loan by TRDP.

- Distribution of seed to the members is done by the executive committee of the seed banks and COs. Maintenance of record of seed bank distribution done by the executive committee and the CO.

- Monitoring of crop status and harvesting activities is done by the executives of seed bank committee, COs and POs.

- Recovery of seed by the bank: 25 per cent TRDP share plus 100 per cent stocking of seed for next year by seed bank members.

The seed committees will now recover seed from their members and store them immediately after the harvest. The price of seed is low at that time. At the time of sowing they will sell the seeds to their members. At this time the market price of seeds is higher and they will charge their members the original price plus 50 per cent of the difference between the original price and the market price at time of sowing. The profit made in the process will be used to return the TRDP loan. Since prices of seeds often go up by up to 50 per cent between time of harvesting and sowing, it is expected that the TRDP loan will be returned in 4 instalments as envisaged.

v) New variety of seeds:

In 1991, the TRDP introduced new high yeild varieties of *guwar*, millet, sesnium and K-bean seeds acquired from BARD, Mithi. However, this experiment has not been a success as the yield of the new varieties has been less than that of the local ones.

vi) Villagers' views regarding the programme:

All beneficiaries of the programme were supportive of it. However, all of them were of the opinion that in periods of drought there was no question of returning the seeds or making payment for it. There were also complaints of mismanagement of the seed banks by the office bearers of the seed committees and members felt that the fees that they were paying were being misappropriated. The office bearers, on the other hand complained that the number of members not paying their annual fee was increasing. Almost none of the seed bank members with whom the new policy was discussed, seemed to have any knowledge of it except the office bearers.

vii) Comments and observations:

The seed bank concept is basically a sound one and has benefited the Thari population. Out of 5488 households engaged in farming in the rural areas about 1,500 are members of the seed banks. However, it is not a sustainable activity for two reasons. One, Thar is an area that often has long periods of drought and as such there is bound to be a loss of seeds which the Tharis themselves cannot replace without credit. Two, the mechanics involved in operating a seed bank are complex and are not easily understood by the beneficiaries, some of whom have a lassez-faire attitude towards this activity and others no trust in their office bearers. In addition, the POs involved with seed banking feel that a lot of time is required to convince people about the importance of repaying seed costs. Another opinion voiced during discussions was that the more influential members of the community were exploiting the poorer ones through the seed banks.

b) Artisan support programme

i) Concept:

Artisans in Thar, especially those who are producing *shawls* and embroidery, are receiving support from middlemen. This support is in the form of material and sometimes in cash as well. Their product is sold at the urban markets in Karachi and Hyderabad by the middlemen, and the artisans claim that they receive less than half of the actual value of their product. The TRDP has initiated a programme of supporting these artisans, who are both men and women, with soft loans. Initially, these loans were made in cash but now they are made as materials and tools. The loan is to be returned in 10 equal instalments after a three months period. No loan given so far is of more than Rs 2,825. The TRDP also arranges for the sale of these products at various outlets in the urban areas and has also opened a retail outlet at its office in Islamkot. Middlemen have reacted to this by refusing to purchase

products from TRDP financed artisans. TRDP is thus taking on the role of the middlemen and the middlemen as well.

The TRDP provides loans only to artisans who are already working and possess the required skills. Beneficiaries are selected on the following criteria; a) ownership of loom in the case of weavers; b) they should be in debt; c) they should be exploited by middlemen; and d) they should have a large family to support. In addition to weavers, the TRDP has also provided loans to carpenters and blacksmiths.

ii) Statistics:

So far TRDP has provided loans to 67 beneficiaries. These loans are of a value of Rs 133,949, out of which Rs 55,000 was provided between November 1991 and January 1992, for which the loan instalment is not yet due. However, Rs 2,250 has already been returned. 39 per cent of the loans provided during 1990 have also been recovered, which is very encouraging. Beneficiaries feel that their earnings have increased by about 30 per cent as a result of the support given to them by the TRDP.

iii) Problems identified by the SED POs:

The SED POs cannot arrange for the sale of the products of the artisans. They feel that the artisans should sell wherever he/she can and to whom he/she can themselves. To help them they have introduced the artisans to the city markets. In addition, they have formed committees of artisans so that they can sell their produce collectively. However, on investigation it has been discovered that so far there is very little collaboration between the committee members and they do not stick to time schedules either. Artisans also want higher loans so that they can set up additional looms. In addition, the artisans do not have "holding power" and have to sell as soon as they produce so as to feed themselves and produce more. This reduces their bargaining power considerably.

In other issue that needs to be addressed is one of technical and design assistance that the artisans require for producing goods that are marketable. This is a time consuming exercise that requires marketing expertise that is not available with the TRDP, but is available to the middlemen.

iv) Comments and observations:

The concept of giving loans to artisans so as to help them in increasing production and raising their income is a sound one. The recovery results are also encouraging. However, marketing, which involves both determining market requirements and sale procedures, is not something that the TRDP can do. As the number of beneficiaries increases it will become increasingly difficult to carry out this activity, especially when there will be opposition from the middlemen. The artisans interviewed understand this problem well. A cooperative or cooperatives of artisans cannot fulfil this function either. Such attempts in Pakistan have been failures and where they have succeeded the effort has taken over 10 to 12 years of hard work. In addition, the middleman has access to markets, an understanding of the needs of his clients, and an infrastructure in place to fulfil production and marketing requirements. It might be worthwhile to look into the possibility of creating a more equitable relationship between middlemen and artisans with credit support from the TRDP. The programme is a small one at present and does not have a major impact on economic conditions in Thar. If it has to have an impact and still follow the present methodology, major financial inputs will be required. Considerable inputs in time will also be required from the POs to organise and monitor the programme, something that the POs as the conditions pertain today, will not be able to do.

c) Micro enterprise development

i) Background and concept:

Under the micro enterprise development programme interest free loans were given to applicants for setting up shops, and for the provision of sewing machines and tools. Repayment of the loan was to be in 10 equal instalments. The purpose of the loan was to help people to improve their incomes.

ii) Statistics:

21 loans of a total of Rs 44,865 have been given since 1990 for establishment or support of small village shops. The maximum loan given is of Rs 5,000. Only 2 of the beneficiaries are women. Rs 10,300 has been recovered which is well below that which was targeted for. In addition, 25 loans of a total of Rs 32,248 were given to women for the purchase of sewing machines. Recovery so far has been of Rs 4,310, again well below of what it should have been.

ii) Comments and observations:

Beneficiaries claim that the loan for setting up of shops cannot be repaid because in periods of drought there is no business as people migrate or have no buying power left. In addition, these loans do not generate additional jobs and cannot by their very size, alter economic conditions in Thar. The loans for sewing machines have not raised incomes either as the machines have not being used for income generating activities.

d) Village poultry programme

i) Concept:

The TRDP has been supplying chicks to beneficiaries so that they can fulfil their protein requirements through consumption of poultry meat and eggs and earn additional incomes out of the surplus poultry produce.

ii) Description of the programme:

TRDP maintains a poultry farm at Islamkot which buys one month old chicks from the government farm at Mirpurkhas. These chicks produced one egg per day for a 9 month period. The TRDP farm raises the chicks for another 4 - 5 weeks and then delivers them to the villagers as a loan at a 50 per cent subsidised rate. The programme was initiated in 1989.

iii) Statistics:

Between 1989-91, 883 chicks were supplied to 79 families at the rate of Rs 30 - 32 per chick. The recovery is made in cash and the beneficiaries are identified by the VDC. According to calculations made by the relevant PO, the cost to the TRDP per chick works out to Rs 80. The beneficiary has to pay about 50 per cent of the TRDP cost of chicks (Rs 35 each) at the time of receiving them. So far a soft loan of Rs 29,310 has been made and the recovery of Rs 17,575 has been affected. This is a reasonable rate of return.

iv) Comments and observations:

By the very fact that the beneficiary has to pay 50 per cent of the cost of the chicks when he receives them, means that he has to be a man of means.

A number of beneficiaries were met with during the field trip. All of them said that they had benefited provisionally from the programme and had sold eggs to their neighbours in the winter season. None of them had poultry anymore. They also said that once the winter season ends, they either eat the chicks or sell them as they do not take eggs in summer. In addition, some non-beneficiaries did not want to make use of the programme since they had observed that a lot of the chicken were eaten up by wild cats. None of the beneficiaries, or the non-beneficiaries were willing to purchase the chicks at a rate of Rs 80 each.

The programme is not a sustainable one because of the subsidy involved. In addition, it is more of a relief operation. In summer there is no market for eggs in the villages and unless arrangements for their marketing at places outside the desert can be made, people will not continue to keep their poultry. There have been a large number of poultry deaths, both at the TRDP farm and in the villages simply because there are no facilities for inoculation and cure of poultry diseases in the villages. The TRDP cannot continue to subsidise the cost of the chicks indefinitely, especially when it has to replace them every winter.

e) Goat raising programme

i) Concept:

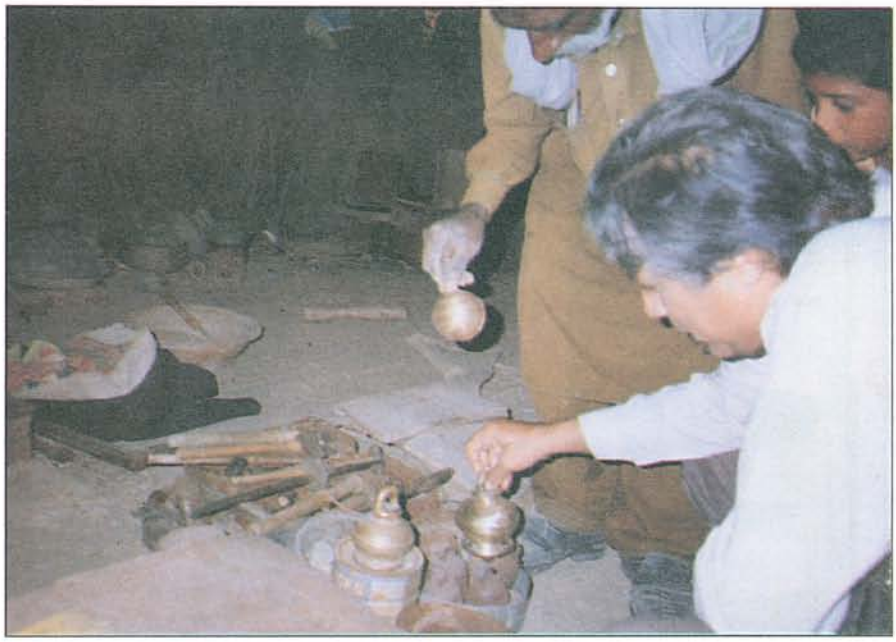
Goats, by providing milk help in feeding the family, especially children. A number of the poorer Thari families do not have goats and as such have difficulty in fulfilling their food needs. The TRDP provides goats to the most needy of Thari families through a rolling fund that has been established.

ii) Programme description:

The beneficiaries are identified by the community after the CO has introduced the programme. They are then given 6 per cent she goats that the TRDP office purchases. The beneficiaries return the kids

The TRDP poultry farm,Islamkot

The TRDP nursery of Islamkot



The TRDP assisted iron-mongery and carpentry workshop at Mithrio Soomra

A mobile shop near Jogiar

pr

oduced by the goats to the TRDP once the kids are 6 months old. If male goats are produced, the TRDP office sells them. The female kids become part of the supply. The beneficiary returns the goats in 2 - 3 instalments. The profile of the family that has received the goats is reviewed after 12 months to see if there have been any improvements in the family's health or living conditions.

iii) Statistics:

40 families have been supplied 192 goats so far. Of these 19 (10 per cent) died. Total number of kids that have been produced are 56. Of these 15 (27 per cent) died. The total cost of supplying goats to the beneficiaries has been Rs 192,000.

iv) Comments and observations:

The goat raising programme has been the most popular of all TRDP programmes. However, it has a number of problems associated with it. It takes too much of the staff time to monitor and operate. It would be much simpler if the beneficiaries simply repaid 6 female kids and kept the male kids. As such the project would not have to involve itself in selling the male kids. In addition, a fairly high percentage of kids have died. This is because of an absence of veterinary know-how in the rural areas. In addition, it is felt by the TRDP that goats, because of their grazing habits, are a major cause of environmental degradation.

f) Environmental rehabilitation

i) Concept:

The rehabilitation of Thar's natural environment is essential if soil erosion and desertification is to be averted and if the range land is to sustain the animal population. With this reasoning in mind, the TRDP has been involved in promoting tree plantation, dune stabilisation and live fencing among the village communities.

ii) Programme history and description:

Initially, the TRDP set up a nursery in Islamkot and imported fruit trees that are common in the barrage areas. These trees were supplied to the villages. Most of them died. After this the TRDP changed its programme, and in 1992 they promoted the plantation of local trees for which they supplied seed and technical know-how.

The main thrust of the programme is through the schools. In this programme the teacher is motivated and supported to get the school children to plant one tree each. This is known as the "one child one tree programme". These trees are planted in houses, schools, near the wells, in camel passes and in fields. So far 47,000 trees have been planted in 29 villages. The survival rate is around 40 per cent.

In addition, the TRDP has also carried out a dune stabilisation experiment. However, for technical reasons it has not been very successful. The reasons for its failure have been analysed and demonstration plots are being developed. Again, the live fencing attempts by planting Thor were also not successful due to technical reasons. These reasons have also been identified.

iii) Comments and observations:

Although the tree plantation programme has no immediate benefits, in the long run it is the most important programme for Thars' economic rehabilitation. Given the anarchic conditions in Thar, it would be easiest to get people to plant trees in their homes and farm lands. Once they understand the long term benefits of this they will take on the programme in a big way. The success of the programme depends as much on peoples acceptance of it as on technical support for it. This support is of two kinds; one, to the TRDP from relevant government and NGO organisations who have experience in similar work and possess the necessary technical know-how and two, to the beneficiaries from the TRDP. Such an arrangement has not been developed so far.

Dune stabilisation and live fencing are also important ingredients of the environmental rehabilitation programme. They also would be carried out more actively in people's own farm lands and as demonstration projects through the teachers, at the schools.

Environmental rehabilitation is a long term affair. It can only be successful if a vision of a future of which it is an integral part is transferred to the people and becomes an essential part of their thinking and aspirations. This is discussed in the conclusions and recommendations of this report.

g) Kitchen garden

i) Concept:

The TRDP tried to support farmers with vegetable seeds and technical advice so that they could grow vegetables in their homes. This would help improve their health and nutrition. Since water is not easily available in the desert at all times, such activity can only be carried out by those farmers who have their own wells.

ii) Comments:

The activity will not have any major impact on the improvement of nutrition and living conditions in Thar simply because it can only be carried out effectively during the monsoon season. In addition, it will use staff time that can be better used.

h) Well development programme

i) Background and concept:

A number of wells in the TRDP PA have fallen into disuse or are badly damaged because people do not have the finances for rehabilitating them. The TRDP has initiated a programme whereby loans are given to a village community to repair and take over the maintenance and operation of the well.

ii) Programme :

COs together with the community, identify villages with drinking water problems due to damaged wells which need repairs to make them operational again. The following selection criteria are applied:

- Wells on which a majority of the community depends for drinking water.
- Villages where the only sweet water well is not functioning.
- Community willing to take financial responsibility for repairs and for recovery of the interest free loan advanced by TRDP.
- Community willing to take responsibility for the maintenance of the well after completion of the repair work.

A committee is formed to supervise the work, maintenance and loan repayment. A list of beneficiaries is made up and their agreement is sought to repay the loan over two successful harvests. The community contacts a specialist mason to bake sufficient number of bricks in order to repair the well. The expenditure for well repair is mainly incurred for the specialist mason and for the cost of materials e.g. cement, brick. The labour is provided by the beneficiaries on a rate basis.

iii) Statistics:

So far 4 wells have been developed at a cost of Rs 23,800. They benefit about 3,850 people.

iv) Comments and observations:

The Programme can be most beneficial to villages which do not have finances to make their old wells functional. However, the loan should not be an interest free one so that it can become a revolving fund for such activity not requiring any form of subsidy in the future.

i) Grain bank

i) Background and concept:

20 grain banks were planned. Project never developed beyond a single experiment in one village where Rs 10,000 loan was made for the purchase of 2,500 kg of wheat. The government distribution of wheat was too irregular to provide a reliable source of grain for a village level grain enterprise. Another approach is required.

ii) Comments and observations:

Grain banking should not be encouraged at this stage. It should be left to the government. A lot of staff time will be spent on it and accusations of dishonesty will be made against the people managing it. The TRDP staff already has too much on its hands to take on this intensive activity.

j) Child rights

The TRDP monitors child labour in the PA with particular reference to children work in the carpet factories. Approximately 1 in 5 Thari children under 14 are working full time in the carpet industry.

The TRDP programmes for income generation and social alleviation cannot overcome this problem because they cannot match the scale of employment and finances provided by the carpet industry. A dialogue with the industry owners and middlemen, along with incentives to change their manner of operation and yet not reduce their profits, offers the only possible solution to this problem.

13.2 EDT Programmes (programme descriptions have been taken from the RDC's report on EDT programmes)

a) Child support programme

i) Background and concept:

As a result of, years of drought, consequent loss of crops, poverty and increased indebtedness of families to money lenders, many children have been forced to drop out of school. TRDP is seeking to prevent further drop-outs by providing the resources and incentives that families need in order to be able and motivated to keep their children in school

Particular emphasis is placed on supporting girl students for two reasons. First, because increased female education is a goal in its own right and second, because this is an essential pre-requisite for creating a pool of educated girls from which future female teachers, health workers, and other female development workers can be recruited.

Apart from supporting students, TRDP has been partly supporting government institutions financially. Repairs to classrooms and purchases directly related to the students' academic needs are carried out. For competitions and during celebrations, TRDP provides prizes to encourage the students.

ii) History and description:

The child support programme started in March 1992 with a survey of all the schools present in Islamkot and TRDP PA. TRDP's COs as an initial exercise carried out a survey of children already attending school. The survey was conducted in 53 boys' primary schools, 3 girls' primary schools, 8 branch middle schools, 17 mosques schools and a high school for boys and girls.

Following this activity, 300 orphans, poor children of low income or large families were targeted as beneficiaries. The material support provided to select children includes uniform, textbooks, note

books, stationery, averaging Rs 300 per child per year. The responsibility of distribution these was fulfilled by the programme PO and COs.

Apart from child support programme, there is an institutional support programme. On request, the heads of the schools are given a school support grant of Rs 1,000 for any requirement related directly to the children.

iii) Statistics:

360 children of primary and secondary schools of the PA have benefited from this activity. All the children receiving support are in schools and not a single drop out case of those supported has been reported till the time of appraisal.

The breakdown of beneficiaries is given below:

-	Primary school (girls)	104
-	Primary school (boys)	150
-	Secondary school (girls)	58
-	Secondary school (boys)	48

The enrolment of girls in government boys secondary school Islamkot is as follows:

-	Class VI	44
-	Class VII	43
-	Class VIII	35
-	Class IX	23
-	Class X	23

The headmaster government boys high school, Islamkot stated that there was a high drop-out rate among girls in his school. The reasons for this included the following:

- Segregation is emphasised by the Thari society on religious and cultural considerations and the lack of separate classes hinders the education process of girls wanting to continue secondary level education.

- The village clusters are scattered at great distances from each other, due to which the girls cannot travel to a central point school (though there are branch schools, which are co-education till middle level, no separate classes are available for female students).

- There are no hostel facilities available for girls students anywhere in Thar. This hinders the girls access to higher education. Hostel facilities would have helped those female students who were willing to continue their education but cannot, due to very long distances to the high school.

The child support programme activity has been a purely service delivery project of TRDP. The support package costs at an average of Rs 300 per school per child, and 360 school children have so far benefited. There is a plan to further extend this programme to benefit other school children, especially girls.

The school support programme has been partly supporting the monthly payment of retired personnel serving as teachers for girls attending secondary classes in Islamkot secondary school for boys.

iii) Comments and observations:

It could not be ascertained as to how the non-beneficiaries in the communities felt about this programme and as such it is difficult to comment on its sustainability. If it arouses jealously, and promotes accusations of nepotism and corruption, it can be detrimental to the TRDP. However, it does help in producing educated girls, which will be a major asset to health and education sectors in Thar district. It would have been better if it had remained limited to girl students.

b) Coaching centres

i) Background and concept:

For cultural reasons, boys and girls are educated separately in Thar beyond primary levels. Educational provision for girls lags a long way behind the provision for boys. Current figures suggest that 24 per cent of girls in the PA enrol in primary school and only 30 per cent of those enrolled pass grade 5. Beyond grade 5, the only route to further education is to attend the Girls High School in Islamkot. However, this would mean staying in Islakmot, and this is not culturally feasibly for girls, except the small number who might have relatives in the town with whom they could stay. This contrasts with the situation for boys, who can travel to local middle schools and then rent accommodation or get a hostel place to attend the Boys High School in Islamkot. None of these options are open to girls.

Because of the low number of rural girls completing their education, there is a consequent lack of female teachers available in the villages, and so the cycle of educational deprivation for girls continues. Similarly, there is a lack of educated female manpower from which to recruit health staff or other workers to promote women's development.

The provision of coaching centres for girls is part of TRDP's strategy to address this very serious problem.

ii) History and description:

The coaching centres for girls started in September 1992 to prepare the first batch of girl students for secondary school board examinations to be held in April 1993.

The problem of girls unable to pursue their studies after class 5 (due to a number of reasons) was discussed at village committee meetings.

A strategy was worked out to help those girls who wanted to pursue their studies but were unable to. It was decided that a group would be organised where there was a retired teacher or an educated adult who would be willing to coach the girls.

10-12 months are the approximate time considered to be required for the preparation of the matric examinations.

More emphasis is being laid on the English course for secondary school board, which it is a compulsory subject, as it is felt that the Sindhi language subjects can to a great extent be handled by the students themselves.

It is expected that the girls passing out will consider the option of becoming teachers in their own village schools.

The teacher is paid Rs 500 per month for his services. The coaching centres will run for 2-4 hours a day, 6 days a week for 10 months.

The Project is a pilot one and a permanent/sustainable strategy will be developed after field testing and evaluation.

TRDP pays for school books, the salary of the teacher and will pay pupil's examination fees.

iii) Statistics:

At the time of appraisal, there was one coaching centre running. There were 9 students who had started the courses two months ago. A local retired school teacher has been employed by the Project for coaching purposes.

iv) Comments and observations:

The Programme is not a viable substitute for the establishment of girls high schools and hostels in the 4 talukas headquarters. However, given the social conditions in Thar, it appears as the only option. The coaching centres, hopefully will become institutions in themselves through TRDP support and guidance. Part of their costs should be incurred by the beneficiaries themselves so that they become socially and financially sustainable.

c) VDC and village leader training (VLT)

i) Background and concept:

The composition, objectives and functions of VDCs have already been described. In addition, the TRDP wishes to identify village leaders who are interested and capable of promoting participatory development. It is expected that these leaders will ultimately take over the TRDP. Workshops are held to train both the VDCs identified by the community and the village leaders identified by the TRDP.

ii) History and description:

The VLT workshop commenced in November 1991 when 12 selected community leaders were invited. VLT is a series of one-day training/orientation workshops. Invitations are given by COs to accept village elders who are influential in forming local opinion. A six and half hour per day workshop is planned according to the curriculum developed. The training workshop is a participatory workshop where participants are involved in guided discussions through question-answer sessions. The broad aims of the VLT training is to explore the village leaders concepts of participatory rural community development, to explain the aims of TRDP, and to identify the potential "agents of change" for future working strategy. The VDC training includes the members identified by their respective villages. The future trainings of the VDCs will include concepts such as sustainable development through self-reliance, role of VDC, TRDP and project input, methods of community analysis and future plans.

iii) Coverage:

At the time of appraisal it was reported that regular trainings had been conducted for all the village leaders.

iv) Comments and observations:

The concept of handing over the TRDP to village leaders as an NGO is fraught with problems and can lead to major disasters. Again, village leaders cannot be chosen but evolve over a period of time. This is discussed in the section on Conclusions and Recommendations. The nature of the TRDP training cannot be judged since not enough VDC members were met, who had received training.

d) Adult literacy classes

i) Background and concept:

Literacy levels in Thar are among the lowest in the country, especially for women. Many villages still do not have primary schools; and even where primary education facilities do exist, there remain many adults who did not have access to education in the past (again, especially women) and who, therefore are not literate or numerate.

Even where primary schools have been established, many children drop out after only one or two years. Such children may have some basic notions of reading and writing but it often does not amount to functional literacy or numeracy.

Numeracy is of particular importance in Thar because of the dominance of money lenders who charge very high rates of interest. Villagers who are not numerate are entirely dependent on their creditors calculations of sums owed.

ii) History and description:

TRDP's adult literacy centres started work in 1991 with the establishment of 7 such centres. Since then 6 new centres have been opened, bringing the total to 13.

The village community requests TRDP for adult literacy classes through TRDP's COs. A suitable place is offered by the community for the classes.

Meetings are then held between the COs and the community to designate a teacher (a retired teacher is preferred, otherwise a literate notable is appointed on the approval of the community). The designated teacher then attends a 2 day training workshop at the TRDP project office in Islamkot. Once trained the teacher begins the first semester (three months) during which book one, (especially designed for local use) is completed.

The classes are held for 2 hours a day, 6 days a week, for a total of approximately 300 classroom hours. In the first 15 days, the alphabet and numbers up to 100 are taught. The students then progress on to simple words, phrases and sentences, and then on to simple arithmetic. After 6 months, the students take a test.

The TRDP bears the cost of payment to teachers, books, blackboard, chalk, etc. and related running and maintenance costs. The villagers provide a classroom in one of the houses in the village free of cost.

iii) Statistics:

Presently 13 centres are in operation in the TRDP PA for adult males. There is no centre for adult females at present. Three centres operating previously for females have closed down out of which one had completed its 6 month period for a course. Nine more centres are to be initiated by the end of 1992 out of which 3 centres are awaiting verification by the Project.

Approximately 300 male villagers are attending the centres. Each village has 20-25 willing learners which justifies the initiation of the literacy class.

iv) Comments and observations:

The TRDP Adult Literacy Programme is not going to produce enough literate Tharis to change conditions in Thar. Two beneficiaries of the Programme who were interviewed and had finished their courses could not sign their names correctly or do simple arithmetic. However, classes can bring about attitudanal changes which can have a positive effect on the social environment.

e) Curriculum development

i) Background and concept:

TRDP's central strategy is one of social mobilisation. This is essentially an educational process and therefore, appropriate educational materials are needed. It is also important that such materials are specifically designed for the Thari cultural context. Further, materials used in all TRDP educational activities need to be designed so that they will promote the improvement of people through active learning. This is a very different kind of education from traditional learning, in which learners remain passive consumers. TRDP seeks to promote a concept of education in which people work together to explore solutions to problems - first in learning, and later in living.

Curriculum development in TRDP therefore aims to focus on the design and production of teaching and learning materials which have two major features:

- Context which is relevant to the Thari social and cultural context.

- Teaching and learning methods which facilitate the involvement of people through active learning.

ii) History and description:

The curriculum for adult literacy classes has been developed and its first book is in use at the literacy centres. Curricula have been put together using existing resource materials wherever possible. The following approaches have been used:

- Survey of existing Sindhi language curricula and materials and adaptation of these to the Thari context where necessary (Urdu language materials in the case of FCHW training).

- Consultation by EDT-PO with other TRDP colleagues.

- Occasional inputs of ideas and suggestions by Project Advisers.

- Addition of written materials on topics relevant to development, health, environmental issues, etc.

- Field testing with teachers and pupils, mainly in the form of soliciting comments from teachers.

The Sindhi version of the present adult literacy book one, "Aao Parhen" (let us read) has been compiled in parts adapted from the existing books produced by LAMEC (Literacy And Mass Education Commission) and some parts have been developed by TRDP.

The second booklet is under development, undergoing testing and approval phase. A third portion has been adapted from other books being used for the adult literacy campaign.

The book has been defined into the Thari context for better understanding by the learners.

iii) Current status and coverage:

The Sindhi version of adult literacy book one is in use by the Project. The adult literacy book two is being field tested presently.

The development curriculum for adult literacy was being used by the centres in the PA of TRDP.

iv) Comments and observations:

Development of curricula for all educational purposes is an important activity and can only be done by specialists. The TRDP should sub-contract this activity rather than do it itself.

f) Newsletter

i) Background and concept:

TRDP publishes a monthly newsletter called "Samachar". The newsletter is being published to help disseminate development related information and ideas to the villagers.

ii) History and description:

The newsletter started publication and circulation at the inception of TRDP in October 1989 with a circulation of 100 copies. The publication and circulation activity involves free distribution of newsletter to different target groups and activity areas like adult literacy centres, schools, VDCs and health library. It is a monthly publication and is the responsibility of the PO, EDT. Contributions are obtained from school children, literate villagers, school teachers, and project staff.

iii) Status and coverage:

The newsletter had a circulation of 200 at the time of visit of RDC to Thar. It is being read by village leaders, female community health workers, project staff, school children and at the health library. It is also being read for TRDP's EDT adult literacy groups and seed bank committees. In addition, the

newsletter is being read out to a very large number of villagers in the TRDP PA. The total direct and indirect are approximately 2,000 villager per month.

iv) Comments and observations:

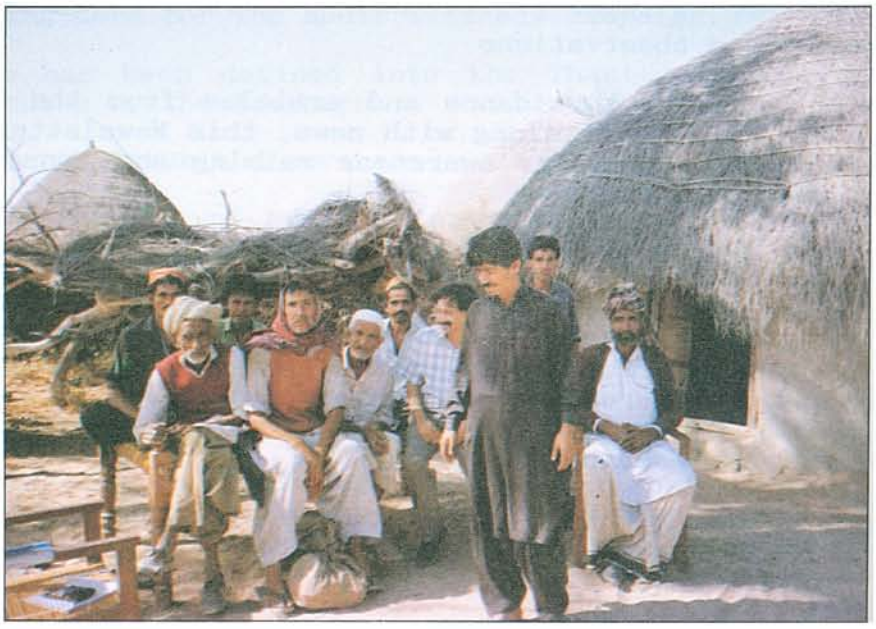
Given proper editorial guidance and articles from the literate villagers and TRDP staff along with news, this Newsletter can be an important instrument for awareness raising and consolidation of social change in Thar.

g) Health library

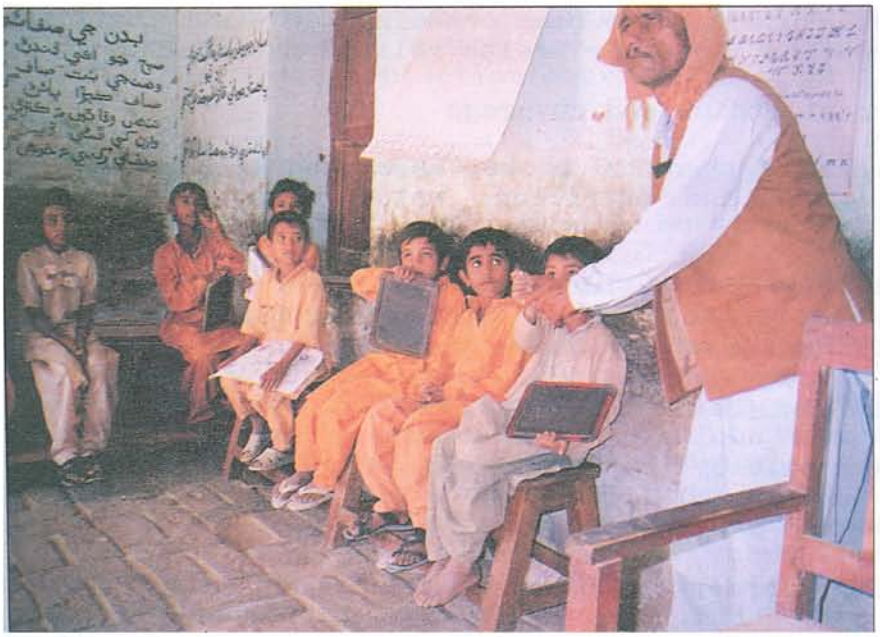
i) Background and description:

The aim of this activity is to create awareness of and interest in health and health-related development topics.

TRDP promoted live fencing at primary school in Joglar



Benefictaries of the goat relating programme at Khakhmir Bajirr-village



Health Education Programme at the Jogiar Primary School

Class being held at the classroom
built by the villagers at Jogiar

ii) History and description:

The health library is a comparatively new activity in the project. It started in March 1992 with books, pamphlets and posters on different topics.

The library is situated in a room of Islamkot Thar Museum. Groups of students have been organised to visit the library where books, posters and other health related material is on display.

iii) Current status and coverage:

There are more than 200 books, magazines and posters on health, hygiene, food and nutrition, water borne diseases and other topics.

Approximately 600 children have visited the museum since the inception of the activity. Apart from this the COs and female community health workers have also visited the library.

Two films on health related topics have been shown to 200 children and adults at the museum. The entry ticket to the museum was paid by the Project.

iv) Comments and observations:

The Health Library can have a major impact on those who can read and are interested. Its location at the Museum is also fortunate as the museum can become a place for gatherings and discussions on health matters. The TRDP should not pay the entrance fee of any person to the museum. They should pay it themselves.

13.3 HSD Programmes (this section has been taken from the health evaluation report)

a) Introduction

i) Status:

TRDP has a large and active health services development sector. It consumes 34 per cent of the total project budget and in addition, receives capital support from UNICEF in the form of 3 land cruisers and recurrent expenditure from the government of Pakistan in the form of the salaries of two staff deputed to TRDP.

ii) Activities:

The health sector carries out specific health related activities. These come under the broad headings of outreach clinics (including immunisation); nutrition rehabilitation outreach clinics; school health; an urban mother and child clinic; essential drugs programmes; and a programme to upgrade the skills of the *dais* (female community health worker training programme).

Other sectors in TRDP also carry out health related activities. These include support for schooling of female children, female adult literacy, the health museum in Islamkot, poverty alleviation activities particularly for female headed families and child protection activities for child carpet workers.

iii) Staffing:

The health sector is headed by a health services development programme officer (HSD-PO), who is a medical doctor. He reports to the PM. The HSD-PO should be directly supported by, and should support and supervise 4 master trainers, these are LHVs; one clinician (health technician); 4 lady COs; 1 *dai*; 5 LHV apprentices; 5 sponsored LHVs; 3 drivers; 1 clerk; 1 vaccinator and 1 cook. Indirect support to the health sector activities is given by all the other POs, and in particular by the 12 COs and their 2 supervisors. The male COs have responsibility for the non-clinic based essential drugs programme.

The Project finds it very difficult to identify and recruit suitable female staff, and therefore, at the moment only 2 LHVs and 2 lady COs are in post. As yet, the LHV apprenticeship scheme and the sponsorship scheme for girls going for training as LHVs, have not commenced.

Much of the planning for the health sector is thought out by the PM. He also takes direct responsibility for monitoring. The health sector PO has initiated some useful changes to the work, but much of his time is spent on doing hands on work in the field. The other health staff do the duties as assigned to them. There is very little evidence of active team work.

iv) Staff development:

The aim of the health sector is to provide a replicable and sustainable model for affordable and equitable rural health services in the desert. This means that the staff in the health sector need a wide range of skills, from grassroots negotiation and health care provision, to management and high level advocacy. These skills are not usually taught in standard MBBS's or LHVs' training.

TRDP has therefore taken into account the special skills needed for staff to work in the desert area, and has initiated some relevant staff development activities. In the health sector, the PO has attended a course in "Community Health - Theory and Practice", and the LHVs have received training in communication skills and teaching methodologies. All senior staff take part in TRDP's regular planning and internal evaluation workshops.

v) Budget:

The budget of TRDP(1991-92) is Rs 1,246,000 (including the salaries of the staff deputed from government - approximately Rs 73,000 per annum). The capital cost of the 3 health sector vehicles is Rs 1,800,000. The value of the per annum contribution to the budget for the capital cost of the vehicles would be approximately Rs 180,000. Over a 5 years period, therefore, this would increase the annual budget to Rs 1,246,000.

The main bulk of TRDP's expenditure on health goes on staff salaries and transport. Excluding government's contributions to salaries and the capital costs of the vehicles, salaries account for 42 per cent, and health staff housing, for 9.5 per cent of the health budget, giving a total of 51.5 per cent of the health budget being spent on staff. As transport accounts for 13 per cent of the budget, this leaves 35.5 per cent of the budget for project activities.

At present, TRDP spends Rs 36 per person per year on health in the PA. This is 3 times the level of government expenditure nationally on health.

b) MCH clinic, Islamkot

i) Description:

TRDP runs a mother and child clinic twice weekly in a rented building at the opposite end of the Islamkot town to the Rural Health Centre. The staff carry out immunisations for mothers and children, give health education, antenatal care and treatment. A registration fee and a charge for drugs are made.

The MCH clinic operates a 24 hours emergency service for deliveries and other urgent maternal problems with 1 LHV being on call and 1 lady CO. The total number of emergency calls for July 1991 to June 1992 was 39, ranging from zero calls to eleven calls per month. The average was 3.8 calls per month. In about one-third of these emergencies, the patients are referred up to Mithi. If SCF vehicle is used to transport the patient, a standard per kilometer charge is made.

The TRDP LHVs have been trained to carry out dilatation and current age (D and C) for incomplete abortion, but prefer to refer the patient instead unless the patient is unlikely to survive the journey without a dilation and current age.

Some family planning activities are carried out in the MCH clinic. The TRDP has stocks of Depo-provera, contraceptive pills, and condoms. Even though the LHVs have been trained to fit intrauterine devices (IUDs), they are not doing so.

The MCH clinic mainly serves the wealthy community of the town and is valued by the town leaders.

The MCH clinic was originally set up by TRDP in order to act as a referral centre for the *dais*. It was planned that this should be integrated into the RHC as soon as possible. The ministry authorities accepted this in principle, and did once give permission for the clinic to be moved into the RHC building. However, the ministry then rescinded this permission.

The reasons for this were not made clear by the ministry. If the MCH clinic were situated in the RHC building, it would be much more accessible to the poorer section of Islamkot town and would also be more accessible to the village women. The move would, conversely, make it less accessible for the wealthier women of the town. Government does not charge for drugs, so once the MCH clinic would be integrated into the RHC, TRDP had agreed that it would no longer dispense drugs but would prescribe instead for drugs from the RHC stores, or outside, so there would have been no policy conflict with the RHC.

ii) Comments and observations:

TRDP has already started negotiation with the health authorities for the MCH clinic to be integrated into the RHC. The principle seems to have been accepted by the health authorities that this should happen, although in practice some obstacles seem to exist.

Once the RHC has achieved its grade A building, budget and staffing, TRDP should be able to hand over all its urban MCH activities to the RHC. However, this may take time, as initially the RHC may have difficulty in finding female staff.

TRDP will need to discuss a phased hand over of its urban MCH with the District Health Officer (DHO), the Medical Officer in charge of Islamkot RHC and the local opinion leaders.

It seems likely that TRDP will be asked to keep MCH presence in its present building. This should not, however, prevent it from doing one clinic a week there, and one clinic a week in the RHC. TRDP will need to start using standard government reporting formats in the MCH clinic, although it may also wish to collect extra data for its own planning or monitoring purposes.

It will need to be decided whether the LHVs and relevant ancillary staff will become ministry employees, deputed to TRDP, or TRDP employees loaned part-time to the RHC. The RHC will need to decide what will be the precise responsibilities of the LHV in the centre, for example, should the doctors keep the responsibility for treating children, but give full responsibility for women and family planning to the LHVs. These and many other practical details, need to be discussed and sorted out before TRDP can hand over its MCH clinic to the RHC. Full cooperation from the local community will be needed.

c) Outreach clinic

i) Description:

TRDP initially ran outreach clinics from fixed centres in the villages. However, it was noted that these clinics did not attract a large clientele. It was thought that mobile clinics would be able to reach more of the population. At present, TRDP covers 50 villages with a monthly outreach programme. In villages where there are hamlets with different caste or religious groups, a clinic may need to be held for each group. The local male CO informs the village people when the next outreach clinic will be held and motivates the mothers and children to attend for immunisation and health care. If there are any trained *dais* in the village, they also help in the mobilisation process, and help out at the clinic. The outreach clinic activities are similar to those of the Islamkot MCH clinic and a charge is made for drugs.

Between July 1991 and June 1992, the MCH clinic in Islamkot and the outreach clinics dealt with a total of 3,127 patients. This gives an average of 13 patient per day (excluding for immunisation). Of all patients, 60 per cent are women of reproductive age and 21 per cent are under 5 years old. This means that out of the average of 13 patients a day, 8 are women of reproductive age and 3 are children under 5 years old (of whom only one will be a girl).

Discussions with the *dais*, selected women and with women met casually whilst walking through the villages, revealed that most of them knew about the outreach clinic and that many of the children in their families had been vaccinated at least once. When children became sick, they might seek treatment from a local doctor, or go to Islamkot or another centre. The COs were not mentioned as treatment providers and the fact that they are male may limit their usefulness as health providers for women and children, and as mobilisers of women. Women said that the outreach clinic was used primarily for immunisations. The impression was given that treatment for children was not sought unless they were markedly unwell, and as it is unlikely that a child's health would deteriorate on the exact day of the outreach clinic, this may be one reason why the clinic is under used. In most cases, because of timing, the families need to seek treatment elsewhere. Another reason given for not using the clinic was the cost of the drugs, but there are probably many other reasons too.

A strong impression was gained that if a child became seriously unwell, a poor family would somehow raise the money by a loan or selling stock, in order to pay for treatment. The MCH/OR attendance figures also suggest that treatment is sought for boy children more often than for girl children.

It seems that women very rarely seek treatment when they are ill. They say of themselves that they get better or they die. They gave the impression that they put a very low value on their own health and lives.

The 1989 baseline survey gave the number of under 5 children in the PA as about 6,600 (or 19 per cent of the total population). TRDP's data on chronic malnutrition (stunting) is unreliable because of the difficulty in estimating ages. However, as the level of acute malnutrition seems to be worse than that of all Pakistan, it might be possible to assume that, similarly, the level of chronic malnutrition might be the same or worse than the average of 42 per cent for all Pakistan. In other words, at least 2,700 under 5s in the PA are probably chronically malnourished (stunted). Chronic malnutrition usually results from a combination of inadequate food, disease and these children would certainly need treatment and advice, and their families might need economic support. The MCH clinic and outreach clinics see 663 under 5 patients per year. Even if none of these children are making repeat visits, it means that only a quarter of the malnourished children have an MCH/OR clinic contact in a year except for immunisation. Overall only one in ten of all the under 5 population receives treatment from the MCH/OR clinics each year.

Data available indicates that the coverage for total immunisation in the PA is about 34 per cent. Discussions with villagers outside the PA, and in the 20 villages within the PA, but not yet covered by TRDP, indicate that virtually no child is fully immunised. Most of the children fully immunised will therefore probably be from Islamkot town or from the 50 villages covered by TRDP.

Health education is carried out by the female COs. In one session observed, the mothers were taught about 6 environmental factors which are dangerous for children. One message was about the danger of drowning in rivers. (Rivers are not common in the Thar desert). Mothers interviewed immediately after the session remembered between zero and 4 factors. The methodology used was a paper chain and on to each link was placed a paper triangle with a drawing on it. The semantics of a chain may not be apparent to Thari women. Some of the mothers said that polluted food, flies and dirty bottles caused diarrhoea (this conforms to TRDP teaching), and one lady gave hot and cold weather as the cause. Treatment was said to be the packet in water, a tablet or to go to the doctor in Islamkot or Mithi.

Some health education messages do seem to be retained by the mothers. Some others may not be particularly relevant or a priority for the Thar situation. It could not be determined whether or not the mothers had changed their practice in response to these messages. The target group of mothers is small but unfortunately in the time available, it was not possible to determine how much of a snowball or spin-on effect there had been in passing on the messages to the non-attending mothers.

Immunisation is probably the most successful component of the MCH/Or activities. However, there are still many children and mothers who are not being reached by the MCH/OR services. The target group for health education in the MCH/OR clinics is also relatively small. However, the clinic based health education needs to be seen as a part of TRDP's overall health education programme.

The MCH clinic and the outreach clinics serve a useful role in gaining the support of the opinion leaders in the town and villages. In the villages, the outreach programme has also served as useful entry point.

ii) Comments and observations:

13 per cent of the health sector budget and the bulk of the health sector staffs' time is spent on the outreach clinics. It is unlikely that government or another NGO without international funding, would be able to undertake such an activity at such intensity in the long term. For practical purposes, therefore, this activity is not sustainable at its current level, until government increases its funding.

TRDP needs to look for ways in which it will be able to reduce its commitment to outreach clinics in the long term. It has several options.

The first option would be to hand back the responsibility for immunisation to the health authorities. This may mean loaning a vehicle and driver on a regular basis to the ministry, but the ministry could work out its own logistics, use its own vaccinator and supply the fuel. TRDP previously did this. The COs and trained *dais* could still be used to mobilise the community on vaccination days.

Once this main responsibility has been handed back, TRDP can then concentrate on raising the awareness of the community towards health and strengthening the villagers' self-reliance in health. The long term aim should be for TRDP to be able to pull out of doing clinic work; to leave in place a village "health" structure; and to stimulate government to be able to give technical support to these health structures.

The options for a self-reliant health structure could include the formation of village health sub-committees; the upgrading of the *dais*; the formation of a system of dispensing drugs on an equitable basis; the training of a cadre of local community health workers (these might be *dais* or other women); the strengthening of the village development committees so that they can lobby effectively for better services; full utilisation of the schools and teachers; and income generation support for the most poor so that they can get better access to health care.

d) School health programme

i) Description:

The current HSD PO is a government employee and holds the post of school health doctor for Islamkot town. The main official responsibility of a school health doctor seems to be to do medical examinations on the children. In 1989 he examined the children at the 6 government schools in Islamkot. In 1991, as a TRDP initiative, he also examined the school children in 6 selected village schools although these are officially outside the school health doctor's area of responsibility. The examination of the children in these 12 schools was repeated 6 months later.

Health records have been kept for 58 children enrolled in the government primary school in the village or Joglar. Children were followed up over a 2 month period. Only 8 per cent of the examinations showed an abnormality, most of these being due to respiratory infections. None of the children were suffering from acute malnutrition (wasting). Absenteeism was at 9.6 per cent. It was not determined whether those absent were ill, or had stayed away for other reasons. There was no consultation with or involvement of the parents in this process.

The value of this examination has been in demonstrating that the population of school going children in Joglar is unexpectedly healthy. Taking into consideration the available health data on the PA, the school children in Joglar probably represent a highly biased sample of the population. The children most at risk probably do not go to school

At present, 10 schools have been targetted to be part of TRDP's health education programme. A selected group of teachers have received training in health education teaching methodology and have received a few health education posters. Due to the transfer of the trained teachers, or to the lack of interest of the other teachers, not all of the schools have active health education programmes. In practice, much of the health education is being carried out by the HSD PO. Neither the LHVs nor the FCOs, have been involved although one of their main responsibilities is in giving health education. There is also no involvement of the parents in the health education process.

Cleanliness is the most common message that is remembered by the children and there was an impression that the children in the target schools had become cleaner in appearance. In one village, the teacher has passed on the cleanliness message to the women folk in his own family. In another, some of the children have told their fathers about hygiene but other families were unaware of the health education. The method of making home-made oral rehydration salts with sugar and salt was not well remembered.

The active teaching and support given by the health sector PO to the school programme tends to consume a significant portion of his time.

TRDP is producing a teacher's manual or text book on 12 essential topics about which health education can be given. It is also producing health education flip charts and a picture series using a local artist.

At present, the health education text book is fairly technical and the amount of detail given may be inappropriate. The current design of the book will not indicate the relative importance of each topic and nor will it give guidelines to the teacher about the amount of information to give in each lesson. Child to child teaching methodology is not discussed in the book.

It is planned that this health education curriculum should be developed and perfected so that its use as a model could be discussed with the Ministry of Education, in the hope that it can be accepted as a regular component of the school curriculum and may be replaced or be added to the existing health education component.

The school health education programme is excellent in concept. At the moment, however, it seems to lack clear long term objectives. This means that activities are commenced on a rather ad hoc basis, rather than following a reasoned long term plan of action. It involves neither the community, the education authorities, nor the other sectors in TRDP and is therefore, not yet providing a base on which to build a sustainable activity. However, the personal interest of the health PO is a great asset. With closer involvement of the education authorities, clearer planning and technical support from someone experienced in curriculum design for schools and in teaching methodologies, the schools' programme could develop its full potential.

ii) Comments and observations:

The global debate about the value or not of health education is on-going. However, it is generally thought that school education on health and life skills is of value. TRDP's school health programme, therefore, has great potential for inducing a change in health practices for this and the future generations.

In order for aspects of the programme to become sustainable, the education authorities need to be more involved in TRDP's teaching activities. The health authorities by appointing a school health doctor, have already shown their interest in school children's health. However, the curative aspect needs to be planned in such a way that it is appropriate to the health authorities' budget.

For the long term sustainability and replicability of the programme, TRDP could work towards:

- obtaining or re-enforcing the formal acceptance by the education authorities of health education as part of the normal school curriculum;

- ensuring that health education methodology is taught to all teachers formally in the teachers' training colleges, or by the health authorities;

- preparing a school health curriculum (appropriate for the Thar desert but which could be adapted for other areas) and having this formally accepted by the education authorities;

- handing over all the health education teaching in the schools to the teachers (may be initially supported by the male and female COs);

- preparing a school health education teachers' manual to accompany the curriculum and also to have this accepted;

- promoting the formation of parent-teacher associations so that parents are fully aware of the health education process and can give support or pressure to the teachers to ensure that the programme is continued;

- requesting the health authorities to formally extend the area of responsibility of the government school health doctor to the schools in the 4 union councils instead of only Islamkot town;

- working with the education and health authorities and parents and VDCs to give the teachers more responsibility in recognising and managing common ailments in the school children.

If TRDP strives towards these long term aims, it should slowly be able to withdraw itself from the school health programme.

TRDP should be trying to establish the principle that health education and health care in schools is important. It should not be trying to cover all the schools in the PA as a "service", but should instead concentrate on achieving a small quality programme with demonstrable benefits. It will need to collect appropriate and valid data showing that health has improved as a result of the programme so that it is in a position to argue that this sort of programme is valuable and should be a normal school activity.

Out-of-school health education is carried out at the MCH clinic and outreach and nutrition rehabilitation clinics. However, there appears to be few or no health education components to the functional literacy or girls' coaching classes. Inclusion of health education and of life skills training should be seen as a priority.

TRDP staff, at an evaluation workshop held by the health sector evaluator in Islamkot during the field visit, was of the opinion that the immediate priorities for the school health programme were

- To develop the curriculum for school health education;

- To establish links with government and other NGOs in sharing knowledge and experience.

e) Nutrition rehabilitation programme

i) Description:

During the 1991 drought, TRDP carried out a random nutrition survey. This showed the level of severe acute malnutrition in children to be 17 per cent by MUAC using the 12 cm cut off, or 3 per cent by weight/height. Moderate malnutrition was found to be 50 per cent by MUAC (12-13.3 cm) and 20 per cent by weight/height (70-80 per cent wt/ht). On the basis of these results it was decided to carry out a time limited nutrition rehabilitation programme. Four villages nearby to Islamkot were selected on a geographical, rather than on a need basis.

A door to door survey was carried out on all children under 5 years old. In three of the villages (Khakhiyer Bajeer, Joghimarhi and Johilhar) the number of under 5 children found were about 35 per cent fewer than those recorded in the 1989 survey. This change may indicate a drop in the number of the under 5 population, an out-migration of some families or a failure to include some households in

the survey. On MUAC examination, the survey results correlate well with those of the 1991 nutrition survey. Height and weight were also measured and age was asked but was rounded off into whole figures and so had limited value.

The programme consisted of collecting the malnourished children in each village into a central place and giving their mothers health education, particularly on nutrition and cooking a demonstration meal and feeding it to the children.

All the malnourished children and any siblings who were attending the health education sessions, were given a couple of biscuits. The mothers were asked to come in weekly for 8 hours, fortnightly for 8 weeks and monthly for 8 weeks. Sick children were treated free. The method of identification of the malnourished children is unclear but it seems likely that it was done on a weight by age basis.

As diarrhoea is a major cause of malnutrition the evaluators asked some of the mothers leaving one of the nutrition rehabilitation clinics the cause of diarrhoea in children.

Most of them gave the change from wheat to millet as being the cause, or too much food. Treatment was said to be medicine from the store or the doctor. As millet is the staple food of the region, it is rather worrying that these mothers thought it a cause of diarrhoea.

Using weight-for-height measurements (acute malnutrition/wasting) and assessing the data in two villages, 42 per cent of the children improved or remained the same. More girls improved than boys.

It is difficult to interpret these results without knowing whether the nutritional status of the children in the non-nutrition rehabilitation villages was improving at the same rate, was static, or was deteriorating at the same rate. The immediate impact of the programme can only be determined by comparing the changes in nutritional status in the target villagers with the changes in the other villages.

The nutrition rehabilitation programme seems to be popular with the mothers. As the programme progressed, more and more women came as casual attendants. Neither the biscuits nor the meal appear to be the incentive. Mothers say that they come for the pictures. The TRDP staff have noted an improvement in the cleanliness of the mothers and children.

There is no doubt that the nutrition programme has been popular with the mothers. It would be useful to determine what the factors are which give the nutrition programme a higher attendance than the outreach clinics. Is it the presence of the doctor, is it the quality of the health education, is it the meal and biscuits, or the free medicine or the support that has been given to the individual families by regular contact with the CO, or is it due to another factor?

ii) Comments and observations:

This programme was deliberately time limited, as it required an intensive and non-sustainable input by the TRDP health team. It sought to demonstrate that regular nutrition-related education to mothers of malnourished children during a drought would be effective in improving the children's nutritional status.

This is a very interesting concept. If nutrition education could be shown to be effective in times of food shortages, this method of ameliorating acute malnutrition could be replicated by other organisations or governments working in similar situations. If it is not effective, then a different but equally useful lesson could have been learnt.

There were unfortunately problems with the methodology of the programme and so no conclusions can be reached. If TRDP wishes to play a role in operational research, it is important that proper research proposals are written and the methodology is checked by an expert to ensure that the results will be valid and therefore useful.

TRDP could play a very useful role in demonstrating to government and other agencies that certain interventions and activities are effective and replicable.

f) Essential drugs

i) Description:

The idea of an essential drugs programme on a cost recovery basis was presented in the 1987 drought assessment paper. Provision of essential drugs was seen as a government activity with training to doctors, dispensers and involvement of the private sector.

TRDP currently has 4 drug schemes:

- A limited list of 14 essential drugs for the use of COs on a cost recovery basis and for general adult and child diseases.

- Provision of free drugs from a very limited list of 4 syrups for children attending the nutrition rehabilitation clinics.

- Provision of a large list of about 60 drugs for use at the MCH clinic in Islamkot and outreach clinics on a cost recovery basis but with authority to dispense free in cases of genuine need.

- Provision of a few drugs to the TRDP trained *dais* i.e. female community health workers.

The private drug sector in the Thar area is very active. The private pharmacists interviewed restock every two weeks. The Islamkot pharmacists see about 50 patients a day, of whom about half will come with a doctor's prescription and of whom half come from the villages. Each patient is given about 3 to 4 different drugs. Between 12 to 30 per cent of patients obtain their drugs on credit and upto 5 per cent (mostly villagers) will default. There are 8 private pharmacies and thus one can extrapolate that in Islamkot at least 1200 drug items are dispensed daily. One village doctor said that he purchases between Rs 3,000 and Rs 6,000 worth of drugs per month, which he sells in the village at a two rupees mark up, one rupee as transportation cost, one rupees as profit. Drugs are available from the private sector in nearly all villages. Drugs are therefore widely available and widely used.

Most male and female village people interviewed said that in cases of need, most poor families would be able to sell assets, borrow, or would be given money for treatment. One of the main problems as already mentioned, is that money will be sought for paying for treatment of adult males or children, but not for women.

The stated aim of TRDP's essential drugs scheme is "to reduce dependence on unnecessary and expensive medicines for the treatment of common ailments by the poor people". It seems, therefore, that TRDP hopes to introduce the concept of rational prescribing. It also seems to be working towards a system which operates on a cost recovery basis but which will also include a provision for the very poor.

The drug list for the COs and the nutrition rehabilitation clinics have been very well thought out.

The rehabilitation clinic drugs are dispensed by the health sector PO and are therefore dispensed following a routine process of medical history taking examination and diagnosis. It is not clear whether the COs are taught to treat a specific number of diseases with specific drugs or whether they are taught about a specific number of drugs and how these drugs can be used. It is not possible from the records to see how rational the prescribing has been in practice.

A process of rational prescribing has not yet been introduced to the MCH and outreach programmes and nor are they using essential drugs. There is a list of 56 tablets, 8 creams, 8 capsules, 10 drops, 32 injections and 34 syrups. Some drugs are listed by proprietary and some by generic names. Between one and five drugs are prescribed per patient and most patients receive three or more drugs. Many patients who come to the MCH/OR clinics have already received medicine from elsewhere, so the LHVs in order to satisfy the patient or mother, prescribe different drugs irrespective of need.

So far, no system has been developed for identifying which are the really poor patients in need of free, or subsidised, treatment. The current method of estimating poverty by clothes, hearsay or

patient pressure, is open to abuse. The goat and micro-enterprise schemes have developed systems which could be adapted for use by the health sector. At the start of the project, UNICEF provided free drugs which it allowed TRDP to sell in order to be able to develop a rolling stock. It seems as though the money obtained from the sale of these drugs has been invested. The interest from this fund or the money itself, could be utilised by the essential drugs scheme.

The TRDP buys about Rs 6,000 worth of drugs from the Islamkot pharmacies monthly. The stock keeping registers with the COs and the MCH/OR clinics have been designed in such a way that it is impossible to identify how much money has been recovered from the cost recovery scheme, what is the cost value of drugs which have been dispensed free and how much loss there has been through breakage or expiry.

In order to avoid the problems of storage, expiry and local transport taxes, TRDP very sensibly decided to buy its drugs from local suppliers. This system also has the advantage of not alienating the local suppliers by under-cutting them. However, it does have the disadvantage that the drugs that TRDP sells are not that different in price from those sold on the private market.

As yet, TRDP has not taken any measures towards sensitizing the local dispensers and doctors to rational prescribing concepts.

The essential drugs scheme of TRDP, once properly practiced, has great potential. It could act as a model for government and other agencies by demonstrating how the most common diseases can be treated by a small selection of inexpensive drugs. It may also be able to demonstrate how a cost recovery system can provide drugs on an equitable basis, so that the very poor are still able to receive free or subsidised treatment.

ii) Comments and observations:

The essential drugs programme of the TRDP should be developing a model which would be replicable by government or other agencies.

- MCH clinic and outreach clinic drugs:

Once perfected, the system used by TRDP in running its essential drug scheme in the MCH and outreach clinics could serve as a model for RHCs, BHUs or other rural or urban health facilities.

TRDP should be able to explain:

- The rationale of a small but essential drugs list;
- The cost recovery procedures;
- The methods of providing or obtaining concessions for the very poor or chronically ill;
- The management and administrative process including monitoring; and
- Whether or not the system works.

- COs' and *dais'* drug schemes:

A small selection of drugs has been provided to the COs, the main objective being to enhance their credibility and the secondary objective being to improve the access for the poorer women and children to reasonably priced and effective drugs.

The first objective is a valid one and this programme may therefore need to be continued for sometime. However, the secondary objective may not be sustainable if it relies on the COs, as they are employees of TRDP and are not necessarily long term. *Dais* may be a better alternative.

It might be more appropriate for TRDP to think of training the existing local doctors in the rational use of drugs and by working with them and the community to set up a system by which certain essential drugs would be available to the poor at a no or minimal profit cost.

It is also important to remember that women have very little access to drugs and so it will probably be necessary to develop a system by which local women can be mobilised as health workers. They would need training in health and simple accounting and a supply mechanism would need to be established. They would not necessarily need to be literate.

TRDP staff at the evaluation workshop held by the health sector evaluator in Islamkot, also saw this as a priority and recognised the need for TRDP to support local village male and female suppliers/practitioners with loans and training in essential drugs.

TRDP still needs to do much more research to identify the major health problems of women and children and thus the basic treatment needed; to understand in depth the health seeking behaviour of men and women and of parents for their children in the community, and to identify which local traditional or potential health systems TRDP could work through.

A well researched and carefully thought out plan for the provision of basic health care by using essential drugs at village level and proof that the system works, could be of immense value to government and other agencies. It would be a help if TRDP could collaborate with other groups or agencies involved in essential drugs programmes and essential drugs advocacy.

g) Training of *dais* as female community health workers

i) Description:

The GOS is actively promoting a two week training of *dais* in safe delivery practices. TRDP following SCF's experience with the Afghan refugees has decided to enhance the government's training by extending the course to 10 weeks by including some basic nutrition and child care principles.

The *dais* in the Thar desert have several tremendous advantages over *dais* in some other parts of the country and world. They are frequently hereditary and therefore have generations of experience behind them, they are financially self-sufficient and some of them seem to be relatively mobile between villages and caste groups. Most families have access to a *dai* .

The training of the *dais* is competently carried out by the LHVs and the female COs. The trainers have been well trained in the use of a modified Afghan refugee training manual and in teaching methodology. It is planned to have one TRDP trained *dai* per 200 families but owing to staff shortages, the TRDP has very wisely decided to postpone any new training courses and instead concentrates on the refresher training for the existing trained *dais*. After training, these are renamed by the Project "FCHWs", even though it has not been formally decided to use the *dais* as "generalist" community health workers.

The *dais* who have come forward for training seem to be well motivated and are active in their profession. They have learnt the course contents well. Hearsay, and a non-statistical survey has indicated that there may have been a reduction in neonatal tetanus. This reduction could either be due to better birthing practices or to neonatal tetanus vaccination. The *dais'* kits, although popular and expected as a reward, frequently do not seem to be used for deliveries.

In the few female VDCs which have been formed, *dais* pre-dominate. However, very little seems to be known about the position of the *dais* in each Thari society. *Dais* do not seem to be used traditionally, as the primary source of advice when a child is sick. It is not known whether they traditionally hold a position of respect or power within the female society. The decision-making process that operates before a child or woman can receive "in-family" or "outside" treatment is not clear, nor is the role of the *dais* in this.

Most of TRDP's Thari staff are male. The female COs are the exception but they are from an urban background and may not understand the intricacies of female society within the villages. Any work with the women of the Thar desert has therefore, tended to be planned from a male's perspective, as the Project has not deeply explored the structure and perceptions of Thari female society.

The training and mobilisation of and support to the *dais* has, so far been excellent. They might be the most appropriate women to be the "agents of change" in the society. They have the advantages that they are female, they have a profession and they already seem receptive to new ideas. They are already living in the villages and are unlikely to migrate to the big cities. Many of the greatest leaders in history have been illiterate and so illiteracy should not be seen as a major constraint.

There may, however, be other women in the society who would also be capable of acting as "agents of change" if they were given the same intensity of training and support as is currently given to the *dais*. The training methodology appears to be appropriate and effective for Thari women.

The *dai* training, therefore, has taught TRDP important lessons. It has shown that the training methods are appropriate that illiterate Thari women can absorb a lot of knowledge and that women in the society can be mobilised. The training is also popular and there is a demand from the untrained *dais* for training. Their role as potential general health practitioners or as "agents of change" still needs to be discussed, but the programme has demonstrated the potential for mobilising women.

ii) Comments and observations:

The *dais* are part of the traditional village health care system and their work does not need external support in order to make it sustainable. The GOS gives the *dais* a 2 week training and a certificate and thus officially recognises their role. Government does not have a system of long term support for the *dais* and there is no formal relationship between the *dais* and the local health authorities once training is completed.

TRDP gives a 10 week training to *dais*. This training is not recognised by government. TRDP currently indefinitely follows up the *dais* that it has trained and so manages to maintain their enthusiasm for learning and for safe delivery practices. However, this level of training and support may not be replicable by government because of manpower and budget constraints. It is important that TRDP starts to build up local support mechanisms for the *dais* from within the community and from the medical profession and health authorities.

In some countries, health authorities are given permission to employ *dais* at their discretion. However, if it is unlikely that *dais* will ever be employed as local midwives by the government of Pakistan, it is important that the *dais* are encouraged to remain self-employed and to charge for their services. Their earning capacity could be increased by them being able to sell essential drugs, or by trained and untrained doctors using them as assistants when dealing with female patients. SAZDA is planning to build BHUs in all the unions, on behalf of the government. If government budgets become available for these units then TRDP could promote the idea of a few of the trained *dais* being employed as peons, if there is no government category of village midwife, but being recognised as female health providers.

The TRDP team at the evaluation workshop held in Islamkot stressed the need for TRDP to increase the awareness of the community to the role of the trained *dais* and for government recognition to be obtained for the training. TRDP could also work towards sharing the training of *dais* with the ministry of health, with the aim of eventually handing over responsibility for support and refresher training to the health authorities.

In the long term, by working with government, the community and the *dais*, TRDP should aim to:

- perfect the *dais'* curriculum and training methodology so that it is effective, appropriate and replicable;

- improve the skills and competence of the *dais*;

- sharing or hand over the *dai* training programme to government or a local NGO;

- ensure that the value of the *dais* is recognised by government and formal and informal health practitioners in the area;

- maintain or improve the communities' confidence in the *dais*;

- develop the *dais'* capacity to increase their earnings (providing that this is not done to the disadvantage of the very poor).

h) Technical support and staff development:

The health sector of the TRDP has received technical support from various sources including the department of Community Health Sciences of the Aga Khan Medical University, the Nutrition Department of Civil Hospital, Karachi, from SCF's technical advisors in Pakistan and from SCF's regional office.

This support has been very valuable and has certainly been needed by the Project as there are no experienced community health planners in TRDP.

The support given by the training sectors of SCF in Pakistan has been very good and the health sector of TRDP should now have a good core of trainers. Some attention was paid to the content of the training materials and their appropriateness for the Thari situation.

It seems as though some of TRDP's health policy decisions were taken following advice from non-health professionals rather than from community health specialists, and this has given rise to some of the problems now experienced by the health sector (such as lack of appropriate long term objectives, confusion about monitoring and indicators, etc.). Since the start of TRDP, SCF in Pakistan has not had any postgraduate community health trained health advisors with postgraduate experience (except once but that advisor did not visit TRDP). However, TRDP has received well meaning support from SCF in Pakistan, but frequently this has not been followed up. For example, the 1991 nutrition survey methodology was good but the relevant SCF advisor was neither able to supervise the training of the survey team nor the management of the survey. This survey was carried out by a well-motivated but inexperienced team who had, as the 1992 nutrition rehabilitation programme subsequently demonstrated, very little understanding of anthropometry.

The support given by the Aga Khan University has been of varied quality and appropriateness, although much of it has been very helpful. As TRDP's aim is for sustainable and replicable programmes, it is essential that the advice and training given is orientated towards those aims. The nutrition training given by Civil Hospital to one of the LHVs was hospital based and hospital orientated and was, therefore, not appropriate for the community nutrition work that TRDP could be done.

Some attention has been paid to staff development within the health sector but there is still a lack of understanding by the health staff about the health sector work other than that it is providing a service.

TRDP, whilst ensuring that its development work is not dominated by health, needs to ensure that the existing health sector activities are rationalised. For this, it will need good technical support.

There are several alternatives, but maybe the two best options are, either for TRDP to employ a senior health sector manager with a postgraduate qualification in community health, or for SCF in Pakistan to be able to provide very regular field support from a postgraduate community health trained advisor. It is more important that these people should have the appropriate qualifications and experiences than that they should be in Shidh. The day to day practical health management support cannot be carried out by an academic institution such as the Aga Khan University, but has to be "in-house". The regional office of SCF is able to advise and support on management and policy issues on a long term basis and can also provide an overall SCF view. The links with the community health services department of the Aga Khan University need to be maintained and strengthened. The department and TRDP have much to learn from each other and should be able to share in training and research and to share experiences. As community health is a relatively new concept for Pakistan, and as Pakistan is a signatory to the Alma Ata declaration, TRDP and the Community

Health Services Department could try to identify primary health care issues and replicable community health care activities for discussion with government and for advocacy.

The health sector of the TRDP needs to be less driven by hands on service oriented health activities, but more by long term strategic issues. TRDP needs to ensure that its discussion on and promotion of the strategic issues in health is based on good quality field activities. For this, good community health technical support is needed.

At present, the MCH outreach clinics are under-utilised. It is possible that the richer people seek treatment elsewhere and that those who are socially isolated, or economically deprived, are unable to attend. The health sector will need to work very closely with the community leaders, the trained *dais*, female opinion leaders and the COs, as well as using existing survey data to identify those most at risk, so that TRDP's health activities can be targeted to them.

Although the MCH outreach clinic should not be seen primarily as a "service", the service that it offers does need to be of good quality. It needs to benefit the whole population of mothers and children and raise their awareness of the need and the value of good treatment.

The MCH outreach clinics, therefore, should be seen as an entry point into the community. TRDP needs to work towards developing a "village model" of sustainable health care and needs to involve the community, the health authorities and other relevant government authorities at all stages of the planning process, so that ownership is shared between the community, government and TRDP and so that eventually the community draws its support from its own resources and from government.

i) Community involvement:

TRDP has responded well to the village men's request for improved health care for the village women and children. The health sector's MCH and outreach clinics, the nutrition rehabilitation clinics and the provision of essential drugs to the COs, have all served as valuable entry points for TRDP and have helped it develop credibility.

The socio-economic development sector of TRDP has the broad aim enabling people to identify and tackle the factors that make them poor and keep them poor by raising the level of awareness and self-reliance. The education sector mentions self-reliance and self-sufficiency, and the women's development section mentions self-confidence.

The need of TRDP to establish credibility has until now put the emphasis of the health sector work on service provision. It is TRDP running the clinics, it is TRDP staff providing the drugs and it is TRDP staff who do the training and the health education. However, self-reliance and self-sufficiency is being built up by TRDP with the *dai* training programme and self-confidence is being built up in the *dais*. However, the *dais* only represent a small segment of the population.

It is much too early in the life of the Project to think of forming village health sub-committees. TRDP first needs to have a deeper understanding of Thari male and female social structures. The existing VDCs need first to be strong and well motivated. It is important that the health sector continues to work closely with the development committees and the village people and helps to raise their awareness of the specific and broad factors which affect their health. The health sector's work with the village committees will also help to strengthen the committees and will lay the ground work for the later formation of health sub-committees. The health sector can also look for ways by which to involve the whole village in sharing in the health planning process.

The training of the female COs as health educators and nutrition aids has been effective. The existing female COs, however, are from Islamkot town, and are not trained nor routinely involved in community mobilisation and organisation. Their role is very different from that of the male COs. It might, therefore, be more appropriate to change their titles to one which more reflects their work.

Women whose specific role is to mobilise village women for all development activities including, but not dominated by health may need to be recruited by TRDP. A discussion needs to be he held as to

whether these should be matric level girls from Islamkot, or whether they could be illiterate female opinion leaders from the villages. This discussion can only be held after TRDP has gained a deeper understanding of the dynamics of female society in Thar. In many societies, mobilisation of women and particularly of female opinion leaders, has led to a demand by them for functional literacy programmes. This demand could arise in the TRDP PA and TRDP would be well placed through its functional literacy and coaching classes to cater to this need. Illiteracy, therefore, may not be a long term constraint. The health sector activities have played an important role in providing TRDP with an entry into Thari village life; TRDP regular management meetings and planning workshops are beginning to involve the health sector in discussion on general development issues including community involvement.

j) Famine mitigation and preparedness

TRDP is working in an area which traditionally suffers from periods of drought and although frank famine does not seem to occur, there are periods of severe food shortages during which the indebetedness of the poor people increases as they sell assets or take loans in order to buy food. There are other coping mechanisms, such as migration to the barrage area which is a large irrigated and cultivated area to the west of the Thar desert, where there are good opportunities for agricultural labouring work. In spite of this, in most places in the world, relative lack of food does have an impact on women and children, particularly in cultures where the food distribution within the family is not equal.

In enhancing the Thari people's skills, knowledge and self-reliance, the socio-economic development activities of TRDP are providing the people with a better ability to mitigate the effects of subsequent droughts. TRDP has been active in lobbying the Sindh government, making them aware of the severity and effect of the drought and in advising on appropriate interventions.

There are several indicators which can be used to measure the progress of a drought and famine situation. Most of these indicators are not related to health. However, serial nutrition surveys of children using weight-for-height or MUAC measurements (good indicators of acute malnutrition) are useful in showing the degree and changes in nutritional status during periods of food shortage. As change in nutritional status only occurs after the food shortage has occurred, a single survey will not show whether the situation is improving or deteriorating.

The health sector of TRDP carried out a good nutrition survey in 1991, which showed a high level of acute malnutrition. An indication of the level of night blindness or xerophthalmia would also have been useful. The information collected was valuable in providing government with a quantitative indicator of the problem. It was also valuable for TRDP in helping it decide whether or not it needed to intervene actively with nutrition support such as supplementary feeding, nutrition rehabilitation, a crash Vitamin A and immunization campaign, etc.

In the 1991 drought situation, TRDP sensibly decided that the government's interventions, TRDP's socio-economic interventions and the traditional coping mechanisms of the people, were sufficient to prevent famine. TRDP carried out a repeat survey in 1992 in selected villages; this showed neither deterioration nor improvement in the nutritional status of children since the survey six months previously. Although the nutrition situation seemed to be no worse, TRDP decided to carry out a limited intervention of nutrition education to those selected villages which were surveyed.

A series of statistically random nutrition surveys carried out during each season and when other indicators suggest that the food security situation is deteriorating would have been useful. Fortunately, no epidemics occurred during the 1991/92 drought as TRDP does not have disaster preparedness guidelines for health interventions. Being the health providers at the grass roots level, TRDP is in the position to be able to respond effectively, quickly and appropriately in the event of famine or epidemics.

TRDP has a useful role to play in monitoring the effects of drought and other natural or man-made disasters in the Thar area in publicising them and also in mitigating them.

D. PERCEPTIONS OF VARIOUS ACTORS IN THAR DRAMA REGARDING TRDP

14. PERCEPTIONS OF THE GOVERNMENT AGENCIES

A number of meetings were held with representatives of government agencies during the data collection and field visits. Although the government functionaries knew of the existence of the TRDP they were unaware of its objectives, methodology and programmes. Thus, the DEO was unaware of the health education programme in schools, and the veterinary officer of the Animal Husbandry Department was unaware of the goat raising and poultry programmes of the Project. Similarly, the SAZDA engineer at the Mithi office did not know of the well improvement programme of the Project and was unaware of the existence of VDCs and COs in the area that SAZDA intends to carry out work in the future. None of the government functionaries spoken to had considered the importance of local level involvement in the planning and delivery of services that they were providing. They also felt that the Thar population was too poor and ignorant to afford to pay for these services or to operate and maintain the infrastructure they were installing.

However, the DC of Thar district is well aware of the Programme and is very concerned regarding the exploitation of child labour for the carpet industry. In addition, he is well acquainted with the problems of deforestation and rangeland degradation.

15. PERCEPTIONS OF THE NOTABLES OF ISLAMKOT

A meeting with the notables of Islamkot was held during the field trip. A list of these notables is given in Appendix - 7. Although the notables were well aware of the TRDP activities, they were not aware about its objectives and the importance of its methodology. They saw development as something the state has to deliver and that to free of cost. In addition, they saw agricultural activity as the only "real" way to overcome Thar's economic problems. To make this activity sustainable, they feel that the government should sink deep tube wells, the water of which will make it possible for the Tharis to adopt the agricultural practices of the barrage areas. They are quite sure that enough water exists in the "deep" subsoil aquifers. Their solutions to the health issues are also curative in nature. The notables appreciated the work being done by TRDP but felt that TRDP's first priority should be to develop the means of extracting water mechanically so as to free the Tharis from this labour. Their other concerns were related to the absence of veterinary services in the rural areas, the rising cost of timber for feul, and the absence of a centre for training weavers in the carpet industry. Although they were horrified at the exploitation of child labour in the carpet industry, they were of the opinion that its shifting to the rural areas in recent years, was to the benefit of the children working in it. They emphasised the need for schools, especially for girls, in the villages, the creation of a girls high school in Islamkot and a girls hostel. In addition, they emphasised that the major problem in Thar was that there were no jobs; "one person earns and 10 consumes".

16. PERCEPTIONS OF TRDP STAFF

The TRDP POs understand the Programme well and have a great attachment to it. However, they do not link the Thar situation to the socio-economics and politics of the rest of Sindh and Pakistan. They do not have a clear vision of the shape of the future which they are trying to build. As a result, most POs see their work in isolation from the other programmes of the Project. In addition, the POs also feel that appropriate technical support and training to their programmes is insufficient.

The COs have a good understanding of local level conditions but again do not have a vision for the future and do not coherently understand the causes for the social and economic changes taking place in their environment. However, they understand very clearly that major investments have to be made if material conditions are to improve through the loan programmes that they are operating. Almost all the COs spoken to felt that they needed additional training in understanding the situation, dealing with people and documenting and monitoring their work. In addition, they were of the opinion that technical assistance and support to the programmes that they were promoting, was not sufficient.

17. PERCEPTIONS OF PA RESIDENTS

The population of the PA is well aware of the existence of the Project. However, it refers to the Project as "the English mens' institution". None of the beneficiaries spoken to could give the details of the various programmes that the TRDP runs apart from the ones in which they were involved. The VDC office bearers on the other hand, did know of the Programmes, even if they were unclear about the details. The beneficiaries did not have any criticism or suggestions for the Programmes and were "thankful for them". The only exception to this was Mohammad Hasan at the Mithario Soomro village who had many ideas on tree plantation and rangeland management. There was a general consensus that the villages needed some form of veterinary services and access to markets for the sale of animals and dairy products.

18. PERCEPTIONS OF RESIDENTS OF NON-PROJECT AREAS

The evaluation team visited only 4 non-project villages on the periphery of the PA. In 3 of these villages the villagers had no knowledge of the Project at all. 2 villagers did know that the Project "helps people with medicines". However, in the village of Lunio, the Project and its programmes were well known, especially in the Meghwar community. This is because the Lunio village has a number of artisans and carpet weavers who receive support from middlemen and as such have links with Islamkot. In addition, one of the drivers of the TRDP has relations in the settlement.

E. CONCLUSIONS AND RECOMMENDATIONS

19. CONCLUSIONS

19.1 Conclusions Regarding the Thar Situation

The social change taking place in Thar is irreversible. Agriculture, because of recurring drought, the introduction of a cash economy and the demise of the old social order, can no longer meet the economic needs of the Tharis. They should consider a good harvest simply as a bonus. Their assured earnings can essentially be only from animals, artisanal work, trade related activities, services sector employment and from remittances. If they can develop the attitudes and skills to relate to these changes and to the market economy that is propelling them, then they will prosper and survive. If they cannot, they will be exploited and fall further into debt, at least for the time being.

To create a more equitable relationship between the market economy and the Tharis, the development of physical and institutional infrastructure is essential. Roads, appropriate and sufficient credit and technical support mechanisms, easily accessible veterinary services, and markets for their produce, are a few essentials.

19.2 Conclusions Regarding TRDP

The TRDP has established itself firmly in the desert. It has developed a considerable amount of knowledge regarding conditions in Thar and established links in 70 villages. This is no small achievement. The past 5 years of TRDP's involvement should be considered as a period of experimentation and learning. The next 5 years should be a period of consolidation, awareness raising among the Tharis, and institution building.

TRDP's structure and methodology is sound. It seeks to create a relationship between professionals who belong to the "new world" and the people of Thar through the COs, and in the process bring about attitudinal changes and implement programmes, with the participation of the local population, that improve social and economic conditions. The employment policy of TRDP is also sound but the POs need to have a clear vision of the future of the Project so that they can feel reassured and secure in their jobs.

There is a feeling that the programmes being carried out by the TRDP are far too many for the POs and the COs to effectively relate to and absorb. This also creates problems of monitoring, documentation and communication between the various actors in the TRDP drama.

A very important ingredient of any development work is socio-economic and technical research and the relationship between them. TRDP has, however, not undertaken any systematic socio-economic or technical research and this constitutes its major weakness. In addition, the documentation and analysis of the programmes it is operating, and the documentation and analysis of the general conditions in Thar, is also weak. Links with other organisations and resource persons, who could help in these sectors is almost non-existent, and where it exists, it is somewhat ad-hoc in nature.

The most important form of training for TRDP staff is through discussions and analysis of their work. For this they need to develop their powers of observation. Such training can only be imparted through association with a person who understands both the micro and macro development processes and is supported by a competent research person. Without such a resource person and research, the 2 day staff workshops held at the TRDP office and other training workshops for the community, cannot yield the results that is expected of them. Properly conducted, these workshops also become monitoring exercises that can be far more effective than the current monitoring sheets that are developed by the staff.

TRDP's programmes, except the health programme, do not take into consideration existing government programmes for Thar and do not make use of government, academic and NGO institutions and know-how. One can say that TRDP's "PR" is weak. In the case of the health programme, as well, the TRDP has tried to take over government functions rather than simply support them.

The TRDP has so far functioned almost entirely on SCF funds. It has not tried to raise funds for any of its programmes from various sources that are available. The reason for this is it has not been properly understood by the evaluation team.

19.3 Conclusions Regarding Sustainability

In its present form the Project can only be sustained by major financial inputs from the SCF. These financial inputs will have to increase over time if the objectives of the TRDP are to be met and if the programmes are to expand. The community cannot take over the management, operation and financing of these programmes, nor can it relate to and understand the administrative set up required for them. For the TRDP to fulfil its objectives over a long period of intensive research and extension work is required.

19.4 Conclusions Regarding the Replicability

The government cannot replicate TRDP's programmes. Government planning and delivery systems are supply driven and not demand driven. In addition, they do not seek to build on the work communities are doing and nor do they seek to raise their awareness level and involve them in the development process. However, government can help in setting up and financing projects similar to the TRDP, using their knowledge and links with communities, and coordinating its development activities with the programmes of these projects. If the TRDP can establish a model of such NGO-government collaboration, the project programmes are replicable.

19.5 Conclusions Regarding TRDP Programmes

a) SED programmes

There are far too many SED programmes for the community, the POs and COs to assimilate and absorb. The SED sector requires two or three main thrusts which can have a major impact on economic conditions and it must have the necessary funds and technical and managerial support to carry these through. It should aim at supporting and regulating existing market trends and directions and help the Tharis in relating to them in a more equitable manner. The TRDP must understand that its attempts to replace the middlemen in Thar, or to fight them are bound to fail and that its current policies can only benefit a small number of people, and may create problems for a larger number.

Programmes must aim at supporting and/or regulating market and social trends and directions rather than opposing them. In addition, a number of SED programmes are really relief programmes. Although there is no harm in operating relief programmes, there must be an understanding about their real nature and some concept of a "cut off" date.

b) EDT programmes

The EDT programmes related to staff training have had an impact. The staff are aware of the project objectives and methodology. They monitor their work in the manner in which they have been directed. However, in their thinking, they do not relate their work to the larger socio-economic and political conditions of Thar and the rest of the country. They have also very little technical knowledge on the subjects that they are dealing with and often learn by trial and error. Technical support from technical people or organisations is also absent. The enormous wealth of experience that the staff members have been able to gather due to their inter-action with the land and people of Thar, has not been analysed by them and documented. Documentation itself is a form of learning and understanding, if properly supervised.

The other EDT programmes such as the child support programme, coaching centres and adult literacy classes will not have a major impact on Thar conditions nor will they bring about large scale attitudinal changes. These programmes are really a peripheral activity, and there is no harm in it, since they generate discussion and inter-action, as they say in Thar, "something is happening". An advantage of these programmes, however, is that they may produce educated girls, who can take over as teachers and paramedical staff. Maybe the programmes should specifically set this as their aim and if that happens it is possible that their methodology may change.

c) HSD programmes

i) General conclusions:

The HSD sector is TRDP's largest sector. It is carrying out some very well motivated activities and has started to set up a system to monitor process and impact. It has been successful in helping TRDP gain an entry into the communities and has responded to the communities' expressed needs. It has gained the acceptance of the urban opinion makers in Islamkot town.

It has suffered from staffing problems; the lack of outside professional expertise in community health planning; the lack of any basic health data on the population; and the lack of good sociological research.

There has been a tendency for activities to be commenced without a clear idea of what are the long term objectives and expected outcomes. However, TRDP is well aware of this and one of the expected outcomes of this evaluation is some recommendations for the long term direction of the health sector activities.

Over the past few years, TRDP has been able to develop its health sector activities and gain the confidence of the community. Many lessons can be learnt from the health sectors work and many of the activities have great potential.

ii) Sustainability and replicability:

A workshop of the senior staff and the health team was held by the health sector evaluator on the final day of her visit.

The team identified the overall aim of the HSD sector of TRDP as being to "reduce the morbidity and mortality in mothers and children". They also stated that these activities should be sustainable and should be able to be used by government or other agencies as a replicable model for the Sindh Arid Zone. The practical implications of these conditions are important. The programme and budgeting of TRDP's health sector activities can only become sustainable if they are taken over by government, NGO or the community.

The recurrent costs of TRDP's health sector excluding salaries, housing and vehicle replacements, is seven times more than the current budget provided by the government for the running of the RHC in Islamkot and immunisation in the 4 union councils. The possibility of government being able to take over all the running costs of TRDP's health programme, therefore, seems remote. A wealthy NGO might be able to take over some aspects and the possibility of the community being able to run and finance its own health care system seems very unlikely. A combination of these might be possible.

It is important, therefore, in planning health sector activities that the long term implications of each activity is seriously considered before the activity is started. For the current activities, serious consideration must be given to each activity to decide whether it is now or could be made sustainable and how.

Replicability is a different issue. If an activity is replicable, it means that in a given circumstance the activity can be replicated, or repeated elsewhere. A replicable activity is therefore one which may be time limited and itself does not need to be sustained. It may be an activity:

- which is carried out to prove a certain fact such as a nutrition survey to demonstrate malnutrition;

- which will demonstrate that a certain activity could have a use of benefit, such as the training of *dais*;

- or which in itself produces a product which can be copied by or for a wider audience, such as a school health curriculum.

Some of TRDP's first health related activities were not intended to be sustainable or replicable. They were started as an entry point into the community and to establish TRDP's credibility with the local people and local health authorities. This is a perfectly valid reason for starting an activity and the planning should have included a time scale for phased withdrawal, or adaptation of the activity so that it could become sustainable or replicable. At the evaluation workshop, the outreach programme, the nutrition rehabilitation programme and aspects of the essential drugs programme of the COs, were identified as having been started in order to provide an entry point into the community and to create awareness. They were not thought to have to be sustainable.

Interestingly, the suggestion that TRDP should be providing a "health service" to the village people did not arise during the workshop. The staff team seemed well aware that "service provision" was not a long term option for TRDP.

Each of TRDP's health related activities can probably be classified as sustainable and/or replicable and/or a service and/or an entry point. It might be helpful for TRDP's long term planning to consider each activity in turn.

20. RECOMMENDATIONS

20.1 General Recommendations

a) TRDPs future form and source of funding

The proposal to turn the TRDP into an NGO is a sound one. However, to turn it into an NGO of community representatives and leaders, is not something that will work. It will be an organisation ridden with conflict and nepotism, given the increasingly anarchistic nature of Thari society. It is recommended that the SCF looks into the possibility of turning the TRDP into an NGO whose governing board consists of its POs, hopefully most of them will continue to be from Thar. A few relevant government officials such as the DC and representatives of the SCF, should also be a part of it. To overcome legal difficulties in this arrangement, the PO's salary should be paid directly by the SCF. This will also make the POs feel that the TRDP is their organisation and it is in their interest to stay with it and expand its activities. In the process some of their concerns regarding job security will also be addressed.

The SCF should not withdraw its support to the TRDP even after it becomes an NGO. For the foreseeable future, the next 10 years, it should continue to bear the administrative expenses of the Project. However, the funding for its development and social sector programmes should be acquired from government and international agencies. In this connection the National Rural Support Programme (NRSP) should be approached. Supporting the activities of the TRDP and integrating them in their overall plan of action fits in beautifully with the NRSP mandate.

b) The need for a clear vision for the future

The TRDP should have a clear vision of what its programmes hold for the future of Thar. What appears to be workable is

- agriculture is not a reliable source of income and a good harvest should be considered as a bonus;

- the most reliable source of income is from dairy products and sale of animals. Programmes should aim at developing this sector and finding markets for the sale of its products. Environmental rehabilitation through tree plantation and rangeland improvements are an integral part of this activity;

- the other reliable source of income for the Tharis can be from the sale of artisanal produce such as embroidery and shawl weaving. Here middleman activity has to be studied and its processes understood, leading to inputs that can create a more equitable relationship between the artisans and the middlemen;

- timber can also be a source of income in the distant future if the Tharis can be made to adopt proper plantation, management and tree felling methods;

- most inputs into these programmes should be at the level of individual households and farmlands. Thari society is in an advanced stage of disintegration and collective action can only be successful if individual gains and profits are clearly visible.

This view of the future has to be conveyed constantly to all the parties in the Thar development drama and all activities should revolve around supporting it.

c) Relations with government

TRDP must be aware of all government programmes for Thar. It must organise its own programmes in a manner in which it can complement the government inputs. In addition, it must lobby with the government to help it in accommodating community concerns, priorities and participation in the government programmes in its PA.

At the Thar level the TRDP must promote the building of roads and electrification through its VDCs. There should be constant pressure on local politicians and government functionaries for taking up and resolving these issues.

Lobbying is effective only if it is done with facts, figures and proposals. The TRDP, because of its location in the desert and the know-how its possesses regarding the social and economic condition in Thar, is an ideal position to develop and present development alternatives.

d) Relation with other NGOs and research organisations

The TRDP must establish relations with relevant NGOs and research organisations. The NGOs which have similar programmes can be locations for training of POs, COs and VDC members. Such training programmes should be properly chosen, with the right timing, and the trained members should be taught how to use their newly acquired knowledge. This should be the role of PD and the PM.

Some nature of social and economic research work is perhaps not possible for the TRDP to carry out, given its limitations. Such work should be contracted out to individuals or undertaken by NGO and

government organisations. Many such organisations are required to give this support free of cost. The TRDP should know of such organisations and the nature of support that they can offer.

e) The need for village organisations

The VDC is a committee. To be effective this committee has to relate to some form of village organisation. It is therefore essential that such an organisation should be created at village level with an element of some formality, such as regular membership fee, collective savings etc.

f) Development of village level skills

A number of skills are required at village level if the TRDP programmes are to succeed. For the environmental rehabilitation programme some persons, in addition to the COs, to whom the local people can turn to for technical advice and who are trained for it, are required. Similarly, a major demand in the villages is for veterinary services. If a suitable person, who is already earning a reasonable livelihood, can be trained to deliver these services at a fee and is supported by medicines, a lot of animal deaths could be avoided. This would specially benefit the goat raising programme.

g) Three types of beneficiaries

There are 3 types of beneficiaries in any development programme. One, those who are quickly able to understand the programme and participate in it; two, those who require convinicing and support; and three, those who require a very large amount of time and assistance. In conversations with the TRDP POs and COs it seems as if they spend a lot of time on the last category. It is recommended that they completely ignore the last category and initially deal with the first category alone. The second category can be supported after the first category has adopted the programme.

h) Research

The TRDP must carry out research on the social and economic situation in Thar and the government inputs into development and the social services sector. Its programmes must relate to these conditions. The technical and managerial support required for every programme should be clearly identified and if research is require to relate existing know-how to Thar conditions, it should be carried out. If such research facilities or resource persons are not available in-house, then they should be commissioned or their help sought on a sound professional basis from other organisations.

i) Motivation and organisation

The community must be motivated to organise and only then can it determine its priorities, receive the TRDP programmes and participate in them. In the coming 5 years the TRDP should continuously hold meetings in the villages and develop appropriate means of communication. The PM should participate in these meetings and if necessary, local activists trained to address them as well as the COs.

j) TRDP capacity and project requirements

The TRDP should very clearly understand its capacity and capability and not undertake any activity that over-taxes its resources and over-stretches communication possibilities. It should also review these recommendations to determine whether it is in a position to act on them, and if not, then what additional resources will be required by it to do so.

20.2 Recommendations for New Programmes

a) Marketing of animals and dairy products

The absence of roads in Thar and the distance from Thar to the large urban market of Karachi, makes the marketing of milk impossible and that of animals, difficult. Given organised marketing and production of *ghee* and butter from the Punjab and the barrage areas, there is no demand for similar items produced in Thar. However, there seems to be a demand for cottage cheese in the urban

centre of Pakistan. Cottage cheese manufacture does not require sophisticated technical know-how. Cottage cheese is easy to handle when packed, does not get rotten or spoiled and can be easily transported in 4 wheel drive vehicles in large quantities. An investigation into the possibility of getting individual Thari households to manufacture a standard brand of cheese, and into its packing, transportation and marketing, should be undertaken. A massive technical assistance and credit programme should be developed for this purpose if the results of the research show that it is viable. Dr. Akhtar Hameed Khan of the Orangi Pilot Project should be consulted regarding this initiative and the NRSP should be approached for funds. Considerable external support will be required for such a programme and the TRDP should gear itself to receiving it and collaborating with it.

b) New approach for the artisanal programme

The TRDP should undertake a detailed study of middleman activity for artisan produced goods and carpets in Thar. The study should understand the processes involved, the technical expertise and training limitations of the processes, and the manner in which financing and recovery is done. The extent of financial inputs by middlemen and benefits to the Thar population should also determined. The study should also seek to identify the reasons for middleman malpractices, exploitation of artisans and children and the manner in which these can be tackled with the support of and collaboration of middlemen. Based on the study the TRDP should identify the role that it can play in helping to establish a more equitable and humane relationship between the artisans and middlemen. The TRDP role can consist of helping the middlemen with better marketing practices, technical inputs that can improve production, machines and credit. Any external help required by the TRDP for such a study should be sought.

c) Tree plantations for commercial purposes

The TRDP should look into the possibility of introducing tree plantations for commercial purposes on individual farmlands. For this programme the choice of trees, the season in which they have to be planted, the place from where they have to be acquired, the technical advice required for their planting and maintenance, are important aspects. In addition, Thari land owners have to be made to look into the distant future so that they can see the advantages of such a programme. The AKRSP and the IUCN are possible sources from whom assistance can be sought. Government research institutions such as the PFI and the Forestry Departments may also be useful. In this connection it must be noted that in the Northern Areas the AKRSP has been instrumental in getting farmers to plant over 1 million trees, often in harsh climatic conditions. The benefits of these plantations will soon be reaped by the farmers.

d) Establishment of village organisations

It is important to establish formal village organisations so that the VDC can relate to a well defined entity. Such village organisations can be developed around the concept of savings, whereby every member saves a certain sum of money on a weekly or seasonal basis and deposits it in a collective bank account. Again, the AKRSP's experience in this regard should be studied and if found feasible, replicated with relevant modifications.

e) Training

The 2 day monthly training workshop held at the TRDP office should be considered as the major training an monitoring exercise (it is already considered as such, but some POs and many COs feel that it does not help them enough). The workshop should undertake analysis of both the micro and macro level situation and teach the participants how to observe their programme surroundings and situations. For this the persons conducting the workshop must be experienced, and capable of transferring their knowledge to the participants. The TRDP may consider inviting external resource people for helping out in these workshops.

It must be clearly understood that the research and extension method being followed by the TRDP has 2 distinct components; social mobilisation and technical advice. Very often technical advice cannot be had in-house and has to be acquired externally and for its implementation external training is required, and different levels of technical expertise have to be developed.

20.3 Existing SED Programmes

a) Seed banks

Support to the seed banks should be continued in the form of motivation and advice. However, no new investment should be made for the next year and the seed committees must be informed that from now onwards they have to manage from their own resources and recovery.

b) Artisans support programme

The artisans support programme should be re-shaped after the study suggested in paragraph 20.2 b has been carried out.

c) Micro enterprise development, poultry programme and kitchen gardens

All these programmes should be phased out over a 2 year period.

d) Goat raising programme

The goat raising programme should be expanded and veterinary services for it should be provided as suggested in paragraph 20.1 f.

e) Well development programme

The well development programme should be continued. However, it should be linked with SAZDA's plans for the PA if possible. In addition, the possibility of installing hand pumps and fly-wheel pumps on existing wells should also be looked into. These pumps could be installed after the harvest so that people can collect money for installing them and do not have to depend on TRDP credit. The TRDP can provide the technical know-how and help the residents to arrange for the purchase of the pumps. Training for the maintenance of these pumps should be given to an appropriate person in the village.

f) Environmental rehabilitation programme

The environmental rehabilitation programme should be intensified and should concentrate its activities around individual farmlands. Financial and technical support for the programme should be acquired according to the recommendations in paragraph 20.1d.

20.4 Existing EDT Programmes

a) Child support programme

The programme should be carefully monitored and its results analysed so that necessary modifications can be made to it. The possibility of converting this programme into one which is primarily concerned with producing educated girls, should be studied, and if necessary changes to accommodate this objective should be carried out.

Concrete proposals for the establishment of girls high schools, recruitment of women teachers from other parts of Sindh for the schools, establishment of hostel facilities, and other related infrastructure required for the schools, should be developed and put before the government for consideration through the VDC and local politicians. External support for this purpose can be had from various organisations such as the TVO and the Book Group.

b) Adult literacy classes

It is recommended that no new adult literacy classes should be commenced untill a proper evaluation of the qualitative and quantitative benefits of these classes is undertaken.

c) Newsletter

The newsletter should be seen as not only something that people read but also something that the TRDP office members, COs, VDC members and other literate sections of Thari society write for. All these categories of people must be encouraged to write for the newsletter so that it becomes the voice of the rural people. The flowery language that it currently sometimes used should be discouraged. Photographs and profiles of activists should form a part of the newsletter. A Newsletter society should be formed and it should meet once in 3 months and discuss matters with a resource person.

20.5 Existing HSD Programmes

a) General policy recommendations

The general recommendations refer to major long term management policies for the health sector of TRDP. The TRDP should:

- try to change its emphasis from health services provision to health development;
- ensure that for each health related activity there are clear long term objectives and well defined expected outcomes;
- increase its communication with and involve more deeply, the community and government in planning the health activities and actively network with and learn from NGOs and other agencies;
- improve the research, monitoring and analytical capabilities of the project;
- ensure that no new health related intervention take place until all the appropriate information has been gathered and discussed and that there is a clear rationale for the need of intervention;
- limit expansion of its health related activities until it is sure that existing activities are running smoothly, that their quality is good, that this quality will not suffer by further expansion, and that there is a clear rationale for expanding;
- encourage better integration of the health sector activities with TRDP's general development work, and strengthen team work within the health sector, and in general;
- ensure that its health sector is seen as a contributor, but not as the dominant sector in supporting TRDP's overall aims;
- ensure that it receives regular experienced technical support for the health sector.

b) Specific recommendations

The specific recommendations refer to existing health sector activities and are dependent on the acceptance of the general policy recommendations.

i) MCH clinic and outreach:

- Priorities:

- Work more closely with the Islamkot community and government in order to agree on a phased hand over of the MCH urban clinic to the RHC.
- Improve the management information system by ensuring that records are appropriate and maintained correctly. The use of each piece of information requested in the records must be described and discussed with the relevant staff so that they also know its importance.

- Hand back the responsibility of immunisation to the RHU but give support as needed.

- Initiate the registration of all births, live-born or still-born. This will need to be agreed by the village leaders but should probably be carried out initially by the COs with the support of the *dais* until the system is established. A record of the date (e.g. on the government immunisation card) should be given to the parents. By using a local events calendar, it may be possible to register births retrospectively upto one year.

- Routine:

- Maintain the fee for registration, drugs, and emergency transport but identify those families who will need subsidised or free benefits.

- Use the trained *dais* to carry out all routine antenatal examinations.

- Start to keep maternal records. TRDP could use a pictorial peri-natal card for use by the *dais*, which could be kept by the mother.

- Work with the village leaders, the development committees, the CO, women opinion leaders and the *dais*, to draw up a register of at risk families who need health or economic support (criteria could include poverty, widowhood, history of many child deaths, etc.).

- Ensure that the skills of the LHVs are fully utilised in providing female health care. This could include dilatation and curettage, deliveries with vacuum extractors and fitting of intra-uterine contraceptive devices. These latter could be fitted in the outreach clinics.

- If the special skills and training of the LHVs cannot be fully used, consider employing instead a "lower" category of female health cadre, such as community health nurses. It may be necessary to continue to employ one LHV involving VDCs in awareness raising or defaulter follow-up, but do not become involved in diagnosis, drug supplies or transportation.

- Interact more regularly with family planning departments and organisations, and look for ways, such as via the *dais* or female COs, of promoting and providing family planning items.

ii) School health:

- Priorities:

- Work towards handing over full responsibility for the health education in schools to the school authorities.

- Delegate as much responsibility as possible for the health care of the school children to the school teachers.

- Routine:

- Obtain professional support to develop a schools' health education curriculum and a teachers' manual.

- Work towards having the concept of health education in schools promoted, and the curriculum and manual, accepted by the education authorities.

- Develop a simple health education monitoring system and carry out any extra research needed to demonstrate that the health education messages are known in the villages, and that some practices have changed.

- Do not consider further expansion to more schools until the teachers in the pilot schools have taken over full responsibility for health education training in their schools, and until there is evidence of some sustained impact.

- Encourage better interaction between the schools and the parents by, for example, parent-teacher associations.

- Determine whether children dropping out of school in the pilot area are doing so because of health or other reasons, and take appropriate action.

- Ensure that health education components, and teaching on life skills, are included in the functional literacy and girls' coaching programme curricula.

iii) Nutrition rehabilitation programme:

- Priorities:

- Try to identify the villages and the communities especially at risk and target them through the routine outreach work.

- Routine:

- Determine why the attendance at the health education given in the nutrition clinics was better attended than that given in the outreach clinics.

- Draw up a plan for routine nutrition surveillance to be carried out (for about two years only) so that a seasonal pattern of nutritional status, if any, can be identified.

- Once registration of births is started, use height-for-age measurements as a health development indicator.

- Draw up preparedness guidelines for TRDP action in the event of future droughts, unexpected periods of food insecurity or epidemics.

- Integrate the nutrition rehabilitation activities into the routine outreach work.

iv) Essential drugs:

- Priorities:

- Improve the accounting system so progress towards cost recovery can be measured.

- Reduce the list of drugs used by the MCH clinic and outreach clinics so that only essential drugs are used and establish a proper reporting and accounting system.

- Look for ways by which to ensure that mothers and children can receive treatment via female practitioners.

- Routine:

- Develop a simple but effective method of monitoring the prescribing of drugs to ensure that it is rational.

- Establish a mechanism for supplying subsidised or free treatment to the very needy.

- Monitor the use of drugs against disease patterns, so that the needs can be predicted, and purchasing done monthly or even less frequently.

- Select the list of essential drugs according to the common diseases of women and children in the village (very little is known about women's diseases, so these may need to be researched first).
- Prescribe all drugs by their proper (generic) name.
- For each drug purchased, decide which manufacturer is best and buy only the drug of that manufacturer so that quality and consistency of packing is ensured.
- Re-assess the value of the COs providing drugs and discuss alternatives. Look for ways to give responsibility to the community.
- Discuss with the health authorities the possibility of TRDP obtained some MCH drugs from them for the Islamkot MCH and out-reach clinics.
- Research other organisations' experiences in cost recovery drug schemes.
- Do not increase the number of drugs supplied to the COs or any new drugs until useful records are designed and kept, and a proper accounting system has been drawn up.
- Network with other organisations and people in Pakistan who are promoting the use of essential drugs.
- Ensure that family planning items are included in the essential drugs list, and investigate ways in which these can be provided free or subsidised.

vi) Dais, female community health workers:

- Priorities:

- Obtain government approval for the *dais'* training curriculum.

- Work towards having the *dais* recognised, utilised and supported by the health authorities and local practitioners.

- Carry out sociological research to determine whether or not the *dais* are the most appropriate women in the community to be trained as female village health providers.

- Routine:

- Continue to train and follow up the *dais*.

- Try to involve the health authorities in sharing in the
- planning, training and support of the *dais*.

- Be very careful before embarking on any payment or benefit systems to the *dais*. Financial reward or micro-economic development loans to the *dais* or other active woman (if they are not identified as being particularly poor) would set a serious precedent. It could jeopardise the success of all TRDP's community development activities, and should only be undertaken after proper sociological research, literature review of similar schemes, and discussion.

vii) Research:

- Priorities:

- Before the health sector and women's development sector initiate any new activities, good sociological research needs to be carried out to identify the power and economic structures of female society in the villages, and their health seeking behaviour and reason for it. This research should have a high priority.

- A full analysis of the data collected in the 1989 baseline survey needs to be carried out, and the results used.

- Routine:

- Carry out a good immunisation coverage survey as this would be useful in determining the coverage in Islamkot town, TRDP's 50 villages, and the other villages in the 4 union councils which are not covered by the TRDP.

- Request the research officer to review all the health sector monitoring forms, and identify and discuss the research potential for each.

- Carry out simple qualitative research into weaning and other health and nutrition practices in order to be able to target the health education more effectively.

- Review the current selection of health-related process and impact indicators with a community health specialist, and consider amending them, and also ensure valid data collection methods.

viii) Community mobilisation:

- Priorities:

- Involve the village people, including women and other low status groups, in discussion of the health sector's plans.

- Give regular feedback to the community, including women, on the progress of the health sector's work.

- Routine:

- Make efforts to involve the teachers in health planning and consider using them as health providers for the school children or community.

- Provide information to the male and female community on health related topics in which they are interested.

- Ensure that the whole health team interacts with all sectors of the community.

- Make full use of all entry points, such as male and female adult literacy to promote health awareness.

ix) Health personnel and others:

- Priorities:

- Involve both of the senior health staff (PO and LHV/deputy) in senior management meetings.

- Routine:

- Involve all the health team in the planning discussions for future health sector activities.

- Consider giving management and assertiveness training to all the senior female members of the TRDP team so that they understand better their role as planners and supervisors, and can then take a more active role in programme planning, and so that they are able to express themselves better.

- Clarify the need for and methods of good supervision and monitoring, and the role of research. If these skills are lacking in the health sector, short courses in simple epidemiology (not statistics) could be useful.

- Consider changing the title of the female COs to something like lady health educators, and identify potential village female COs/agents of change after a sociological survey of village women's social structure.

- Ensure that good general health information is given to all the staff, especially those involved in field work, such as all the POs, the drivers, the field clerk and cook, etc.

- Draw up and discuss appropriate job descriptions for all the health personnel.

- Ensure that regular community health technical advice and support is available and fully used.

- Ensure that the current research officer is given good technical support from the AKU, or Hyderabad or other universities and SCF country and regional office for any research activities planned.

x) Health education programme:

- Priorities:

- Interact with the government health education departments and build up a good working relationship.

- Establish a good system for supervising and monitoring the health education work of TRDP and the schools, and for reviewing impact so that TRDP is able to discuss the replicability of the health education programmes.

- Routine:

- Develop the health museum as an example of action learning techniques. It will be necessary to review modern museum learning techniques, and expert advice may be needed.

- Ensure that the health education messages given are appropriate to the Thar desert, and are targeted to the specific health problems of women and children in Thar.

- Develop good quality and effective materials and methods, and discuss their replicability with government and other agencies.

Abbreviations/Local Terms

Abbreviations

EDT	Education Development Training
GOS	Government of Sindh
HSD	Health Services Development
MCH	Mother and Child Health
NGO	Non-Governmental Organisation
PA	Project Area
PD	Project Director
PHED	Public Health Engineering Department
PM	Project Manager
PO	Programme Officer
RHC	Rural Health Centre
SAZDA	Sindh Arid Zone Development Authority
SCF	Save the Children's Fund
SED	Social and Economic Development
TRDP	Thar Rural Development Project
VDC	Village Development Committee
VLT	Village Leader Training
VO	Village Organisation

Local Terms

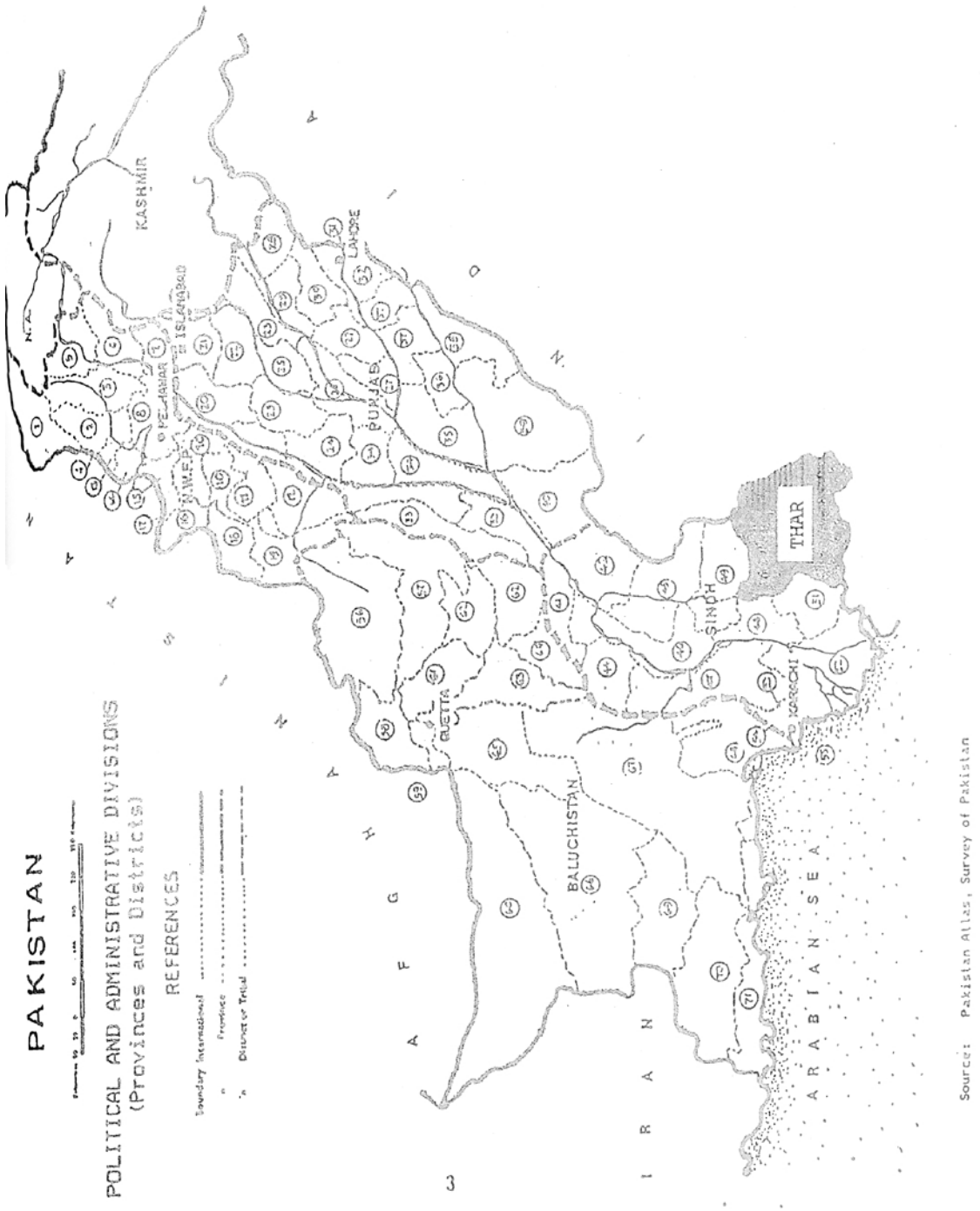
adda	place, den
bara	elder
chaudhry	traditional village chief
dai	midwife
ghee	clarified butter
gowcher	community grazing land
kammi	low caste (artisan)
katcha	not permanent
kharal	a rug made in Thar
khata	Thari blanket
kumara	potter
matka	earthern-ware water container
panchayat	committee of village elders
para	neighbourhood
pucca	permanent
shalwar-kameez	baggy trousers - long shirt
taluka	an administrative unit of the revenue department
tarai	a natural depression where rain water gather

APPENDICES

List of Appendices

Appendix - 1

MAP OF PAKISTAN SHOWING THAR LOCATION



Appendix - 2

RECOMMENDATIONS OF THE 1987 DROUGHT AND FAMINE ASSESSMENT REPORT

1. RECOMMENDATIONS

Based on an analysis of the findings it is felt that there should be two types of intervention in the desert. Firstly, a short term intervention, consisting of establishment of a road network, an early warning system for impending drought and certain inputs into the health and nutrition sectors. And secondly, a medium to long term intervention, consisting of the establishment of a research and extension institute in the desert for undertaking pilot projects to discover appropriate models of social participation and the right type of economic and technical assistance required, along with further inputs for health and nutrition.

2. SHORT TERM INTERVENTION

2.1 Road Building

2.1.1 Advantages of roads

a) Economic advantages: The building of roads will increase the sale price of animals and food grains in the desert. According to middlemen and the desert population, the price of animals, animal skins and wool around Mithi went up by a good 20 percent after the Naukot-Mithi road was completed. Because of a fall in transport prices, the selling price of bajra, til and mong also registered a small rise. In addition, the sale prices of manufactured items from the cities fell by about 10 percent. Since the Mithi-Naukot road has been built, the population of Mithi has increased from 8,000 to 22,000. The bazaar has also expanded but this expansion could not be quantified by the assessment team. Roads will also make it possible for Thar's mineral wealth to be exploited properly, especially china clay and granite.

b) Functioning of government departments: One of the major problems facing the health and education departments and banks is the non-availability of manpower. This is because doctors, teachers etc. are not willing to work in inaccessible areas. The roads will open up the taluka headquarters to normal transport and to a great extent this problem will be overcome. Functioning of government departments will generally improve as better supervision and greater mobility will be made possible.

c) Middlemen: Most middlemen operating in the desert are from taluka headquarters or the barrage areas, because of the presence of markets in these areas. Roads will encourage the development of sub-markets in other settlements and this will establish more equitable patterns of trade in favour of the local population.

d) Transport: The Tharis are becoming increasingly mobile. This can be judged by the rate at which the desert transport system is increasing. As discussed earlier in the report, transport costs will become one-third of present costs thus effecting considerable savings for the population. For example, the fare from Umerkot to Nagar will fall from Rs 50 to Rs 15 and the transport charges of cattle from Rs 120 to Rs 40.

e) Roads and drought relief: The availability of cheap transport to move animals; the reduced costs of fodder imported from the barrage areas; increased and more equitable trade, will all follow

from a proper road network and will minimize drought effects. Fodder price, for instance, will fall in Nagar from Rs 50 per maund to Rs 37 per maund.

2.1.2 Drought relief through a road building programme

a) Concept: Road building, if appropriately designed and organised, can provide employment to the desert population. This will increase their incomes and help them to overcome the difficulties the drought has created. Relief funds can be diverted for this purpose, thus serving a dual purpose: both providing relief and creating a badly needed infrastructure for communications.

b) Need for an appropriate design and implementation procedure: The normal manner of road building through the highway department is time consuming and expensive. It involves surveys, mapping, tendering and contractors. Profits are normally high and kickbacks are common. Roads constructed in this manner would cost about Rs 1.2 million per kilometre for a width of 7 metres. Thus a road of 400 kilometres linking all the taluka headquarters with Mithi and Umerkot would cost Rs 480 million and take about 3 years, at the very least, to complete. A number of technological options for road building are available for sandy arid areas. One such option, of spreading a 4-1/2" sand bitumen premix over the desert, is being followed in the new road building schemes and was used for the Naukot-Mithi road. Its advantage is that it costs about Rs 550,000 per kilometre. The cost of labour and materials, worked out from the information collected at the site of the under construction road from Mithi to Diplo, is less than Rs 200,000 per kilometre. The rest is overheads, profits and kickbacks. However, since the sand under the premix is not contained by retaining walls, it is unlikely that these roads will be able to take heavy traffic for long. The road to Mithi from Naukot is already in a bad state.

2.1.3 Proposal for road building

a) Locations: It is proposed that in the first phase, roads are built from a) Mithi to Nagar via Islamkot and Virawah, b) Virawah to Umerkot via Chachro and Khinsar, c) Mithi to Diplo. This works out to a total of 400 kilometres. In the second phase roads linking a) Chachro to Islamkot, b) Chore to Khokrapar, c) Diplo to Badin,should be undertaken.

b) Technology: A detailed study of technological options available should be undertaken and a labour intensive technology rather than one involving machinery should be favoured. According to road engineering experts, the technology being currently applied in the desert is sound provided the sand bed is contained by brick or stone shoulders, and culverts and drainage channels are built. Tree plantations, which SAZDA intends to undertake, will further prevent sand erosion on the sides of the road. The main advantages of this technology is that it is cheap, requires no machinery, no stone or brick aggregate, no water, and little technical expertise. The cost of providing effective shoulders to the road in stone or brick, inclusive of 30 percent contractors profits and 10 percent overheads would work out to Rs 200,000 per kilometre. This would increase the cost of the road to Rs 750,000 per kilometre, still 48 percent less than the price of a conventional road. The cost of the 400 kilometres of road required for linking the taluka headquarters would thus be Rs 300 million.

c) Method of implementation: As per the calculations, the actual cost of labour and material on site for the under-construction roads in the desert works out to Rs 180,000 per kilometre. Yet the rate at which it has been contracted out is Rs 550,000 per kilometre. The method of implementation should seek to avoid this excessive profiteering and maximize the labour component. For this certain basic principles should be decided:

- Roads should not be built by the highway department but under a special works programme of the Relief Commissioner.

- There should be no tenders invited for this work. The Relief Commissioner should set up an organisation consisting of administrators, engineers and supervisors. Their salaries should be enhanced by a special Thar allowance. The use of students from engineering universities should be considered. Labour should be recruited from the villages near the construction sites and paid on a daily wage basis. A supply of stone and brick for making the shoulders of the roads will be required.

The cost implications of contracting this out against the logistic problems of the works programme undertaking its supply, need to be studied in detail.

- No physical surveys for road building are required. The roads should simply follow the existing tracks. However, engineers should take on-site decisions regarding easing out curves or building culverts for drainage. A handbook detailing simple designs and procedures for such decision-making needs to be prepared, and the staff should be trained to use it.

- Road building should begin at the maximum number of points so as to complete road construction in 12 months from the day of commencement. However, the points should be chosen at places where brick or stone can easily be made available for the shoulders of the road.

d) Construction time and labour required: A total of 40 skilled and unskilled workers can complete 8 kilometres of road in 12 months, inclusive of building its shoulders. Therefore, at any given time, the road building programme would give jobs to 3000 persons from the desert and disburse about Rs 25 million among them over a year.

2.1.4 Road building costs

As worked out in paragraph 4.3, the cost of building a premix sand road connecting the taluka headquarters, inclusive of stone and/or brick shouldering, would work out to Rs 300 million. With savings on contractors profiteering etc. this cost could certainly be brought down by 30 percent (if not more) or to Rs 210 million. Recovery of money spent on these roads can be effected by introducing a toll on all vehicular movement.

2.1.5 Resource persons for a works programme

From 1961 onwards, a massive rural works programme was undertaken through the Rural Development Academy for the building of roads, embankments and dams for what was then East Pakistan. The programme was implemented by organising the people and giving them organisational and technical support and supervision. Dr. Akhtar Hameed Khan, now director of the Orangi Pilot Project, Karachi, was responsible for organising this works programme along with Richard Patton. Drawing on the East Pakistan experience, Richard Patton conceived and organised a much larger programme for Indonesia. Both Akhtar Hameed Khan and Richard Patton are available, and it is suggested that they act as resource persons if this programme is implemented.

2.2 The Establishment of an Early Warning System

An early warning system for impending drought conditions should be established. This system would have two components.

2.2.1 Monitoring of meteorological, agricultural and trade data

Fluctuations in the market price of grains and animals, and changes in yield per acre and in-migration patterns, are all indicators of impending drought conditions. If these are properly monitored and analysed, along with proper anthropometric research an early warning for drought, and a forecast on the nature and extent of crops can be made. In addition, there is a considerable amount of data on rainfall in Thar. This should be scientifically analysed by experts to establish some sort of drought and rainfall pattern. To make early warning and crop forecasts possible, a small cell should be established under the appropriate government department.

2.2.2 The Bracknell Centre

The Bracknell Centre in England monitors weather conditions all over the world. By evaluating conditions in the Ethiopian high-lands in February, and over the Bay of Bengal in April, a rain forecast for Thar can easily be made.

2.3 Health and Nutrition

2.3.1 Nutrition

a) Short Term:

- Immediate supplement to subsidised grain sales or 200 tonnes of butter oil.
- Survey to establish which food types are needed and arrangements for their subsidised distribution.
- Feasibility study of support to livestock sale prices so that Tharis are able to realise their capital assets.
- Setting up a small number of nutritional rehabilitation and education centres. Main aims:
    - o Training of dais and medical personnel in running and managing centres.
    - o Information gathering on weaning and dietary practices.
    - o Establishment of working links between dais and doctors.

- **Government and interested voluntary agencies should consider methods of targeting relief to benefit vulnerable groups and should implement measures to make it possible.**

2.3.2 Health

a) Short Term:(Upto six months to become operational)

- **Increased budgetary allocation for drugs so that basic / essential drugs are available to the population. The cost for one year for a population of 300,000 is estimated at US$ 65,000.**
- Application of basic drugs list.
- Equipment and training for establishment of vaccination services at all fixed centres.
- Pilot 6 month immunisation campaign in selected areas of Thar.
- **Distribution of Vitamin A. Cost of providing preventive dose (1 capsule per person every six months) would be US$ 4,000.**
- Increase of drug supply to TB clinics.
- **Supplement to doctors and other health staff so as to encourage government servants, particularly women, to work in the desert.**

3. LONG TERM INTERVENTION

3.1 The Establishment of a Research and Extension Organisation

A research and extension organisation should be established in Thar to tackle the long term problems of the desert and to assist its equitable integration into the cash economy. It should be supported by an excellent monitoring and documentation section. This organisation should undertake a number of pilot projects to tackle the problems that have arisen due to social, economic and demographic changes. Such projects should consist of

3.1.1 New varieties of seed

Research into and introduction of new seeds and cultivation techniques should be undertaken so as to produce more from available land resources.

3.1.2 Range land management

Rehabilitation of range land should be undertaken as a pilot project. It should be linked to the programme of increasing agricultural production. This is necessary because range land is not sufficient to sustain the existing animal population, and cattle, at least, will have to be fed from agricultural produce.

3.1.3 Cooperative marketing

The middlemen in Thar, because of their contacts with the markets in the cities, make a considerable profit in trade. Cooperative marketing has had a poor history in Pakistan. However, if it could be established in Thar, it would bring considerable economic benefits to members of the cooperative societies.

3.1.4 Social research and the creation of new relationships

Social research should be undertaken to institutionalise new relationships, with a view to strengthening the local bodies and making development viable. This will also increase the awareness of the people.

3.1.5 Thar's artisanal skills

Research into Thar's artisanal skills, the marketability of their produce, the problems faced in production etc., should be under-taken along with a realistic evaluation of their economic potential. If it is found that such a potential does exist, then improvements in the tools, methods of production and marketing, leading to an increase in production, should be undertaken. Modifications in the design and nature of produce should be introduced to suit market demand.

3.1.6 Thar's mineral resources

Private entrepreneurship should be encouraged to invest in the exploitation of Thar's mineral wealth. The provision of a communication infrastructure would be the first step towards it, followed by electricity.

3.1.7 Water management and exploitation of surface and subsoil water resources

A clearer picture on this subject will emerge after the German team completes its hydrogeological survey and WAPDA completes its survey on the possibility of using the LBOD for agricultural purposes in Thar.

3.2 Health and Nutrition

3.2.1 Medium term: (Operational in 6 months to 2 years)

- Formulation of policy regarding drawing female health professionals to Thar and implementation.

- Formulation of policy regarding continuity of drug supply and implementation.

- Formulation and implementation of training programmes and syllabuses for dispensers, medical officers and senior medical officers.

- Development of supervision and support structures: DHO - SMO - MO - Technicians - Dispensers - Dais plus provision of equipment.

- Development and implementation of organisational policy for integration of health department, SAZDA, social welfare and district council health related activities.

- Evaluation of pilot EPI programme and development of long term programme strategy.

- Expansion of TB clinics and integration of follow-up outreach work or dispenser's functions.

3.2.2 Medium to long term: (May start in under 2 years but are long term activities)

- Occasional training seminars for union councils in health development.

- Training of village health care workers.

- Development of community participation in community health and preventive health activities.

Appendix - 3

TRDP EVALUATION, November 1992

TERMS OF REFERENCE

1. MAIN EVALUATION OBJECTIVES

The main purposes of the external evaluation are to assess the performance of TRDP against its goals of improving conditions in Thar and of establishing a replicable model of Arid Zone community development; TRDP and the government to attain these goals within the second stage of the Project cycle.

In order to achieve this objective the evaluation will analyse TRDP's strategy, its activities, the process evolved and the structure set up for their implementation, the impact of the activities and the methods employed for their monitoring and evaluation.

Given that TRDP is engaged in a process of community development the evaluation will also make a qualitative and quantitative assessment of the Project's awareness raising and organisation inputs to the community.

2. SPECIFIC EVALUATION OBJECTIVES

2.1 Situation Analysis

- To update the socio-economic analysis of conditions in Thar undertaken in 1987 with a view to confirming/identifying key trends.

- To review official development/relief plans and initiatives and assess the relevance of the TRDP experience to them.

- To assess the extent to which TRDP has developed contingency plans for e.g. drought, ethnic violence, kidnap and other socio-economic problems.

2.2 Project Objectives/Project Strategy

Assessment of the appropriateness of TRDP strategy, objectives and sectoral activities in the light of the above analysis.

2.3 Project Process

To assess the effectiveness of TRDP's staffing and structure as a means of attaining project objectives. Particular attention to be paid to local recruitment issues, including the role of village based salaried extensionists and the level of community involvement/control in the Project.

2.4 Methodology

The evaluation was carried out by a team headed by Arif Hasan. The health sector evaluation comprised only one part of the overall evaluation.

The health sector evaluation was carried out by Dr. Fiona Hardy, the SCF Regional Health Advisor for South Asia and her assistant/ interpreter Ms. Seema from Jamshoro University. Dr. Abdul Alim and Professor David Marsh from the Department of Community Health Sciences of the Aga Khan University reviewed the quantitative data which had been collected by the TRDP.

The methodology used for the evaluation of the health sector was by a literature search, discussion with TRDP staff individually and in groups and discussion with government, other agency officials and key informants in Islakmot and in the villages.

Appendix - 4

Itinerary of Health Sector Evaluator

16-23.09. 1992		Primary visit to TRDP project area with UNICEF officials
18.11.1992	am	Flight Kathmandu-Karachi
	pm	- Discussions with John Beauclerk, PD of TRDP - Meeting with Dr. Aleem
19.11.1992	am	Paper work
	pm	Meeting with Dr. Aleem and Prof. Marsh
20.11.1992	am	Paper work
	pm	Off duty
21.11.1992	am	Karachi-Islamkot by road
22.11.1992	am	Discussion with senior managers and evaluation team
	pm	Discussion with community organisers
23.11.1992	am	- Discussion with community organisers and supervisors - Discussion with LHVs
	pm	Discussion with Dr. Pasram
24.11.1992	am/pm	Visit to schools/families outside project area
	pm	Arrival of John Beauclerk and Dr. Aleem
25.11.1992	am	Visit to school. Discussion by Arif Hasan with programme officer
	pm	Debriefing by Arif Hasan to senior management team
26.11.1992	am	Departure of Arif Hasan and Mr. Noman. Visit to Arniyaro
	am	Visit to Arniyaro
	pm	Lunch with dai (FCHW). Visit to female Village Development Committee chairwoman
27.11.1992	am	Meeting with Dr. Pasram and the 4 medical doctors in Islamkot
	pm	Visit to town pharmacies
28.11.1992	am	Visit to nutrition rehabilitation programme.
	pm	Visit to village shop at Khackniar Bajeer
	pm	Visit to “Doctor” at Khankhuria Rahmatali
	pm	Visit to lady “doctor”, Laly in Islamkot
29.11.1991	am	Visit to dais at Tabho Meghwar
	am	Meeting with poor women at Mehari Bajeer
	pm	Discussion with LHV Razia
	pm	Dinner at Man Mohan’s house
30.11.1992	am	Meeting with male village development committee at Mehari Bajeer
	am	Meeting with poor women at Mehari Bajeer
	pm	Discussions with Dr. Pasram
01.12.1992	am	Meeting with FCOs
	am	Visit to MCH Clinic, Islamkot
	am	Visit to Girl’s High School and Primary School in Islamkot. (Ms. Seema, evaluator’s assistant, visited school at Hothi Jo Tar)
	pm	Meeting with Zafar, research assistant and Dr. Pasram
02.12.1992	am	Discussions with Dr. Pasram and Dominic Stephen
	pm	Meeting with Dominic and Pasram and preparation for workshop
03.12.1992	am/pm	Workshop with health sector and senior staff
	pm	Debriefing on health sector evaluation
	pm	Dinner in PD’s house
04.12.1992	am	Meeting with Dr. Pasram
	pm	Meeting with Dominic
05.12.1992	am	Visit to civil hospital and Jeevan project in Mithi
	pm	Drive to Karachi
06.12.1992	am	Arrival of FD, Pakistan and discussion
	pm	Reception
07.12.1992	am/pm	Report writing
08.12.1992	am/pm	Report writing
09.12.1992		Flight Karachi – Kathmandu
09-22.12.1992		Report writing in Kathmandu

Appendix - 5

ORGANISATIONS CONTACTED FOR DATA COLLECTION

1. Bureau of Statistics, Planning and Development Department, Government of Sindh, Karachi
2. Deputy Commissioner's Office, Mitthi district Thar
3. District Field Office, Bureau of Statistics, Mirpurkhas
4. Sindh Arid Zone Development Authority (SAZDA):

a) Regional Office at Mirpurkhas

b) Base Station at Mitthi

5. Sindh Regional Plan Organisation, Karachi
6. Agricultural Development Bank of Pakistan, Mithi
7. Office of the District Education Officer, Mitthi
8. Civil Surgeon, Civil Hospital, Mitthi
9. Office of the District Health Officer, Mitthi
10. Office of Asstt. Director, Animal Husbandry, Mitthi
11. Office of Veterinary Officer, Animal Husbandry, Mitthi
12. Forestry Department, Mitthi
13. Office of the Mukhtiarkar taluka Mitthi
14. Office of XEN (G.S.O.) WAPDA, Mirpurkhas
15. Office of XEN, Public Health Engineering Department (PHED), Mirpurkhas

Appendix - 6

THAR RELATED DOCUMENTS COLLECTED

A. GOVERNMENT OF SINDH (GOS)

1. **Statistical Brochure of District Tharparkar 1989-90 to 1990-1991. Bureau of Statistics, Field Office, Mirpurkhas**
2. Details of Schools/Teachers/Students in the district Thar 1991-92
3. Existing facilities and vacancy position report of civil hospital Mitthi in November 1992
4. Information regarding health institutions of district Thar
5. Rainfall figures 1990-91 and 1991-92
6. Brief on ongoing water supply/drainage schemes under execution in district Thar by PHED
7. Brief on completed water supply schemes in district Thar by PHED
8. List of availability of facilities in villages of Sindh
9. Statistical brochure of District Thar 1987-88 to 1988-89: Bureau of Statistics, Karachi

B. SINDH ARID ZONE DEVELOPMENT AUTHORITY (SAZDA)

1. Statement showing the list of up-to-date progress of ADP/SDP schemes of SAZDA, Thar Region upto November 1992
2. List of primary boys and girls schools, dug wells and veterinary units constructed by the SAZDA Base Station at Mitthi upto July 1992
3. Existing position of important roads in Thar
4. Institutional support and training for SAZDA by Agrodev Canada Inc.

C. WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)

1. Existing grid stations along with their capacities operating in district Thar

D. THAR RURAL DEVELOPMENT PROJECT (TRDP)

1. Annual Reports for the Year 1991 and 1992
2. Project strategy paper; September 1990
3. Investigation study for honey bee keeping project
4. Project plan of action, TRDP 1992 programme
5. TRDP activity description; September 1992
6. Six month monitoring, review & planning from March to August 1992
7. Report on visit to TRDP by Peter Crowley, head of regional office (28.9.1992 to 01.10.92)
8. Summary of personnel policy and practice 1987-1992
9. TRDP health sector evaluation planning, November 1992
10. Livestock census of project area
11. **Towards a community development model, a paper presented at development seminar at Mithi, October 1992**
12. Education and training
13. Land use management: environmental rehabilitation programme
14. Activity report and status of seed bank
15. **Status of SED activity (artisan support, goat raising, micro enterprise development and village poultry programmes)**
16. Report on training programme attended by TRDP staff
17. Monthly report of goat raising programme
18. Introduction to Tharparkar Rural Development Project
19. Proforma for base-line survey conducted in 1989
20. Summary of findings of base-line survey.
21. Community development methodology and management
22. SED/MED Statistics

E. OTHERS

Rural development strategy reports for Sindh Arid Zone Development Project prepared by Agrodev Canada Inc.:

1. Water Resource Management and Exploitation
2. Range land Management and Desertification Control
3. Livestock Management and Development Strategies Supp. Vo. 1 IV
4. Draft Final Report of Rural Development Strategy for SAZDA
5. Water Resource Management and Exploitation Supplemental Vol. 1
6. Range land Management and Desertification Control Supplemental Vol. 2
7. Village Profiles Supplemental Vol. 5

Appendix - 7

PLACES VISITED/PERSONS MET DURING DATA COLLECTION

Date	Time/ hour	Place	Persons Met
09.11.92	1700	Naukot	- Amir Bux: transporter, owner of two GMCs - Liaquat Ali: owner of one GMC
	1800	Mithi	- One shopkeeper
	2030	Islamkot	- Dominic Stephen: project manager TRDP
10.11.92	0930	Missri Memon on way to Mithi	- Abdul Aziz Memon: primary teacher
	1100	Mithi	Abdul Qadeer Mangi: Deputy Commissioner
	1130	Mithi	- Rehmo: mobile credit officer ADBP, Mithi - Manager ADBP, Mithi - Lineman WAPDA office
	1200	Mithi	Civil Surgeon
	1500	Jogi Marhi	- Tanoo: carpet weaving master - Lakho: carpet weaver - Nagga Ram: retired teacher & president Seed Bank
	1530	Islamkot TRDP office	Meeting with project manager & Pos
	2000	Islamkot	Meeting with Harish, biggest carpet looms owner & investor of Thar
11.11.92	1030	Mirpurkhas	Clerk of district field office, Bureau of Statistics
	1100	Mirpurkhas	Director Deptt. of Agriculture
	1115	Mirpurkhas	- M. Najeer Jamali: regional director, SAZDA - Mohd. Usman Memon: XEN, PHED - Engr. Habibullah Shaikh: XEN (GSO) WAPDA
12.11.92	1000	Mithi	- Office Supdt. Civil Hospital - Dial Chand: D.C.'s office - Asstt. Mukhtiarkar, Mithi - Clerk of Forest Deptt. - Clerk of Animal Husbandry
	1315	Wajato	Villagers near Solar Desalination Plant
13.11.92	1000	Karachi	Abbasi, DG, SRPO
	1100	Karachi	Abdullah Soomro; Adl. Director Sind Bureau of Statistics

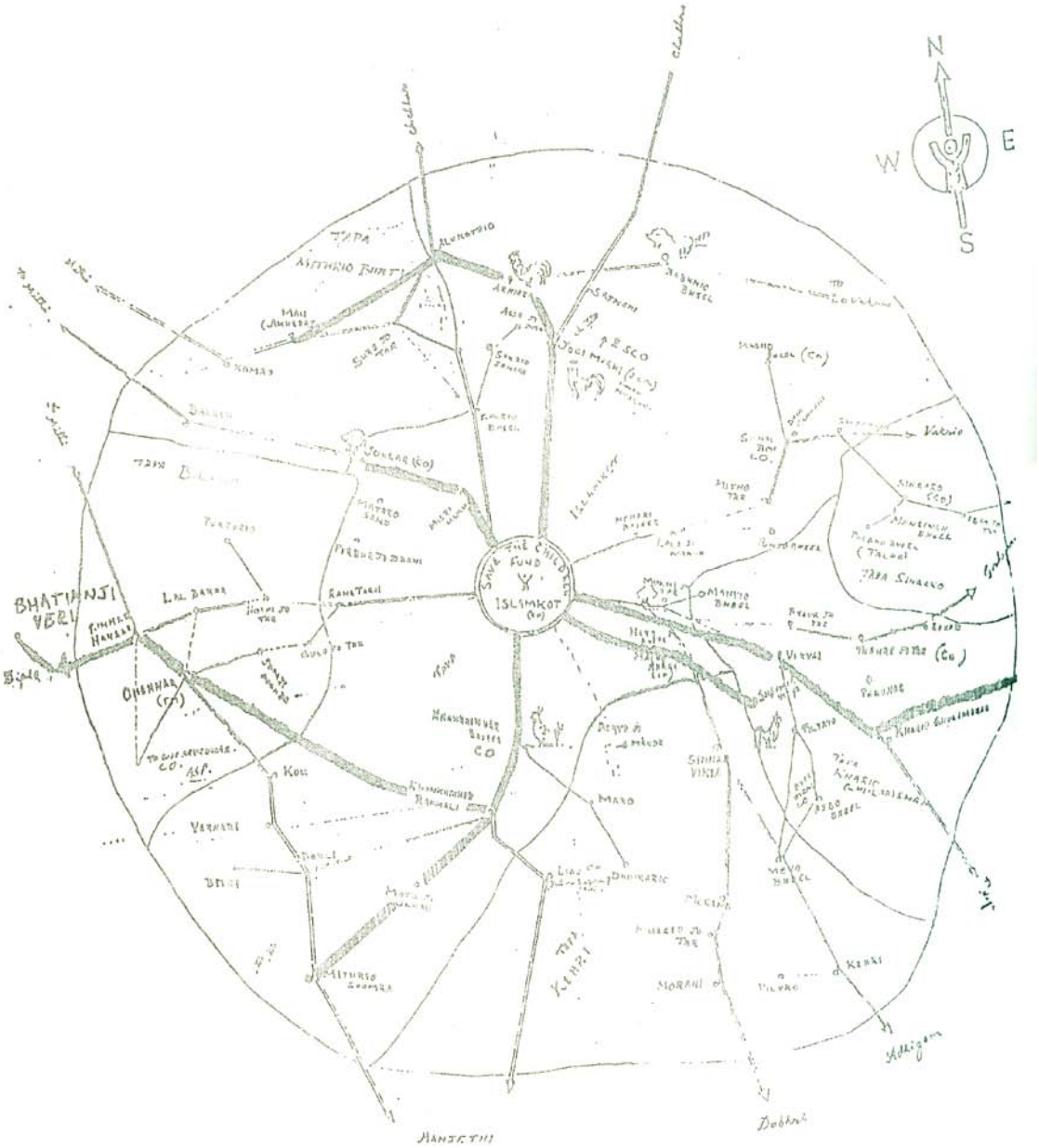
DURING FIELD VISIT

Date	Time/ hour	Place	Persons Met
21.11.92	1430	Jhuddo Market	- Mohd. Afaq; owner goat meat shop - Haji Mohammad: owner cow meat shop
	1530	Taal near Naukat	- Mewa; taal (firewood shop) owner
	1615	Wajuto between Naukot and Mithi	- Nabi Bux; technician helper for Solar Desalination Plant - Wali Mohammad; chairman Zakat Committee, Wajuto
	1700	Mitthi	- Petrol pump owner - Hasan; taxi owner - Hotel owner - Kirpal; shop owner
	2030	Islamkot	- General store keeper - Sweat shop owner
22.11.92	0900	Islamkot	- Briefing by office staff of TRDP
	1530	Islamkot	- Meeting with COs
	1800	Islamkot	Meeting with notables of Islamkot: - Guloo Mal; carpet looms owner - Chanesar Khan; retired post master, now running a medical store - Khilo Mal; president, traders association - Mohan Lal Raja; ex-chairman, town committee - Abdul Majeed Kotri; head master, Govt. High School - Mohd. Subhan; supervisor, primary education - Dr. Vishno Das; medical officer, Rural Health Centre
23.11.92	0900	Islamkot	- Nursery of TRDP
	0925	Islamkot	- Atumgair; TRDP poultry farm
	1000	Joglar 8 km to Islamkot	- Kastoor Chand; head master Govt. Primary School - Mohd. Ramzan; teacher - XYZ; teachers - Helper of pump operator tube well: SAZDA
	1100	Break in Islamkot	
	1200	Jogi Marhi 12 km to Islamkot	- Lajjian; dai and women VDC president; recipient of MED for village shop - Mithan; dai and member WVDC; recipient of goats under goat raising - Mebal; dai & member WVDC - Bhoro; carpet weaver master - Lakho; carpet weaver, now works as mason in Mirpurkhas - Nagga Ram; retired head master & president Seed Bank
	1430	Mao Akhraj 15 km to Islamkot	- Fey Singh; artisan shawl maker, share cropper, land less peasant
	1600	Break in Islamkot	
	1730	Mithrio Soomro 21 km to Islamkot	- Mohd. Hasan; Blacksmith, carpenter and architect of protected plantation - Jam; president VPC - Chaglo; artisan - Mohd. Haroon; Secy. VDC - Adal; shepard & share cropper - Laique; Hari - Abdul Aleem; primary school teacher
	1930	Back to Islamkot	

24.11.92	0930	Khakhnir Bajir 8 km to Islamkot	- Nalechanga; CO - Din Mohammad, Rematullah - Aachar; middleman, organises production and distribution of beddies - Luqman; beddi maker - Panjhi; councillor - Mial; recipient of goats - Amir Ali; beddi maker
	1200	Bhapwar 32 km to Islamkot towards Diplo outside PA	- Ali Mama Hingorjo; primary school teacher - Mohd. Yusuf Hingorjo; head master, primary school - Ramjee Mughwar; carpenter - Mutho; blacksmith
	1415	Bhatianji Veri 45 km to Islamkot	- Mohd. Mubarak; primary school teacher - Qadir Bux Hingorjo; shopkeeper
	1515	Back to Islamkot	
24.11.92	1745	Lunio 30 km to Islamkot, outside PA	- Soomjee Meghwar; owns land - Gujjo; shepherd - Samoo; artisan
25.11.92	0945	Shehmir Vikia 15 km to Islamkot	- Guromal Meghwar; primary school teacher - Mohd. Ali Vikia; teacher - Ramo Nai; teacher - Allah Vasaya; loom worker - Mewa; - Yaser Vikia;
	1130	Islamkot TRDP office	- Interviews with Project Manager and Project Officer
	1700	TRDP office	- Debriefing
	1900	Islamkot	- Nihal Chand; ex-chairman Town Committee
26.11.92	1100	Mithi	- Dr. Nand Lal Sukhani; Veterinary officer, Animal Husbandry Deptt. - Mole Chand; live stock attendant - Gorban; head clerk - Ashok Kumar; engineer SAZDA Base Station, Mithi - Mathra Das; Asstt. DEO, Mithi - Deputy Commissioner, Thar

Appendix - 8

MAP OF ROUTE TAKEN IN TRDP AREA DURING FIELD TRIP



Appendix - 9

POPULATION OF DISTRICT THAR: GROWTH PATTERN

(in '000)

	1981*			1991**		
Taluka	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**
Mithi	18	137	155	28	185	213
Diplo	7	103	110	11	139	150
Chachro	-	177	177	-	242	242
Nagarparkar	-	104	104	-	142	142
Total	25	521	546	38.45	708.55	747

* Population Census 1981
** Projected at compared rate of 3.2 percent per annum

Appendix - 10

CULTIVATED AREA OF IMPORTANT CROPS IN THAR

(Area in '000' hectare)

Taluka	Geographical Area	Cultivated Area			Cropped Area		
		1988-89	1989-90	1990-91	1988-89	1989-90	1990-91
Mithi	5.34	1.02	0.99	1.49	1.01	1.01	0.9
Diplo	4.04	0.45	1.13	0.46	0.34	0.41	0.31
Chachro	7.23	1.39	1.36	1.48	1.39	1.36	1.48
Nagarparker	4.19	1.71	1.71	N.R.	1.71	1.71	N.R.

N.R.: Not Reported.

Source: Statistical Brochure of Thar District Field office, Bureau of Statistics, Mirpurkhas

Appendix - 11

COMPLETED AND UNDER-CONSTRUCTION PHED WATER SCHEMES IN THAR

Sr. No.	Place	Completed in	Water supply (MGD)	Projected population	Upto the year	Rate of supply (in gallons per head per day)
1.	Kantio	1988-89	0.012	2,000	1995	5
2.	Jesse Jo Par	1989-90	0.035	4,200	1995	5
3.	Gadro	1983-84	0.044	17,500	1995	5
4.	Mokhaj	1988-89	0.02	1,000	1996	20
5.	Kaloi	1989	0.03	1,360	1996	20
6.	Khetlari	1990	0.014	1,400	1994	10
7.	Mithi (urban) Phase 1	1987				
8.	Islamkot (urban)	1991-92				

Sources: PHED Division II, Mirpurkhas

1. 2 tube wells 150 feet deep
2. 2 tube wells 610 feet deep
3. 2 tube wells 385 and 425 feet deep
4. 1 tube well 40 feet deep
5. 2 stages supply from Rann Canal
6. 3 stages from Diplo minor
7. 6 tube wells, 2 reservoirs each 36,00o gallons, 17, O/H tanks each 5000 gallons
8. 5 tube wells, 1 4 U/G reservoir 20,000 gallons, 8, O/H tanks

ON-GOING ADP/SDP WATER SCHEMES UNDER-EXECUTION IN THAR
(Up to July 1992)

Urban/Rural Water Supply Scheme	Year of start	Expected completion in	Water supply (MGD)	Projected population	Upto the year	Rate of supply (in gallons per head per day)
Mithi (Ph.II) (Urban)	1989	1992	0.1	23,500	1998	4.5
Diplo (Ph.II) (Urban)	1990	1992-93	0.074	14,800	2000	5
Sukario (Rural)	1990	1992	0.035	3,300	2000	10
Sunder (Rural)	1990	1992	0.024	1,850	2000	10

Sources: PHED Division II, Mirpurkhas

1. Ground source 6 tube wells, ground reservoir 0.046 MG
2. Shallow well (tube wells)
3. Ground source 4 tube wells
4. Ground source tube wells

Survey and investigation for water resources in Thar Phase II started in 1987. Completion not fixed. Object: to provide 16 bore holes in desert area. Have completed 4 bore holes, working on 6 bore holes.

Appendix - 12

STATEMENT SHOWING LIST OF UPTODATE PROGRESS OF ADP/SDP SCHEMES OF SAZDA IN THAR REGION

S.NO: NAME OF SCHEME		UP TO—DATE FHYSICAI. PROGRESS
vl,	v2,	v3,
1, ANNUAL DEVELOP—MENT' PROGRAMME		
1. Establishment of Regional Office Thar at Mirpurkhas.		The Regional Office was established in 1985, Staff has been appointed as per P,C-D/ Full Functioning
2, Establishment of SAZDA Base Station Mithi,		The Base Station Mithi has been established, and Staff has been appointed as per P. C-I. Construction work are as *undermine* 1, Office Block Completed.
.		***2.*** Quarters Cat—IV (14 Unit finishing
work .		in progress.
progress.		3. Quarters Cat—Ill (6 Unit) finishing work in
		4, Chowkidar Huts, finishing work in progress.
		5.Workshop work completed upto plinth level.
		6, Power House / Over head water Tanks
underground . .		water Tanks material dumped at site .
wall .		7. Internal Road, external drainage and compound work in progress.
3. Construction of 13 Veterinary Units,		12 Veterinary Units Building work completed1 1 Unit work in
progress		
4, Construction of Sand Bitumen Road (Vijuto to Chelhar) 5 K.M,		5 K,Ms. work completed,
5. Construction of 22 Dug Wells,		16 Dug Hells work completed 6 Dug Wells work in progress,
6, Establishment of 13 Veterinary Units.		All Veterinary Units have provided free Veterinary cover to 1,45,u73 Livestock & vaccinated.
7. Establishment of Mobile Veterinary Unit t—I,		The Unit has provided free Veterinary cover to l,14,y55 live stocks & vaccinated to 58,593 animals,
8. Establishment of Mobile Veterinary Unit—Il,		The Unit has provided free Veterinary cover to S,u5 live stocks & vaccinated to 75, 100 animals,

vi.	v2.	v3
v9. Establish Installation of installed Mills.		**1. 2** Wind Mills have been at Village Dhaklo & **Okraro** Cheeiiho **&** other wind mills have been dropped in the meeting of M.P.I
Ii. Child Survival Mobile Unit patients l392,thar		The Unit have provided free medical treatment to 9,'l1 in Thar Region. Scheme handed over to D. 11,0 Health Department on 3u—b—
11 .Seven First Medical The Centres in Thar,		All f**irst** lad Units have provided free Medical treatment **to *47331*** patients in Thar,
12 Mobie Medical Units (3 Units for Thar) to Thar		The all units have provided free medical treatment **39,088,** patients **in** Thar area upto December l992. Scheme handed over to D.IJ.0. at Mithi. Health Department on ***2— 12*— l 991.**
13. Multipurpose Women Welfare Centre, Isiamkot. **91.**		The Centre has provided training in stiching, Cutting, Sewing, needle work **to 118** trainees in year 1988—1989, **89—90 & 90—**
14. Award of Poverty —Cum— Merit Scholarship to **poor** and talented **Girls** Students in Thar,		Scholarship ***di***stributed amongst in year 18877—88, & 88—89 to 129 students
15. Construction **of** 31 Underground water tanks Wells.		11 dug wells completed. scheme have been completed.
16. Construction of 31 underground ***water*** tanks problems.		29 water tanks completed. 2 water Tanks Thrice tendered hut contractor could not start the work due to domestic

	Scheme has been completed
17, Exacavation/ Desilting of 70 New & 91 Old Taralen in Thar Region, completed and	1. 59 Hew Tories work has been completed & 11 Taries work not started **and work** Scheme has been completed, 2. 66 Old Taries work has been & **25 Old Taraians work** not started Scheme has **been completed,**
18, Installation of One energy Pumpinq Unit.	The Solar energy Unit have been installed at Village Taloo Joni Taluka PIplo. Scheme has has been completed,

01.	02,	03
SPECIAL DEVELOPMENT PROGRAMME(S.B.P)		
01. Opening School of 170 Primary school Boys in the Arid are of Sindh 84 FOR THAR REGION		71 Boys Primary Schools(Building works) completed
02. Opening of 85 Primary for Girls in Arid region of Sindh 52 FOR THAR REGION		13 Boys Primary Schools (Building works) in progress
		36 Girls Primary School(Building works) completed 6 Girls Primary Schools (building works) in progress.
03. Construction of 200 Housing Wells & 200 No: water tanks.in Arid area of Sindh. 110 NOs: DUGA WELLS & 110 NOS:WATER TANKS FOR THAR . progress.		1 Dug wells: 53 Dug well Completed. 57 Dug well work in progress 2. Water Tanks 75 Water Tanks cornpleted 10 water Tanks work in 25 water tanks not yet started.
04. Establishment of SAZDA, Base Station Chachro. .		Bano Station Chachro established and . staff has been appointed as per P.CI
. . . work has .		Construction work as under: 1. office block and workshop ,compound . wall, internal road external linkage been completed.
completed		2.Cat: III (6 Units) work has been 3.cat1v(4 units) finishing work in progress 4.Power house material dumped at site 5.Underground water tanks and over head .
. water tanks work in progress.		

05, Establishment of SAZDA Base Station Nagarparkar, . . . LEVEL	The base station Nagarparkar established and staff has been appointed as per P.C.I 1. Internal road work completed 2.Office block and Cat -III(6 units),finishing work in progress. **3. Office cat-iv(4 units) workshop,power house** chowkidar data work completed upto roof level. 4. Compound unit work completed upto DPC 5. Underground water tank near to completion 6.Overhead water tank in progress **7.External linkage work not yet started**

01.	***02,***	03.
06. Establishment of aero-Forestry Fodder Farm & Genetic Material Center .		The site of Pinhario Fodder Farm & Chachrio was dropped another two sites: 1. Tagusar tal: Nagarparkar 2. Veerhar Tal: Diplo have been selected and proposed for approval of the competent authority. The work of the establishment of fodder farms will be started as soon as new sites are approved.
07,, Construction of 8 Basic Health Units . 3 UNITS FOR THAR REGION.		work order issued to the con tractors and work will be started as soon as maps /drawing duty approved by Headquarters are received.
08, Establishment of Pak-Swiss pilot project pilot Project - Range Land & L.ive stock Improvement Project Thar Reqion,		Office at Umerkot & Khinsar has been established staff has been appointed as per P.C-3 and construction work has been completed.

Source: Regional Director Office, SAZDA, Mirpurkhas

During informal talks, the Regional Director disclosed that the budget has reduced to payment of salaries only. Over staffing and political appointments have ruined the organization. At present no appreciable work is going on.
It has been reported that there is no involvement of community in SAZDA projects. No proper arrangement for maintenance of wells, schools, tarais etc is exists.

Appendix - 13

ON-GOING DRAINAGE SCHEMES UNDER-EXECUTION IN THAR (Upto July 1992)

Urban/Rural Drainage Scheme	Year of start	Year of completion	Collect & dispose sullage water (MGD)	Projected population	Upto year
Mithi (Revised) (Urban)	1989	1994-95	0.606	25,250	2020
Diplo (Revised) (Urban)	1990	1992-93	0.372	15,500	2001
Chachro (Rural)	1990	1992	0.08	5,000	2000
Mubarik Rind (Rural)	1990	1992	0.026	1,664	2000
Khensar (Rural)	1990	1992	0.04	2,500	2000

Sources: PHED Division II, Mirpurkhas

Appendix - 14

EDUCATION INFRASTRUCTURE IN THAR DISTRICT

Total Facilities for District Thar

	Number of Schools			Number of Teachers			Number of Students		
Kind of School	**1985-1986**	**1990-1991**	**%age increased**	**1985-1986**	**1990-1991**	**%age increased**	**1985-1986**	**1990-1991**	**%age increased**
High School (Male)	7	9	28	122	165	35	2304	3781	64
Middle School (Male)	10	18	80	65	116	78	1499	1760	17
Primary School (Male)	539	613	14	852	954	12	15702	27466	75
High School (Female)	1	1	0	13	22	69	240	295	23
Middle School (Female)	2	7	250	12	34	183	155	478	208
Primary School (Female)	85	138	62	114	257	125	1854	6923	273
Mosque School	18	680	3677	18	772	4189	407	11774	2793
Mohallah/Masjid School		28			28			717	
Government College		1			25			550	

Sources:
1. District Education Officer (M & F), District Tharparkar
2. Principal. Government Colleges, District Tharparkar

Enrolment and Teaching Staff in District Thar

(1988 – 1989)

Primary Schools

Taluka	Institutions			Enrolment			Teaching Staff		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mithi	176	36	212	6674	1905	8579	344	75	419
Diplo	104	30	134	3389	914	4303	261	70	331
Chachro	202	42	244	8523	1475	9998	354	45	399
Nagarparkar	121	19	140	5127	199	5326	183	19	202
Total	603	127	730	23713	4493	28206	1142	209	1351

Middle Schools

Taluka	Institutions			Enrolment			Teaching Staff		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mithi	5	2	7	145	190	335	30	13	43
Diplo	4	1	5	592	0	592	27	6	33
Chachro	7	4	11	130	135	265	44	24	68
Nagarparkar	2	1	3	85	0	85	16	6	22
Total	18	8	26	952	325	1277	117	49	166

High Schools

Taluka	Institutions			Enrolment			Teaching Staff		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mithi	3	0	3	1102	0	1102	61	0	61
Diplo	2	1	3	635	123	758	33	16	49
Chachro	3	0	3	735	0	735	45	0	45
Nagarparkar	1	0	1	246	0	246	14	0	14
Total	9	1	10	2718	123	2841	153	16	169

Colleges

Taluka	Institutions			Enrolment			Teaching Staff		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mithi	-	-	1	373	12	385	14	0	14

Source: Statistical Brochure, District Field Office, Bureau of Statistics, Mirpurkhas

Enrolment and Teaching Staff in District Thar

(1989 – 1990)

Primary Schools

Taluka	Institutions			Enrolment			Teaching Staff		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mithi	177	42	291	7126	2521	9647	288	97	385
Diplo	101	31	132	5250	1060	6310	161	80	241
Chachro	206	50	256	8327	2016	10343	325	66	391
Nagarparkar	129	15	144	6670	1272	7942	180	25	205
Total	613	138	751	27373	6869	34242	954	268	1222

Middle Schools

Taluka	Institutions			Enrolment			Teaching Staff		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mithi	4	3	7	250	161	411	24	13	37
Diplo	6	0	6	695	20	715	38	0	38
Chachro	6	4	10	547	300	847	37	21	58
Nagarparkar	2	0	2	198	25	223	17	0	17
Total	18	7	25	1690	506	2296	116	34	150

High Schools

Taluka	Institutions			Enrolment			Teaching Staff		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mithi	3	0	3	1750	45	1795	71	0	71
Diplo	2	1	3	813	122	935	34	22	56
Chachro	3	0	3	898	60	958	47	2	47
Nagarparkar	1	0	1	200	10	210	13	2	13
Total	9	1	10	3661	237	3898	165	22	187

Colleges

Taluka	Institutions			Enrolment			Teaching Staff		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mithi	-	-	1	618	38	656	25	0	25

Source: Statistical Brochure, District Field Office, Bureau of Statistics, Mirpurkhas

Enrolment and Teaching Staff in District Thar

(1990 – 1991)

Primary Schools

Taluka	Institutions			Enrolment			Teaching Staff		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mithi	177	42	291	7150	2536	9686	288	97	385
Diplo	101	31	132	5271	1069	6340	161	80	241
Chachro	206	50	256	8350	2038	10388	325	66	391
Nagarparkar	129	15	144	6650	1280	7930	180	25	205
Total	613	138	751	27421	6923	34344	954	268	1222

Middle Schools

Taluka	Institutions			Enrolment			Teaching Staff		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mithi	4	3	7	255	163	418	24	13	37
Diplo	6	0	6	715	25	740	38	0	38
Chachro	6	4	10	560	290	850	37	21	58
Nagarparkar	2	0	2	230	0	230	17	0	17
Total	18	7	25	1760	478	2238	116	34	150

High Schools

Taluka	Institutions			Enrolment			Teaching Staff		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mithi	3	0	3	1790	65	1855	71	0	71
Diplo	2	1	3	835	131	966	34	22	56
Chachro	3	0	3	935	73	1008	47	0	47
Nagarparkar	1	0	1	221	26	247	13	0	13
Total	9	1	10	3781	295	4076	165	22	187

Colleges

Taluka	Institutions			Enrolment			Teaching Staff		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Mithi	-	-	1	512	38	550	25	0	25

Source: Statistical Brochure, District Field Office, Bureau of Statistics, Mirpurkhas

Taluka Mithi: Education Infrastructure

	Number of Schools			Number of Teachers			Number of Students		
Kind of School	**1985-1986**	**1990-1991**	**%age increased**	**1985-1986**	**1990-1991**	**%age increased**	**1985-1986**	**1990-1991**	**%age increased**
High School (Male)	2	3	50	43	71	65	1017	1790	76
Middle School (Male)	2	4	100	12	24	100	869	255	- 70
Primary School (Male)	155	177	14	251	288	15	5353	7150	34
High School (Female)	0	0	0	0	0	0	26	65	-
Middle School (Female)	1	3	200	6	13	116	93	163	75
Primary School (Female)	25	42	68	52	97	86	980	2536	159
Mosque School	7	100	1329	7	137	1857	181	1426	688
Mohallah/Masjid School	-	7	-	-	7	-	-	148	-
Government College	-	1	-	-	25	-	-	550	-

Sources:
1. District Education Officer (M & F), District Tharparkar
2. Principal, Government College, District Tharparkar

Taluka Diplo: Education Infrastructure

	Number of Schools			Number of Teachers			Number of Students		
Kind of School	**1985-1986**	**1990-1991**	**%age increased**	**1985-1986**	**1990-1991**	**%age increased**	**1985-1986**	**1990-1991**	**%age increased**
High School (Male)	1	2	100	21	34	62	483	835	73
Middle School (Male)	5	6	20	32	38	19	233	715	207
Primary School (Male)	89	101	13	174	161	- 7.5	3517	5271	50
High School (Female)	1	1	0	13	22	69	240	131	- 45
Middle School (Female)	0	0	0	0	0	0	0	25	-
Primary School (Female)	15	31	107	34	80	135	470	1069	127
Mosque School	5	160	3100	5	188	3660	117	2574	2100
Mohallah/Masjid School	-	7	-	-	7	-	-	249	-

Sources: District Education Officer (M & F), District Tharparkar

Taluka Chachro: Education Infrastructure

	Number of Schools			Number of Teachers			Number of Students		
Kind of School	**1985-1986**	**1990-1991**	**%age increased**	**1985-1986**	**1990-1991**	**%age increased**	**1985-1986**	**1990-1991**	**%age increased**
High School (Male)	3	3	0	46	47	2	646	935	45
Middle School (Male)	2	6	200	14	37	160	80	560	600
Primary School (Male)	182	206	13	259	325	25	3880	8350	115
High School (Female)	0	0	0	0	0	0	0	73	-
Middle School (Female)	1	4	300	6	21	250	62	290	368
Primary School (Female)	34	50	47	26	66	153	370	2038	417
Mosque School	4	317	7828	4	320	-	74	6668	-
Mohallah/Masjid School	-	12	-	-	12	-	-	280	-

Sources: District Education Officer (M & F), District Tharparkar

Taluka Nagarparkar: Education Infrastructure

	Number of Schools			Number of Teachers			Number of Students		
Kind of School	**1985-1986**	**1990-1991**	**%age increased**	**1985-1986**	**1990-1991**	**%age increased**	**1985-1986**	**1990-1991**	**%age increased**
High School (Male)	1	1	0	12	13	8	158	221	40
Middle School (Male)	1	2	100	7	17	143	317	230	- 27
Primary School (Male)	113	129	14	168	180	7	2952	6695	127
High School (Female)	0	0	0	0	0	0	0	26	-
Middle School (Female)	0	0	-	0	0	-	0	0	-
Primary School (Female)	11	15	36	2	25	1150	34	1280	3665
Mosque School	2	103	5050	2	127	6250	35	1844	5169
Mohallah/Masjid School	-	2	-	-	2	-	-	40	-

Sources: District Education Officer (M & F), District Tharparkar

Appendix - 15

Health Facilities in Thar District

Number of Health Institutions Talukawise in Thar for the Years 1988-89 to 1990-91

	Mithi			Diplo			Chachro			Nagarparkar		
Category	**1988-1989**	**1989-1990**	**1990-1991**	**1988-1989**	**1989-1990**	**1990-1991**	**1988-1989**	**1989-1990**	**1990-1991**	**1988-1989**	**1989-1990**	**1990-1991**
Taluka Hospital	1	1	1	1	1	1	-	-	-	4	4	4
A-Type RHC	-	-	-	-	-	-	-	-	-	-	-	-
B-Type RHC	-	1	1	-	-	-	1	1	1	-	-	-
BHU	6	5	5	6	4	4	6	3	3	-	2	2
Distt. Council Dispensaries	3	8	8	6	5	5	6	8	8	2	12	14
School Services Dispensaries	6	6	6	5	5	5	6	6	6	4	4	4

Sources: Statistical Brochures, District Field Office, Bureau of Statistics, Mirpurkhas

Medical Staff in Government Health Institutions
For Years 1988-89 to 1990-91

	Mithi			Diplo			Chachro			Nagarparkar		
Category	**1988-1989**	**1989-1990**	**1990-1991**	**1988-1989**	**1989-1990**	**1990-1991**	**1988-1989**	**1989-1990**	**1990-1991**	**1988-1989**	**1989-1990**	**1990-1991**
Doctors	21	28	28	21	4	4	22	20	20	14	17	17
Nurses	4	4	4	5	-	-	-	6	6	1	-	-
LHV Tech.	7	2	2	1	-	-	1	1	1	1	1	1
Lab. Tech.	1	1	1	1	-	-	1	1	1	1	1	1
Lab. Asstt.	1	-	1	1	-	-	1	1	1	1	-	-
Medical	6	10	10	6	8	8	6	4	4	-	6	6
Compoun-der	6	5	5	6	-	-	4	2	2	2	3	3
Dresser	1	1	1	1	-	-	2	1	1	1	1	1
X-Ray Tech.	1	1	1	1	-	-	1	1	1	1	1	1
X-Ray Asstt.	1	-	-	1	-	-	1	-	-	1	-	-
O.T. Asstt.	1	1	1	1	-	-	1	1	1	1	1	1
Midwives	1	6	6	1	4	4	2	2	2	-	3	3
Dais	3	1	1	-	-	-	-	1	1	-	-	-

Sources: Statistical Brochures, District Field Office, Bureau of Statistics, Mirpurkhas

Appendix - 16

ROADS IN THAR DISTRICT

Existing position of Katcha Roads in Tharparkar

Taluka	No. of Roads (Katcha)	Distance in Miles (Total)
Umarkot	14	635
Chachro	12	631
Nagarparkar	5	409
Mitthi	9	374
Diplo	12	473
Total		2,522

Source: SAZDA

1. Katcha Roads on which GMC ply or journey by vehicles:

	Distance in miles
Umarkot to Chachro	48
Umarkot to Khinsar	55
Umarkot to Khuroro	90
Umarkot to Khemijopar	54
Umarkot to Katho Thar Gadro	80
Umarkot to Phulrabah	64
Umarkot to Dahli	60
Dahli to Jessejopar	6
Umarkot to Okraro chaniho	35
Umarkot to Mithrio	63
Umarkot to Chore (old)	14
Chore to Relahore	24
Khokhrapar to Gadro	32
Gadro to Jenejopar	10
Chachro to Virawah	76
Chachro to Mitthi via Vijuto	68
Chachro to Nagarparkar	87
Naukot to Nagarparkar	120
Nagarparkar to Dehvero	25
Nagarparkar to Diplo along Runn Kutch	84
Mitthi to Diplo	24
Mitthi to Chachro	40
Islamkot to Chachro	44
Islamkot to Diplo	30
Diplo to Virgi	38

2. <u>Pucca</u> (metalled) Roads:

Naukot to Mitthi	32
Mitthi to Chachro	5
Mitthi to Diplo	1

3. <u>Pucca</u> (brick) Road:

Two miles constructed from Mitthi to Islamkot.

Essentially there is no change during last 5 years.

Source: Thar Region "Some Basic Facts" and information compiled by Regional Director, SAZDA in late 1985.

Appendix - 17

CAPACITY OF WAPDA GRID STATION

Seven grid stations have been provided each at Umerkot, Chachro, Naukot, Diplo, Islamkot, Mithi and Nabisar with ample capacity.

Nagarparkar grid station was scheduled to be completed in 1993 but is expected to be completed in 1994.

There is enough power for future use for minning or small industrial units as clear from the table shown below:

Grid Station	Capacity (MVA)
Umerkot	4
Chachro	2.5
Naukot	4
Nabisar	2.5
Diplo	2.5
Mithi	6.3
Islamkot	2.5

Source: XEN, (GSO), WAPDA, Mirpurkhas

Electricity distribution at low tension:

At present electricity at 220 V/440 V is provided to the towns of Chachro, Diplo, Mithi, Islamkot and Nabisar. Two villages namely Ottabad and Saeen Usar (both near Mithi) are also electrified. Further extension of electrification at 220 V/440 V should not pose problem.

The transmission network and grid stations are able to cater the needs of Thar for many years.

Appendix - 18

CULTIVATED VERSUS CROPPED AREA IN THAR: 1989-91

	Mithi	Diplo	Chachro	Nagarparkar
Geographical	5.34	4.04	7.23	4.19
1988-89				
Cultivated area	1.02	0.45	1.39	1.71
Cropped area	1.01	0.34	1.39	1.71
1989-90				
Cultivated area	0.99	1.13	1.36	1.71
Cropped area	1.01	0.41	1.36	1.71
1990-91				
Cultivated area	1.49	0.46	1.48	NR
Cropped area	0.90	0.31	1.36	NR

NR: Not Reported

Source: Statistical Brochures, District Field Office, Bureau of Statistics, Mirpurkhas

Appendix - 19

GMCs AT NAUKOT

Interviews with Amir Bux and Liaquat Ali owners of GMC trucks.

- 100 trucks operating from Naukot
- 80 trucks operating from Umerkot
- 10 trucks operating from Kunri
- 5 trucks operating from Badin

No increase during 5 years.

Fare per person from Naukot to Mithi : Rs 8.00
Fare per person from Naukot to Islamkot : Rs 20.00
Fare per person from Naukot to Nagarparkar : Rs 60.00
Fare per person from Naukot to Diplo : Rs 22.00

No new route added.

Capacity: On an average 50 passengers travel per trip in addition to 100 maund load.

Maintenance cost: Over hauling of engine once a yea : Rs 20,000

Tyres @ Rs 6,000 each once a year: 6 x Rs 6,000 : Rs 36,000

Oil change after 500 km and minor repairs : Rs 800

Main problem: Increase in cost of spare parts and poor road conditions. Government (DC) do not allow further increase in fare.

Although the number of GMCs have not increased during last five years, but the number of trips on most of the routes have doubled.

Appendix - 20

LIVESTOCK POPULATION IN THAR

Animal Population in TRDPPA Between 1989 and 1992

	1989	1992	Percentage
Cow	7,129	18,067	253
Buffalo	198	619	312
Sheep	8,612	27,303	317
Goat	20,872	45,238	216
Camel	2,916	5,167	177
Horse	146	374	256
Donkey	4,200	11,652	277

Data derived from TRDP's 1989 Base Line Survey and 1991 Animal Population Census (also by TRDP).

Livestock Population in Sindh Arid Zone by Species and Region (in million head) 1986 and Projected for 1991

Species	Thar	Kohistan	Nara	Total
Cattle	0.55	0.379	0.304	1.233
Buffalo	0.19	0.1	0.015	0.305
Sheep	1.33	0.362	0.253	1.245
Goats	1.33	0.332	0.608	2.27
Camels	0.015	0.011	0.010	0.036
Horses	0.003	0.030	0.050	0.083
Donkeys	0.020	0.085	0.015	0.12
Total	2.73	1.30	1.26	5.29
Projected 1991	3.88	1.85	1.78	7.51

Source: SAZDA

Animal Population by Taluka

Taluka	Sheep		Goat		Total	
	1980	1983-84	1980	1983-84	1980	1983-84
Umerkot	25690	44982	120432	70037	226831	209506
Mitthi	30349	45349	102834	148664	199831	248679
Diplo	27351	62380	111832	150240	229784	301667
Chachro	13570	107433	95460	95680	175409	269425
Nagarparkar	20469	44569	101739	143976	176557	239783
Total	117429	304713	538257	608579	1008412	1269060

Source: Assistant Director, Animal Husbandry, Mirpurkhas

Appendix - 21

AREA OF IMPORTANT CROPS SOWN: 1982-1992

Taluka	Pulses			Bajra			Jowar			Fodder			Vegetables		
	1982-83	88-89	89-90	1982-83	88-89	89-90	1982-83	88-89	89-90	1982-83	88-89	89-90	1982-83	88-89	89-90
Mithi	2	-	1	54210	-	4	3230	-	3	29390	46	25	-	4	7
Diplo	401	96	51	16483	39	183	-	40	15	10435	328	723	-	27	239
Chachro	557	-	-	69580	-	2465	50730	-	-	18180	-	19280	-	-	-
Nagar-parkar	8011	-	-	20762	-	-	13931	40	-	14895	-	-	-	-	-

Sources: Statistical Brochure, Distt. Field Office, Bureau of Statistics, Mirpurkhas

Appendix - 22

TRDP HEALTH SECTOR EVALUATION
November 1992

Executive Summary

SCF/UK has been involved in the Tharparkar desert area for 5 years, initially as a relief agency, in the Marvi Project, and subsequently as a development agency in the Thar Rural Development Project (TRDP).

The economic status of the Thari people was found to be low, with considerable indebtedness of the people. Government health services were not reaching the rural areas, and this particularly affected mothers and children as they were not able to go to the government centres for health care because of cultural constraints. Full immunisation coverage was approximately 22%.

The TRDP covers 70 villages within a radius of Islamkot town. The total population is approximately 40,000, of whom 19% are under 5 years old. The population are of predominantly Hindu or Moslem religion, and there is a strong caste system. TRDP is carrying out socio-economic development activities (including functional literacy, girl's coaching centres, goat raising and micro-economic development schemes, and forestry), and health-related activities.

The health services development sector (health sector), is headed by a programme officer, and supported by technical and non-technical staff. It has proved difficult for TRDP to recruit the full component of technical staff, and this has placed limitations on the work of the health sector.

The health sector of TRDP is currently carrying out the following activities: Mother and Child Care (MCH) outreach activities (including immunisation, health education, family planning advice); MCH clinic services in Islamkot town (including an on-call emergency service); health education in schools; medical examination of school children; essential drugs provision to the male community organisers; a nutrition rehabilitation programme; a *dai* (traditional birth attendant) training programme; and preparation of a school health curriculum.

Other health related activities are carried out by the socio-economic development sector of TRDP. These include economic development activities, social mobilisation, a functional literacy programme and schooling, and a health museum.

The health activities have provided a useful entry point into the rural communities, and have gained the support of the opinion leaders in Islamkot town.

Many of the health activities have the potential for fulfilling TRDP's aims of providing a replicable and sustainable model for development for the Arid Zone. These include, in particular, the training of the *dais*; the social mobilisation through the male and female village development committees; the school health education; the promotion of an essential drugs concept; the introduction of a cost recovery scheme; the promotion of female education; and development by health education and economic activities.

The MCH curative and immunisation outreach work, and the MCH clinic in Islamkot, will be difficult to sustain, and alternative ways need to be found to share these responsibilities with government and the community.

TRDP has been involved in the monitoring of the effects of drought in the project area. The nutrition surveys carried out as part of this work were useful, and have helped to inform government of the situation in the Tharparkar desert.

TRDP has little access to the concepts of, and the discussion on the practicalities of, development work, and has also tended to work independently of government and other agencies involved in similar work. The senior staff involved with health related activities are very well motivated, hardworking, and are academically well qualified, but sometimes lack the appropriate experience in health development work. The health sector would benefit from greater interaction with relevant government and university departments, and agencies, and from experienced community health technical support.

The health sector activities, and the health related work of the other sectors, have tended to expand beyond the logistical capabilities of the existing staff. They have, however, provided a valuable entry-point into the community, and have provided a useful service for mothers and children.

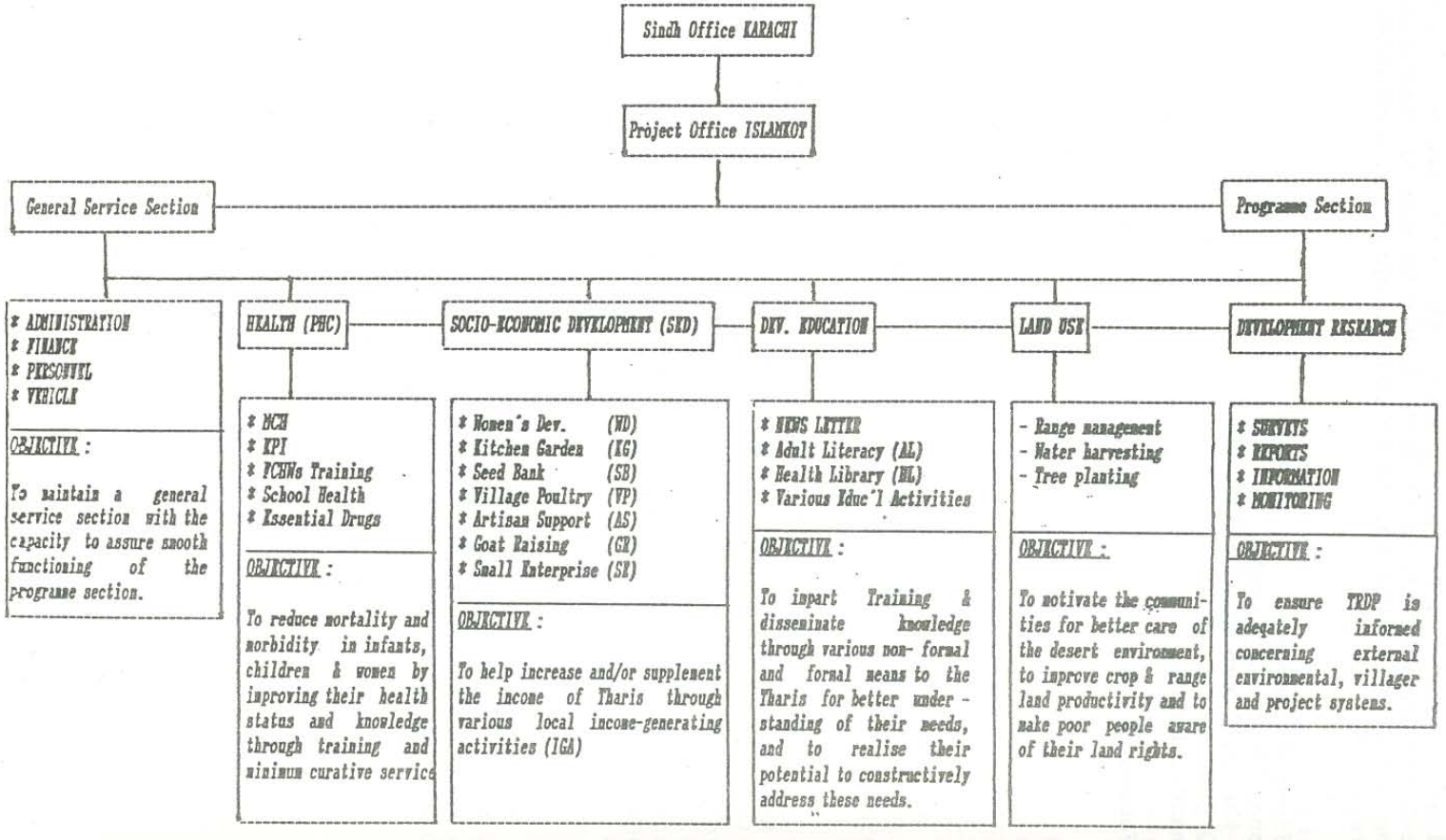
In order for TRDP to be able to promote a model of sustainable or replicable health development work, the next phase of all the project health activities of TRDP should be one of consolidation, during which attention should be paid to quality, sustainability, and replicability.

Dr. Fiona M. Hardy
Regional Health Adviser
Save the Children Fund (UK)
GPO Box 5850
Kathmandu, Nepal

2nd February 1993

THARPARKAR RURAL DEVELOPMENT PROJECT SCF(UK)-Sindh

PROGRAMME STRUCTURE



SALARY SHEET OF STAFF SCF (UK)-SINDH, @ ISLAMKOT.

FOR THE MONTH OF NOVEMBER, 1992.

SR. No.	N A M E	Designation	Basic Pay	Desert Allow:	Utility Allow:	House Rent	Aya Allow:	Dearness Allow:	Total
01.	Dominic Stephen	Proj.Manager	13,499.00	500.00	200.00	---	---	400.00	14,599.00
02.	Mann Mohan	Admin.Officer	6,958.00	---	---	---	---	400.00	7,358.00
03.	Malji Rathore	P.O. (EDT)	5,748.00	---	---	---	---	400.00	6,148.00
04.	Gopaldas	APO (SED)	4,919.00	500.00	200.00	---	---	400.00	6,019.00
√05.	Narumal	IG/PO "	4,052.00	---	---	---	---	400.00	4,452.00
06.	Safia Ali Nawaz	PO-WD "	4,052.00	500.00	200.00	---	1,200.00	400.00	6,352.00
07.	Hotchand	Office Secy:	4,255.00	---	---	---	---	400.00	4,655.00
08.	Easter	Fm.Hl.Worker	4,301.00	500.00	200.00	---	1,200.00	400.00	6,601.00
09.	Razia	" " "	4,057.00	500.00	200.00	---	1,200.00	400.00	6,357.00
10.	Nasreen Khan	" " "	3,220.00	500.00	200.00	---	1,200.00	400.00	5,520.00
11.	Lachhami	" Co.Orgn.	1,729.00	---	---	---	---	400.00	2,129.00
12.	Ghani	" " "	1,729.00	---	---	---	---	400.00	2,129.00
13.	Nirmala	" " "	1,632.00	---	---	---	---	400.00	2,032.00
14.	Sara	" " "	1,200.00	---	---	---	---	---	1,200.00
15.	Kirpaldas	PS to PM	2,519.00	---	---	---	---	400.00	2,919.00
16.	Gotamdas	Clerk/Typist	1,714.00	---	---	---	---	400.00	2,114.00
17.	Mahesh Kumar	" /MCH	1,632.00	---	---	---	---	400.00	2,032.00
18.	Mohammad Yousif	Sup. COs	2,300.00	---	---	---	---	400.00	2,700.00
19.	Mohanalal. P.	" "	2,300.00	---	---	---	---	400.00	2,700.00
20.	Ladharam	Community Orgn.	1,816.00	---	---	---	---	400.00	2,216.00
21.	Tirath	" "	1,816.00	---	---	---	---	400.00	2,216.00
22.	Karimdino	" "	1,714.00	---	---	---	---	400.00	2,114.00
23.	Bhanji	" "	1,714.00	---	---	---	---	400.00	2,114.00
24.	Nalechango	" "	1,714.00	---	---	---	---	400.00	2,114.00
25.	Mohan. T.	" "	1,632.00	---	---	---	---	400.00	2,032.00
26.	Sawan	" "	1,554.00	---	---	---	---	400.00	1,954.00
27.	Dos Mohammad	" "	1,200.00	---	---	---	---	200.00	1,400.00
28.	Veenjhraj	" "	1,200.00	---	---	---	---	200.00	1,400.00
29.	Khuda Bux	" "	1,200.00	---	---	---	---	200.00	1,400.00
30.	Khair Mohammad	" "	1,200.00	---	---	---	---	200.00	1,400.00
31.	Niaz Hussain	" "	1,200.00	---	---	---	---	200.00	1,400.00
32.	Khetsing	" "	1,200.00	---	---	---	---	200.00	1,400.00
33.	Daniel	Driver	2,229.00	500.00	200.00	400.00	---	400.00	3,529.00
34.	Jerome	"	1,985.00	500.00	200.00	400.00	---	400.00	3,285.00
35.	Kewalram	"	1,890.00	---	---	---	---	400.00	2,290.00
36.	Reejhumal	"	1,890.00	---	---	---	---	400.00	2,290.00
			98,970.00	4,000.00	1,200.00	800.00	4,800.00	12,800.00	122,570.00

Sr. No.	N A M E	Designation	Basic Pay	Desert Allow:	Utility Allow:	House Rent	Aya Allow:	Dearness Allow:	Total
	B/F		98,970.00	4,000.00	1,200.00	800.00	4,800.00	12,800.00	122,570.00
37.	Soomar	Cook	1,565.00	---	---	---	---	400.00	1,965.00
38.	Mohd.Malook	Office Boy	1,312.00	---	---	---	---	400.00	1,712.00
39.	Uttamgir	Pl.man/Helper	1,312.00	---	---	---	---	400.00	1,712.00
40.	Mohanlal	Chowkidar	1,312.00	---	---	---	---	400.00	1,712.00
41.	Hindal	"	1,169.00	---	---	---	---	400.00	1,569.00
42.	Ahmed Ali	"	1,169.00	---	---	---	---	400.00	1,569.00
43.	Dagu	Malhi	1,050.00	---	---	---	---	400.00	1,450.00
44.	Zafar Iqbal Junejo	PO (DR)	5,694.00	500.00	200.00	---	---	400.00	6,794.00
			113,553.00	4,500.00	1,400.00	800.00	4,800.00	16,000.00	141,053.00
	Temporary Staff								
45.	Vasandi	Dai/MCH/Isl.	1,200.00	---	---	---	---	200.00	1,400.00
46.	Hidayat	" " Singaro	400.00	---	---	---	---	---	400.00
47.	Pandhi	" " Kehri	400.00	---	---	---	---	---	400.00
48.	Malook	Water-man "	400.00	---	---	---	---	---	400.00
49.	Alam	" Arniaro	400.00	---	---	---	---	---	400.00
			116,353.00	4,500.00	1,400.00	800.00	4,800.00	16,200.00	144,053.00

Appendix - 25

RELEVANT ORGANISATIONS INVOLVED IN RURAL DEVELOPMENT AND RESEARCH

A. UNIVERSITY-BASED RESEARCH ORGANISATIONS

1. APPLIED ECONOMICS RESEARCH CENTRE (AERC)

University of Karachi, Karachi

Year of formation: 1973

Nature of organisation: Semi-government

Funding sources: University Grants Commission and through contracts for research.

Objectives:

Research, teaching, faculty training.

Activities:

- Teaching M.Phil. candidates
- Contract research for international agencies and government departments.
- Core research: projects concerned with issues in the areas of human resources, agriculture, public finance, development, planning, industry etc.

Resource persons:

Dr. Hafeez Pasha, Director
Research staff specialising in various areas of economics

Publications:

- Pakistan Journal of Applied Economics, bi-monthly journal
- List of research work is provided in brochure.

Seminars/workshops/conferences:

Regular research seminars where the methodology and results of research being undertaken in the Centre are presented and discussed.

B. GOVERNMENT RESEARCH ORGANISATIONS

1. ARID ZONE RESEARCH INSTITUTE (AZRI)

Regional Directorates at Sehwan, Khairpur, Mirpurkhas and a hydrogeological wing at Hyderabad

Nature of organisation: Government research organisation

Funding: Government

Objectives:

The Arid Zone Research Institute was established:

- To create a national research capability with a network of four research stations (Arid Zone Research Institute at Quetta, and three sub-stations at D.I. Khan, Bahawalpur and Umarkot) to tackle the problems of the arid areas and develop techniques for the best land-use in the arid regions of Pakistan;
- to identify problems in the management of crops, livestock, rangeland and in the socio-economic sector in arid zones;
  - to collect and analyse the statistical data for arid areas;
  - to conduct research aimed at finding solutions to those problems.

Activities:

- The Institute undertakes research on problems peculiar to arid and semi-arid regions. This research relates to crop production, rangeland development, development of water resources and animal production. The findings of this research are to be disseminated for the benefit of farmers in the arid region through relevant provincial organisations.
- The Institute functions from its headquarters in Quetta and three other research stations. These are in D.I. Khan (NWFP), Bahawalpur (Punjab) and Umarkot (Sindh).

2. PAKISTAN ACADEMY OF RURAL DEVELOPMENT (PARD)
Peshawar

Year of formation: 1957

Nature of organisation: Government of Pakistan, administered by the Establishment Division

Objectives:

- In-service training in rural development for government administrators
- Research in rural development

Activities:

- Training programmes in various subjects related to agriculture
- Research studies and social surveys
- Organising conventions, workshops, seminars, conferences
- Collaborative ventures with international organisations: UNESCO, UNICEF, FAO, AIT (Bangkok), CIRDAP (Dhaka)

Publications:

- Quarterly journal
- Monthly newsletter, "News and Views"
- Research monographs and reports

Seminars/workshops/conferences: Several held; details available from PARD

3. PAKISTAN AGRICULTURAL RESEARCH COUNCIL (PARC)
Plot No. 20, G-5/1, Islamabad

Year of formation: 1981

Nature of organisation: Administered by the Agricultural Research Division of the Federal Ministry of Food, Agriculture and Cooperatives.

Funding: Government of Pakistan and international funding including CIDA, World Bank, USAID, ADB, IDRC, Swiss government and Italian government (project-based).

Objectives:

To strengthen Pakistan's agricultural research system by setting up its own research establishments in order to promote agricultural development.

Activities:

The major centre for agricultural research in Pakistan, it has access to considerable expertise in a number of areas, including agriculture, forestry and fisheries and is active in pure and applied research. Concern for environmental issues at the policy-making level has yet to be incorporated into the implementation of PARC programmes.

PARC is responsible for a number of research stations around the country conducting specialized research, as well as for the National Agricultural Research Centre in Islamabad.

Resource persons:

Dr. Hanif Qazi, Member Crop Sciences, has demonstrated interest in environmental issues; has expertise in plant genetics, particularly, and in fodder crops and grasses.

Mr. Mirza Ashraf, Director Forestry and Environment, has worked for Punjab Forestry Department since the 1960s, and for the past 5 years has been deputed to PARC.

Publications:

- Pakistan Journal of Agricultural Research - quarterly
- Pakistan Journal of Agricultural Social Sciences: bi-monthly
- Progressive Farming: bi-monthly
- PARC News - monthly
- PARC Annual Reports
- PARC Activities Bulletin - weekly
- Proceedings of seminars and workshops
- Brochures
- Leaflets and manuals in English and Urdu
- Bulletins

Seminars/ workshops/ conference:

PARC frequently holds seminars etc. The workshops and seminars of each year are listed in the annual reports.

Future plans: PARC is developing mechanisms to link extension with research.

4. PAKISTAN COUNCIL FOR RESEARCH IN WATER RESOURCES (PCRWR)
House No. 4, Street 41, F-6/1, Islamabad

Year of formation: 1964

Nature of organisation: Initially the Irrigation, Drainage and Flood Control Research Council, later reorganised to grant it a more autonomous character under the Ministry of Science and Technology.

Funding: Government of Pakistan, UNESCO, UNEP, WHO, US-NCF on collaborative research.

Objectives:

- To undertake and promote research activities in fields related to water resources and set up national research establishments.
- To give financial and technical support to universities and other research institutions.
- To collect, disseminate and utilize information and research results.
- To establish scientific liaison with other related national and international organisations.

Activities:

Main area of study includes many issues closely related to the environment:

- Water logging and salinity
- Deforestation and desertification
- Policy planning for water resources management
- Drainage and reclamation

Major project activities include: participation in the Irrigation Systems Management Research Project, with the responsibility for conducting research on management of the irrigation system. The Council has an environmental division which has a programme for monitoring the quality of water supplies, both irrigation and domestic, throughout Pakistan. The desertification unit monitors desertification resulting from over-grazing, soil erosion, water logging and salinity. As a research organisation, PCRWR has conducted studies on the social aspects of water use for irrigation and small dams. However, it does not appear to have any extension activities linking it to farmers and other water users.

Resource persons:

Syed Naseer Ahmed Gillani, Secretary PCRWR

Publications:

- A quarterly newsletter
- A half-yearly periodical
- A bi-annual bulletin

Monographs, manuals, bibliographies and brochures related to water resources. (Details available from PCRWR Public Relations Department).

Seminars, workshops, conferences:

Workshops:

1975: Tile and Ditch Drainage with Dutch System
1976: Methodology of Transit Drain Spacing Determination
1977: Field studies in Tile Drainage
1986: Arid Land Development and Desertification Control with PARC and USAID

Seminars and Conferences:

1975: Water logging and Salinity (with University of Engineering and Technology, Lahore)
1983: Water Management (with Centre of Excellence in Water Resource Engineering, Lahore)
1984: Regional Hydrological Mapping Conference (with UNESCO and WAPDA)

Courses:

1976: Methods of Stream Flow forecasting
1983: Field Irrigation Practices

Future plans:

Projects in the following fields:

- Water and salinity programme
- Water resources management
- Drainage systems
- Socio-economic and institutional projects
- Water resources development and management outside the Indus plains
- Environmental projects
- Hydrological analysis

C. GOVERNMENT DEPARTMENTS

1. PAKISTAN FOREST INSTITUTE (PFI)

Peshawar

Nature of organisation: Government

Funding: Government and international donor agencies for special projects

Objectives:

To promote a forestation through research and extension.

Activities:

- Research
- Extension
- Training of government officials, community activists and NGO staff.
- Special pilot projects related to field research, watershed management and social forestry.

PFI's activities are supervised by a director-general and directors for the following divisions:

- Biological Sciences Research
- Forestry Research
- Education
- Forest Product
- Forest Management and Range Research
- Watershed Management

Resource persons:

Dr. Bashir Shah, Director Watershed Management
Dr. A.R. Baig, Forest Botanist and Ecologist Publications:

- Forestry journal
- Annual progress reports
- Research publications: a comprehensive list is avail-able with the PFI

Seminars/workshops/conferences:

PFI has held numerous seminars, workshops and conferences. The proceedings of these have been published by the Institute and are available from its office.

3. SINDH ARID ZONE DEVELOPMENT AUTHORITY (SAZDA)

2nd Floor, Shafi Court, Merewether Road, Karachi

Year of formation: 1983

Funding: Government and international agencies for special projects

Objectives:

- To meet the basic minimum needs of the maximum number of people in the Sindh Arid Zones
- To provide income generating activities
- To raise the human and animal capacity of the region

D. GOVERNMENT/COMMUNITY PROJECTS

1. KALAM INTEGRATED DEVELOPMENT PROJECT (KIDP)

P.O. Box 2, Saidu Sharif, NWFP

Year of formation: 1981-82

Nature of organisation: Project under the Government of Pakistan

Funding: Government of Pakistan and Government of Switzerland

Objectives:

To improve the socio-economic condition of the population through forestry, agriculture and local infrastructure, taking into consideration the ecological sustainability of all measures and activities.

Activities:

Forestry Development Programme:

Introduces and promotes improved forest management practices; increases awareness of the local people with regard to the multiple use of forests and the necessity to adopt forest protection measures.

Agriculture Programme:

Propagates crop rotation, contributes to the improvement of seed, plants and treatment of crops, mediates input supply, supports in marketing. It backs these by research and extension services.

Village Development Programme:

Strengthening people's organisational ability to engage in commercial sector without foreign assistance.

Resource persons:

Dr. Hermann Warth, Chief Technical Advisor

Seminars/workshops/conferences:

- Village meetings
- Formal meetings involving local leaders and government representatives.

2. MALAKAND SOCIAL FORESTRY PROJECT

Post Box No. 9, Saidu Sharif, Swat, NWFP

Year of formation: 1987

Nature of organisation: Project of Forest Department, Government of NWFP

Funding: Government of Netherlands and Government of Pakistan through Special Development Programme.

Objectives:

Improvement of productivity of hillsides in the Malakand Agency through active involvement of local communities.

Resource persons:

Mohammad Rafiq, Project Director
R.P. Mulder, Chief Technical Advisor

Publications:

- Quarterly progress reports
- Technical papers
- Working papers

Seminars/workshops/conferences:

Dec. 1989: Social Forestry Seminar, Peshawar

3. PAK-GERMAN IRDP
P.O. Box 61, Charsadda Road
Mardan (NWFP)

Year of formation: 1984

Nature of organisation: Community-based governmental organisation

Funding: Government of Federal Republic of Germany through GTZ and Government of NWFP through LG & RDD.

Objectives:

To improve the socio-economic condition of barani areas in Mardan district.

Activities:

Encourage community participation and self-help organisation.

Resource persons:

Nisar Mohammad Khan, Senior Programme Officer

Publications:

- Paigham (Urdu) bi-monthly publication
- Manuals
- Activity reports of village institutes supported by this organisation.

Seminars/workshops/conferences:

- Planning workshops

- Regular bi-monthly conference, Mardan

Future plans:

Village/local development planning and implementation in 72 villages.

E. RELEVANT NGOs

1. ADULT BASIC EDUCATION SOCIETY (ABES)

P.O. Box 18, Civil Lines, Daska Road
Gujranwala

Year of formation: 1947 (but officially registered in 1972)

Nature of organisation: NGO

Funding:

- Membership fees
- Sale of reading and teaching materials
- Project-based aid from international donors
- NGO Coordinating Council, Karachi
- PVNHA, Karachi
- Community participation and contributions

Objectives:

- To promote adult education through implementation of pilot projects and creation of centres for illiterates and neo-literates; teaching basic literacy and functional subjects through non-formal education.
- To develop methods, teaching materials and literature for adult education.
- To train suitable persons to engage in the leadership of adult education activities and to supervise them in their work.
- To do research in significant areas of adult education and to evaluate projects according to their objectives and results.
- To assist other agencies concerned with the development of adult education as requested and within the limitations of budget and staff provisions.

Activities:

- 95% of the Society's work for adult illiterates (66% women and 34% male) is in rural areas.
- Under the community development programme, an agriculture extension programme has been established which arranges demonstrations of new techniques, seed and materials with the participation of local farmers. Last year ABES introduced celery seed with the cooperation of ADB.
- Income-generating programmes for women.
- Adult functional literacy projects.
- Ethnic non-formal education programme.
- Family planning programmes.
- Follow up literacy programmes.

Resource persons:

Vincent David, Director Adult Basic Education Society

Publications:

Educational material. List available with ABES

2. AGA KHAN RURAL SUPPORT PROGRAMME (AKRSP)
Babar Road, Gilgit (Northern Areas)

Year of formation: 1982

Nature of organisation: Non-profit private limited company

Funding: AKF, CIDA, Government of Netherlands, ODA, Konrad Adenauer Foundation, NORAD (through IUCN), Government of Pakistan

Activities:

- Motivation and support for village-level social organisation
- Training of village activists
- Extension of new agricultural inputs and technologies to farmers
- Credit programme
- Training of rural development practitioners from government and non-government organisations
- On-farm research and trials in agriculture and forestry
- Grants and technical support for construction of village-level physical infrastructure

Resource persons:

Shoaib Sultan Khan : General Manager
Hussain Wali Khan : Dy. General Manager
Management Group: specialists in various fields

Shoaib Sultan Khan is an internationally-recognised practitioner of rural development, with experience in Bangladesh, Sri Lanka and NWFP (Pakistan). His expertise is in institutional development and social organisation. He is also a member of the Pakistan Civil Service.

Publications:

Quarterly Progress Reports and Annual Reviews are produced. The Monitoring, Evaluation and Research (MER) section supplies a list of research and other publications on request.

3. ANJUMAN BEHBOOD-I-NAUJAWANAN GUNYAR
P.O. Gunyar Via Thana, Malakand Division, NWFP

Year of formation: 1985

Nature of organisation: Community-based NGO

Funding: Membership fees, donations, occasional government and donor grants

Objectives:

- To organise the youth of Gunyar
- To provide welfare services to the community of Gunyar
- To protect and conserve the environmental resources of Gunyar

Activities:

Planting of saplings on mountain slopes above village, protection against grazing by livestock and felling.

Resource persons:

Dr. Hanif Qazi, Member Crop Science, PARC

Publications:

No publications by the Anjuman. A booklet describing the project has been produced by PARC: "Mountain Range Management: An integrated land use model at Gunyar, Malakand"

4. THE BOOK GROUP
43/S, Block 6, P.E.C.H.S., Karachi

Year of formation: 1989

Nature of organisation: NGO

Funding: Canadian High Commission (for one year)

Objectives:

To produce good quality children's books along with teachers' training manuals.

Activities:

- Weekly meetings of the members
- Workshops for teachers on the usage of the books in schools as supplementary text material
- Upgrading of schools in low income areas

Resource persons:

Sami Mustafa

Publications: Over 15 books of children.

Seminars/workshops/conferences:

20 Oct. 1990: "Use of Story Books as Supplementary Text Material", 7 workshops at different schools in Karachi

Future plans:

To develop text books for various subjects along with publications of approximately 10 story books each year.

5. PAK-CANADIAN SMALL PROJECTS OFFICE (SPO)
Rashid Plaza, 24-D, Blue Area, First Floor, Islamabad

Objectives:

- SPO's objective is to support Pakistan's social sector, particularly with respect to education, health and population welfare, with special emphasis on women in development and development of rural areas.
- Aspects of the social sector targetted for assistance (emphasising projects that support women in development and/or rural areas) are:

    - Community health
    - Education and training
    - Population welfare
    - Water supply
    - Sanitation
    - Roads

- Agricultural production and irrigation
- Small enterprises for income generation

- Technical assistance for credit and banking

Activities:

- The various functions of SPO are designed to assist both the development of projects and the strengthening of the agencies that plan and run them. SPO's functions include: training programmes, processing funding requests, assistance in proposal preparation and planning, and conducting project follow-through activities.
- SPO's training activity is aimed at developing skills and resources needed for effective management of NGOs and the successful implementation of projects.
- Through workshops sponsored directly by SPO, or sponsored by other organisations with SPO participation, management training focuses on such topics as:

  - Goal setting
  - Fund raising
  - Communication
  - Organisational design
  - Personnel management
  - Financial administration

- Topics which relate to project management include:

  - Project planning
  - Budget preparation
  - Proposal writing
  - Resource development
  - Monitoring and evaluation
  - Community relations

- SPO's assistance to NGO projects can include technical training provided by external resources and may focus on, for example:

  - Water supply
  - Family planning
  - Midwifery
  - Nutrition
  - Sanitation
  - Irrigation

6. ORANGI PILOT PROJECT (OPP)

Plot No. S.T-4, Sector 5/A, Qasba Colony, Manghopir Road,
Karachi

Year of formation: 1980

Nature of organisation: NGO

Funding: BCCI Foundation, NGOCC, Aga Khan Foundation, CEBEMO, SAAR Foundation, Government of Pakistan, IUCN, Swiss Development Corporation, Federal Bank of Cooperatives, Canadian Mission Fund

Objectives:

- Develop community organisations to undertake construction of physical infrastructure (e.g. sanitation) and respond to social sector projects initiated by the OPP, Government of Pakistan or other agencies.
- Develop alternative, replicable models for the physical and social upgrading of low income settlements through research and extension.

- Transform OPP into a training institution to disseminate the model to other agencies and organisations.

Activities:

- Research on the social and physical dynamics of low-income groups and settlements.
- Motivation and social organisation at the community level.
- Research and development of appropriate technology, and extension of this technology to community groups.
- Establishment of and support to small-scale family-based enterprises, including credit.
- Primary health care programme.
- Social forestry project.
- Training of professionals from organisations and academic institutions, national and international.
- Training of community activists in Orangi and other low income settlements in Pakistan.
- Research into and development of environmental management techniques for urban villages.
- Linkages with DCET, AKUH, AKRSP, Citi-net (UNESCAP), HIC, ACHR, and several community groups and NGOs in Pakistan.

Resource persons:

Akhtar Hameed Khan, secretary OPP Society and founder-director of OPP: an internationally-renowned development practitioner and academic with extensive rural development experience in Bangladesh and Pakistan, and teaching experience in India, Bangladesh, Pakistan and USA. Also a member of the Indian Civil Service.

Contact persons:

Arif Hasan: consultant to OPP
Perween Rahman: architect and director of RTI
Ramzan Qureshi and Hafeez Arain: social organisers, Orangi-based, responsible for the development of numerous community groups in Orangi.

Publications:

1983-87: "Orangi", a monthly newsletter
1980-89: Director's Quarterly Progress Report, including financial details
1989- : Quarterly reports produced by each component of OPP Society
Bi-monthly newsletters produced by each component of the OPP Society

Numerous monographs, case studies, profiles of organisations and activists, extension materials, and maps of Orangi.

A list of publications is provided on request.

Future plan:

- Further replication of the OPP model to other low income settlements in Pakistan and Asia. Replication has been initiated in other areas of Karachi and in Quetta, Baluchistan.
- Incorporation of the OPP's approach into the government's planning mechanism for low-income settlements.

7. RURAL DEVELOPMENT FOUNDATION (RDF)

RDF Centre, Mauve Area, G-9/1
P.O. Box 1170, Islamabad

Year of formation: 1978

Nature of organisation: NGO (Societies Act XXI of 1860).

Funding: Government of Pakistan, CIDA, UNHCR, Friedrich Naumann Foundation

Objectives:

To stimulate and promote activities aimed at improving the quality of life of rural people through training, research, organisation and development of human and material resources.

Activities:

RDF works as a facilitator and catalyst. It operates at both the micro and the macro levels. Some of its projects are:

- Women integrated training centre
- Saving scheme in focal villages
- Revolving fund for credit needs of small entrepreneurs
- Village 5-year plan

Resource persons:

Dr. M. Sadiq Malik, founder and executive president; graduate of Agricultural University, Faisalabad; served in the army for 25 years and then in the federal Ministry for Local Government and Rural Development for 10 years.

Publications:

Shadab, a bi-monthly publication

Seminars/workshops/conferences:

Village level meetings

Seminars and Conferences:

- Role of NGOs in Rural Development (with UNICEF and ILO)
- Cooperation in Rural Development to Alleviate Poverty (with FAO)
- Management Development of NGOs in South Asia
- Cooperation for Rural Development (with FNF, West Germany)

8. SANGI DEVELOPMENT FOUNDATION (SDF)
House No. 19-B, Street 69, F-8/4
Islamabad

Year of formation: 1989

Nature of organisation: NGO non-profit development foundation

Funding: Presently financed by Sangi's founding members and development committees

Objectives:

To meet the needs of the community as stated by it and involving the community directly in the preparation and implementation of policies and projects to mobilize collective strength and develop self-sustaining institutional structures.

Activities:

- Community-based development projects
- Informal and adult education
- Income-generation opportunities for women and youth
- Basic health facilities
- Legal aid
- Gathering and dissemination of information
- Networking
- Prevention of environmental degradation

- Preparation of project proposals, organised by Sangi and sponsored by Small Project Office.

Resource persons:

Omer Asghar Khan, Chairperson, Economist

Publications:

- Half yearly activity report
- Research papers and reports

Appendix - 27

STATUS OF SEED BANKS

No. of SB	Member -ship	Input A		Input B		Input C		Total Dues	
		1989-90		1991		1992			
		Gowar	Millet	Gowar	Millet	Gowar	Millet	Gowar	Millet
10	959	21120	5110	620	1460	7580	2688	29320	9258
4	310	6200	1550	6200	1550	-	-	12400	3100
5	500	10000	2500	-	-	-	-	10000	2500
19	1769	37320	9160	6820	3010	7580	2688	51720	14858

Recovery from the community was only in 1991 when 46.18 percent gowar and 26.39 percent of millet seed was recovered.

Appendix - 28

RAINFALL FIGURES IN THAR YEARLY AVERAGE

(in millimeters)

Y e a r	Mithi	Diplo	Chachro	Nagarparkar
1986-87	Nil	Nil	Nil	Nil
1987-88	27.5	23.1	19	29.7
1988-89	21	21	70	21.6
1989-90	7	77	40	39
1990-91	12	5	31	97
1991-92	476	325	292	609

Sources: Statistical Brochure of Tharparkar 1987-1990 and Office of Mukhtiarkar, Mithi

APPENDIX - 29

CONSULTANCY REPORT:
THARPARKAR **RURAL DEVELOPMENT PROGRAMME**

Abdul Alim, MBBS, MPH,

School Health *Programme*
Nutrition ***Rehabilitation***
Infant *and* ***Maternal*** *Mortality* ***Rates***
FP(Survey
Cost *Analysis*

David Marsh, M.D. MPH,
Maternal ***& Child*** *Health Services*
Essential Drug Programme

Department of Community **Health Sciences**
Aga Khan University
Karachi

November 20, 1992

Acknowledgements:

We appreciate the cooperation and the warmth of the TRDP staff extended to us during our assignments. We learned much in discussions with John Beauclerk, and many others in the field.
Thanks are due to Dr. Thaver, Ms. Khatidja, and Dr. Nizamani for extending help in analysis of the nutrition data.

REPORT TO ***SCF-TRDP*** THAR FOR EVALUATION 1992
THE HEALTH SECTOR

I. INTRODUCTION

This consultancv report should he seen in light of the reality that the programme itself encounters and understands best. No outsider can have opinions more precious then of those who live in the difficulties of the desert life day in and day out. External evaluations should he sensitive to local people. We avoided some questions which may have been scientifically sound hut not culturally sensitive.
We have tried to take into account the constraints and the social factors that determine the directions of most programs and affect their quality. Some of the comments reflect the bias of one of us (AA) who worked in rural areas of Sindh though in a different district and entirely with a different focus.
As desired in the terms reference for research associates we have tried to keep the larger picture in focus. We start with Pakistan and look at Thar from this larger perspective.

II. METHODOLOGY

A. Field Visits:

#1 to Islamkot, Thar (AA for one day):

1. Individual and group interviews with almost all project staff.
2. Focus group interview with the extensionists or Community Organizers (Cci).

#2 to Islamkot, Thar (AA & DM for 2 days):

1. Visits to local villages: to examine registers kept at the Base Units by extersionists and to observe community mobilization activites.

2. Visit to the MCH Center

3. Visit to RHC to examine data and interview Medical Officer i/C, Dr. Vishan Das.

B. Persons interviewed:

1. Mr. John Beauclerk, Project Director
2. Mr. Dominik Stephan, Project Manager
3. Dr. Parsram Pardesi, Health Services Development. Projec. Officer
4. Mr. Mann Mohan, Administrator
5. Mr. Zafar Iqhal, Research Officer
6. Dr. Vishan Das, I/C Islamkot RHC
7. Mr. Ladhram, Community Organizer, Jogihar
8. Mr. Mohanlal, Supervisor, Community Organizers
9. Mr. Yousef, Supervisor, Community Organizers
10. Mr. Anthony Sharif, Driver and Interpreter
II. Ms. Safia Alinawaz
12. The LHV and apprentice at the MCI-i center

C. At the Department of Community Health Sciences:

1. Reviewing project documents and data sets.
2. Entering and analyzing data by hand—tally assisted by standard software packages with input from other Faculty.

ITT. T-IFALTH SECTOR IN PAKISTAN

Any situation in Thar is, in turn, influenced **by** what happens in Pakistan's health sector. Since health is a provincial responsibility, Thar is affected by what oes on in the health sector of Sindh,

The TJNDP report for 1991 places Pakistan 120th (of 160 countries) according to its Human
Development Index, an aggregate measurement including adult literacy, life expectancy at birth, and
per capita GNP. Clearly the social sector in Pakistan has lagged behind the economic sector (Table
1't.
Within Pakistan, there is disparity between provinces. Sindh has suffered particularly. As the most urbanized province, Sindh ranks second most populous with a population of *25.9* million. It is the second poorest province, with Karachi having the dubious distinction as home to the largest number of slum dwellers, growing at *5%* per year.

Sindh's rural areas have a population of 12.8 million distributed in small clusters with over 70% of the people living in communities of 500 or less. This, coupled with the security problems north makes Sindh one of the most difficult provinces in which to work, particularly for female health staff. Not surprisingly, infant mortality figures for rural Sindh are among the worst in the country, ranging from 172 to 140 per 1000 live births.

Considering the difficult, remote terrain, the poverty, and the inadequate government health system despite fair infrastructure, Thar remains a potential disaster area as TRDP people well know. The SCF—TRDP model is not only ambitious hut also may prove to he the only model that can relieve the sufferings of the underprivileged Thar is to enable them to meet the future with ome hope.

IV. FINDINGS

A. MATERNAL and CHILD HEALTH SERVICES

The MCI-I services consist of center—based activities and outreach (OR), both lead by a Lady Health Visitor (LH\"). At the center a Female Community Health Worker (FCHW) and clerk assist. In OR she is assisted by a Female Community Organizer (FCO) with the aid of a Government Vaccinator and clerk. There are 2 facility—based clinics weekly and usually 4 community—based clinics. Each of 50 villages is visited monthly to provide basic affordable, acceptable, accessible care to groups most in need, mainly women and children although none are refused.

Figure 1 shows the relative contribution of the 2 MCH services, center—based and CO, during 2 representative months, July and December, 1991 (combined). Community outreach services provide 84% of the services. WRA receive 17% of their care at the center; all other groups receive negligible fractions of their care at the center

.
Table 2 shows the rural patient encounters (facility and CO) for the 12. month period, July 1991— June 1992. July and August were 2—3 times as busy as other months both in total patients seen and in patients per MCH day. The age—sex breakdown shows that 60% of all patients seen are women of reproductive age (WRA). Indeed, 82% of all patients are female. Girls under age *5* years comprise 0%, and girls between 5 rind 15 comprise only 4% of the total. \VRA and children under age 5 account for (60% 9% + 12%) 81% of all visits. In the under 5 group, boys are slightly over— represented (12%) compared to girls (9%).

Also shown are the referral patterns. As the numbers are small, the yearly totals are more pertinent:
iS referrals from SCF—trained dais. ii from non—SCF—trained dais. There were 39 total emergency calls and 16 referrals up. The outcome of these referrals is not known to us. Feedback is sought from the involved fmi1ies: there is no formal reporting.

Figure 2 shows the consistently high percentage of total patients seen through the 12 month period that are WRA. Figure 3 shows the small number of referral/emergency calls by month; October and March were clearly busier.

Table 3 shows the conditions center and OR MCH activity by diagnosis according to the monthly reports over the same 12 month period. The figures (except for the reported totals) were copied verbatim, and the totals by diagnosis do not always correlate with the totals by age—sex breakdown noted in Table 2. The differences range from sizable to nil. Given the likely limitations in the completeness, accuracy, and diagnostic category, some tentative observations can he made. The top six diagnoses are: fever/cough (15%), antenatal care (ANC)(13%), anemia/vertigo (10%), weakness (7%). diarrhea (6%), and body ache/backache (6%). Although not analyzed quantitatively, the range of diagnoses appeared not to differ between the center and OR.

These 6 conditions are shown by month in Figure 4. Aside from a remarkable peak in "anemia/vertigo" in July, there are no dramatic trends. There is a slight increase in diarrhea as expected in August. The January diarrhea peak could represent the commonly seen winter rotavirus outbreak. Since "fever/cough" represents acute respiratory infection plus malaria plus other feorile conditions, interpreting its curve is problematic.

The forms are quite exhaustive in listing common conditions. Notable omissions are: EPI—

preventable diseases, pneumonia, injuries, conditions specific to maternal health such as menstrual problems and family planning. Four monthly forms included the following diagnoses written in at the bottom of the page: measles (a total of 9 cases), pertussis (3), Marasmus (4), pneumonia (7), and night blind (6).

Protocols exist for treating diarrhea, ARI and draining ears. No formal case review or quality assurance is in place.

To help round out the local morbidity picture, a visit was made to the Islamkot Rural Health Center (RHC). The Medical Officer I/C, *Dr.* Vishan Das, kindly forwarded copies of the facility's 1991 Annual Report of In— and Outdoor Patients, selected excerpts from which are shown in Table 4. Not surprising, disorders of digestion, IJRI I, skin diseases, and wounds top the list, accounting for **50%** of all outdoor patients. Tuberculosis, malaria syndromes, hepatitis and infantile diarrhea each accounted for 1% or less. Of indoor patients, snakebite accounted for 40%. Of note, there were no cases of tetanus, diphtheria, pertussis or measles; and only 2 patients were hospitalized for marasmus. The single stated fatality was due to snakebite.

B. ESSENTIAL DRUG PROGRAI'4:

The Essential Drugs program covers 50 villages with 8 drugs dispensed by male Community
Organizers (COs) at nominal fees ultimately aiming towards cost recovery. The COs

complete
Patient Logs. Stock hooks, monthly Status Forms, and a recently added, 6 month summary showing
patient breakdown by age, sex and outcome.

Table 5 is an edited, annotated transcription of the available 6 months of Status Forms (Jun-Jun 1992) for 2 communities, Jogimarhi (Flindu) and Jogihar. Selected months were available from 9 sites hut in some cases the records were not continuous. The 2 villages chosen were said to by “typical.” A scanning Of others’ documents confirmed them to by typical.

Constructing Table 5 was tedious for several reasons:

not all drugs were mentioned each month, unit costs changed,
new stock added was not noted,
stock was frequently unaccounted for,
patients were over— or under—charged (usually trivial differences)
arithmetic errors were common,
data were entered in the wrong columns,
data were entered in the wrong month; 2 errors would “cancel out,”
prices different among sites,
concessions were given, hut inadequately documented, and
the fate of expired drugs was not clear

.
Indeed, of the 20 drugs traced through 6 months, only 4 were free from discrepancies, 2 a each site. For the reader who wishes to track through the pages of Table 5, note the framework:

Drug (which may change in name or formulation, ie iron/folate, iron or folate depending upon availability);

Unit Price (which may change depending upon source);
Quantity at Start (usually only obtainable from stock book);
Quantity Sold as stated;
Rupees Owed or the charge for the drugs sold;
Rupees In or The amount actually collected; and
Quantity *at End,* the stated amount remaining.

Then the monthly cycle starts over with Quantity at Start, followed by an additional column:

Difference which is the arithmetic difference between what should remain and the stated amount remaining.

The final columns show

Total Quantity Sold in the 6 months;
Total Rs Due in the 6 months;
Difference, the net over- or under-charging; and
Status wherein the extra or missing pills are noted from interpreting the previous 5 Difference columns.

Related to the services provided through MCH Center and OR discussed above. Figures 5 &. 6 compare utilization parameters of the ED programs at the same 2 locations with the **Combined** MCH Center and OR Diagrams. Figure 5, showing the age and sex breakdown of attenders. underscores that females are primarily served by MCH and OR, and males are the main beneficiaries of the ED services, As the providers are male, they are probably more readily accepted by males, especially-.' outside of their home communities. Note that for females over 45, they are relatively better served by the ED program than MCH/OR. This could he because the ED services are relatively more accessible, ideally available weekly in the village vs. monthly for OR or at great distance for MCH.

Figure 6 compares selected presenting complaints in the 2 ED programs vs. in the MCFI/OP. initiatives. Those noted represent the 4 most common complaints in the ED programs reviewed. Note the remarkable similarity between the fever/cough and anemia bars in the 2 ED programs. Moreover, if the symptomatic complaints of body ache and headache were combined, the z, tori. would be nearly identical. More common symptoms are treated by the ED program, while MCH/OR handles "other" conditions as noted above.

Like the MCH/OR, there is no structured supervision in case management although monthly workshops allow for program review. Of note, one CO was able to provide detailed indications for paracetamol vs. aspirin (through a physician interpreter).

C. SCHOOL HEALTH PROGRAMME

The charts of 58 children who attend a target primary school (Government Primary School Jnglhar) were reviewed. Thirty—six percent of these children were in classes I and II; the remaining were in Ill—V. Abnormal findings were rare. All eye, ear and most general medical examinations were normal. All children fell in the normal range of weight for height. Of 218 examinations conducted over approximately 2 months, 21 students (9.6%) were absent. Eighteen (8.3%) examinations were abnormal of which 15 (6.8%) had upper or lower respiratory infections.

The collecting instrument is quite detailed. Some charts, however, lacked information on age of the

child. The instrument does not ask for sex, religion, or caste which are likely risk factors. The instrument could he simplified by making large column for general exam and column for abnormal findings.

Sick children are less likely to he in school. Perhaps absent students should be pursued more diligently rather than those who attend.

D. NUTRITION REHABILITATION

Three of the four intervention villages were followed in the nutritional rehabilitation program. Data from two villages were collated, compared to NCHS standard z scores (standard deviations), and summarized in Table 6. Forms which were incomplete were discarded. Since age seemed to have been rounded into whole numbers, it was not appropriate to use the Waterlow or Gormez classifications (which depend on age).

Of 21 males, 7 improved or did not WU[SCO, while nut of 29 females 14 improved or did not worsen. Of a total c 50 cases, 29 (58%) actually worsened.

It would he ideal to add a comparison group to the program. Though 42% children did improve or remain the .arne. ji would be df0cuJF to ay that this was cpeeiflc.lly due **to** the program intervention. Similarly, for those who did not improve, one could not say that it is because of the lack of proper follow up.

Completing the data instrument needs more attention as many forms were incomplete and inaccurate.

E. INFANT ND MATERNAL MORTALITY RATES:

A survey of 46 dais' activity (serving an estimated total population of 36,556) from May '91 tc May
'92 was undertaken. Table 7 shows their reported births and deaths; Table 8 shows the causes of
reported young infant death during the 12 month period.

Infant mortality rate (# deaths to infants less than 1 year of age/1000 live births during the same year) cannot be approximated from the data. At best we have a Young Infant Mortality Rate ("YIMR") 26/487 x 1000 *53* per 1000. The figure is neither complete nor is the upper age limit known. Most of the deaths reported by dais are probably ornates, but some are older children given the suspected diagnoses (see below). Here the unit is the dai, not a household nor a population.

60% of dais are SCF—trained; they performed 68% of deliveries and reported 73% of deaths.
Untrained dais comprise 26% of the dais, conducted 24% of the deliveries and reported 23% deaths.
The higher death rates for SCF dais may he due to more complete reporting rather than performance.

The Government of Pakistan reports **an** TMR of 25/1000 for Thar while the **DT-1O** Thar reports a figure of 100. Neither approximates the TRDP figure. Likewise both are at variance with the results of a house hold based survey conducted by Thatta project which reported an IMR of 172/i000.

Maternal Mortality rate for Thar by SCF data: 0 compare with 800/100,000 for Thatta in survey findings of Thatta in 1987.

F. EPI SURVEY

Two sets of figures are available, from the RHC and from the MCH center run by TRDP. However. the responsibility is shared between two organizations since both share one vaccinator. Thus, SCF villages cannot he analyzed separately. Table 9 shows vaccination activity according to government calculations. Any comparison should he interpreted cautiously, for the reasons of possible inaccuracies of the government figures, the overlapping in the catchrnent area and sharing ot resources.

Coverage cannot be calculated from this data because one cannot determine which hidden we
being immunized. According to government the expected of children of immunizable age is 3.66% of the total population. For SCF catchment villages (population dO,000), this equals I
Accordingly the total coverage for the year, June 1Q91 to June 1992. is 33.3% (188/1404).

According to government figures. the total coverage is 34% for the year until now. This marches the figures for SCF outreach. But they match because they are derived from the same source. There are many disincentives for the government staff to report accurately. Comparisons between the MCI- immunization performance and RHC's would be only possible with dearly demarcated areas for coverage. This data set was perhaps the least informative and most complicated to process.

It would he useful for SCF to have an independent monitoring instrument to verify the converge. Some villages could he demarcated for the SCF and some for the government. Experience from Thatta shows that coverage figures usually match the required target (70—S0%) although accuracy
is suspect.

G. HEALTH SECTOR ***COST*** ANALYSIS

Tables 10 and 11 show the health sector expenditures. They consume about 31% of the total project budget. The yearly cost per person in the TRDP catchment area is 9 rupees. This ma:
he compared to the cost of 72 Rs/person/year for AKUs Karachi PHC sites, Though the cost/person for TRDP looks small, it is essentially service—oriented. This raises the concern for sustainability. TRDP might want to look at some cost sharing mechanism with the communities once VDCs start functioning.

Table 11 gives the cost allocated to various functions. The salaries of the health staff form the
bulk of the total health cost (42%) followed by: training FCHWs and other PHC training I 5%.

transport 13%, renting/maintenance of quarters 9.5%. nutrition program 5%, MCI-I care 3%. school health 2.1%, and office expenses 2% of the total cost.

V. GENERAL COMMENTS FOR THE HEALTH SECTOR

A. IS THE PROGRAMME SUSTAINABLE?:

The program may suffer from excessive verticalization. That may have been a developmental need, but it may have affected planning **for** the whole sector. This verticalization is visible in the information system. This would he easier to deal with **now** than at a later stage. The notion of integration has implications from the point of

view of replicability and sustainabilitv of the health sector.

Obviously replicability and sustainability are concerns for the project itself. The vision of sustainability that the project has developed is admirable, and the methodology being followed is an example for many developmental agencies which enga2e in such work. However, if the health sector is to survive, it must become more cost efficient and do more in terms of building bridges with other a2encies. The expenditure on health is not sustainable presently. For this purpose, the project may want to explore avenues in which it can become partners with the government in government—led health projects. These are up and coming, and this may be the right time to do it

.

B. WHAT IS THE QUALITY OF CARE?

Although there is no evidence of poor quality of care, experience shows that focused supervision is needed to maintain good practice. The existing protocols for treating diarrhea and ART can he used as a basis to review case management of either actual patients or simulations. Protocols for diaQnosin2, treating, and advising common and/or potentially serious conditions to be designed with time. The TRDP health programs face some less than friendly health services competition from quacks and other local allopathic providers. For sustainability, TRDP must provide good care, an important determinant of patient acceptability.

C. IS THE PRESENT INFORMATION SYSTEM FTJNCTTONTNO?

Much information is collected in both of the oro2rams discussed above. And this is being augmented. Basic questions should he asked, such as: who uses it? IN what purpose? frequency? source? and feedback? Given that this consultancy is the first attempt to aggregate and analyze the data collected, it is apparent that the system has yet to be fully conceptualized. The accompanying tables and charts were **made** with moderate effort through hand—tallying with the help of a computer (although not essential). It is for the reader to decide how useful the information is. The uncertain quality of much of the data impairs its usefulness and suggests its lack of training, supervision, and priority given to this area.

The state of the information for the ED program needs special comment. As noted, it is deficient. A modest sophistication in accounting is demanded. Indeed, the TRUP Activity Description (September 1992) summarizes one worker's opinion of the ED program:

this may he accurate description, hut I hope its never replicated! S drugs is for two many to start all at once, further, I think [sic].

Admittedly, the goal of the program is not numerical precision: rather it seeks improved health, economic savings and community empowerment. On the other hand, handling money and medicines on behalf of communities is a high calling demanding accuracy, integrity, and accountability. The arithmetic inconsistencies may be attributed to an overly complex system**.** but theft cannot be ruled **()H[.**

The program managers must. decide wherein lies the fault of the information tracking: too complex a system, inadequate training, or inadequate supervision. Fewer, rather than more, drugs are advisable .A form that more clearly tracks medicines and money is needed (table 12 is an example). Inexpensive calculators s are a must. And focused supervision, including reviewing the hooks and stock on hand, must be routinized Initial and periodic supervision of supervisors is also needed.

The information for the MCI-I/OR activities is in the form of standard patient resisters and a Monthly Report. As noted above, many non—specific complaints and syndromes (headache, body ache, abdominal pains are included, plus trivial conditions (worms, scabies), plus items never ticked (post—op check). Furthermore,

essential (likely) target conditions, like pneumonia, malnutrition, measles, family planning, and so on are omitted. The goal of ultimately integrating with the existing government system constrains creativity, ut thought should he given to a tally sheet that targets groups and conditions (Table 13) is an examples. This should flow from problems identified by Village Development Committees or Health Committees guided by technical input from TRDP staff.

D. WHAT IS THE REAL HEALTH STATUS?

This question follows directly from (C). What should the targets be? In turn, what is the health status of the population of TRDP? And are its services really reaching those most in need? Given the many indicators of socioeconomic deprivation, one would expect that the health status also would be poor. Some evidence is available through other data sets. Despite methodological flaws, childhood malnutrition appears common. Likewise, roughly one in *5* deaths reported by dais were possibly due to neonatal tetanus.

On the other hand, diarrhea is clearly not a major problem either at the RHC, the MCH/OR, or the ED Program. Is the water too saltish for pathogens? Or perhaps the saltish water resembles ORS enough to save lives! Likewise malnutrition is not reported often, but perhaps it is not looked for or not recognized. The MCH Monthly Report has no space although "weakness" may be the local adaptation. Criteria for recocmi7ina and reporting need attention. How much of a problem are immunizable diseases? RHC data would suggest negligible; yet they are occurring as attested by the write—ins on some MCH Monthly Reports and the putative neonatal tetanus problem noted above. Complete immunization coverage was 22% according to the lS9 baseline survey. What is it now?

One must either conclude that this is an unexpectedly healthy population despite adversity. Or one must admit that universal coverage and care according to need have not been achieved in that sickness and deaths are undetected.

VI. RECOMMENDATIONS:

I. Institute formal supervision of quality of care, based on case management protocols, for MC1-T center, Ca, and ED services. Note that the ART protocols at the RHC (which we assume are the same as those at the MCH Center) have been lately revised by WHO. New posters are available from the Government of Pakistan. Indeed, a representative should attend the comprehensive Child Survival Training Workshop (Nutrition, CDD, ART, EPT, and Communication) offered by Dr. G. Billoo at Civil Hospital, Karachi.

2. Review the information needs of the ED program with an eye towards simplifying them, strengthening training and supervision, and supplying inexpensive calculators with each medicine box.

3. Do not increase from S to 11 drugs until a pre—determined number of error—free months occurs. Preferably add one drug at a time.
4. Consider a revised ED Status Form that lists each drug, each stock addition, each dispensation, and all Rupees collected.

5. Consider a revised MCH Monthly Report Form that lists priority conditions by age and sex. The conditions should reflect priority problems identified by the communities for which responses are in place or contemplated.

6. Consider a formal village based survey (“health and demographic”) to determine important information such as IMR, cause and age structure of death, morbidity patterns, immunization coverage, practices regarding diarrhea , and SO on.

7. Perhaps the upcoming VDCs could he used to gather minimal information for the program. A simple form could he designed for the VDC3 to complete periodically for the village. This will give the programme the much needed picture of the true health status. Regarding mortality in identified target groups, the name, age, sex, date and presumed cause of death could be reported to the CQs. A more formal “verbal autopsy” method could be introduced later.

8. Almost all data collecting instruments need review, and staff needs training in their use and importance. Staff may need orientation to understand the vital importance of the information collection itself. TRDP might consider hiring art information analysis and system expert.

9. Despite taking an NGO path to sustainability, TRDP must look at the possibilities of building a multilevel partnership with government. This may take the protect. on an unfamiliar. path. hut may well prove to be the crucial link towards sustainabilitv.

10. The building of partnership with the government may also answer questions of replicability. Models such as the TRDP can he incorporated into policy, and large—scale replication is ensured with a much larger impact compared to being confined to Thar.

11. The project would benefit from a more rigorous research underpinning. especially to insure a simpler, integrated, and more replicable model design. The Project has just hired a new research officer who might consider a rotation with *'he* Department of ('community of health Sciences to review Project research design issues.

VII. SOURCES

BACKGROUND DOCTJM.F.NTS REVIF.WF.D:

1. Tharparkar Rural Development Project: TPDP Activity Descriptions. September 1992.

-, Save the Children Fund (TK) Sindh, Tharparkar Rural Development Project, Annual Report - 1992.

3. Save the Children Fund (UK) Sindh, Annua Report for the Year 1992, Tharparkar Rural Development Project (TRDP),

4. Rural Development Strategy for Sindh Arid Zone Development Project —Pakistan, Agrodev Canrda,
Ottawa, Ontario, September 1991.

5, National nutrition survey far Pakistan.

6. Pakistan demographic and health survey 1990/1991, National Institute of Population studies.

7. Human Development report 1991

S. Annual Report of the Director General, Government of' Pakistan, Ministry of Health, Special Education and Social Welfare (Health Division).

9. Report of the DHO Thar to Ministry of Health Sindh, 199!.

10. Socio-economic, Demographic and Health Situation in Thatta District by Mehtab S. Karim, Aga Khan Universitv, Karachi.

ii. Report to IDRC for Phase one and phase Two, Thatta Health System Research Project, Aga Khan University, Karachi.

12. Staff Appraisal report for Family Health Project, Sindh by the World bank, 1991.

B. PRIMARY DATA DOCUMENTS REVIEWED:

1. For MCH: MCI-I Monthly Reports, July 1991—June 1992 (principle document) supplemented by:

A. MCH Center Patient Log: July-December 1991
B: MC'T-T Outreach **Patient Log:** Julv —Decemher 1Q91

C. In— and Out—Patient Annual Report, Rural Health Center, Islamkot, 1991
D. P2tient Registers, Essential Drug Program. Joghiar January' 1--September 3c, 1992: Jogimarhi (Muslim) October 17. 1991—October 16. 1992.

2. For ED Program: Essential Drug Stock Forms (monthly reports), selected Base Units (BUs), January;— June. 1992 (principle documents). supplemented by:

A. Essential Drug Stock Records, Jogimarhi (Hindu & Muslim), Joghlar.
B. Patient Registers, Essential Drug Program, Joghiar January I—September ***30.*** 1992; Jogimarhi (Muslim) October 17. 1991—October 16. 1992.

3.Survey data for Maternal and infant Mortality. May 1991 to May 1992.

4. Data sets for Nutrition survey and reports of the previous surveys in 1987 and 199 1.

5. EP! records for MCI-I center and the Rural Health Canter.

6. Monthly expenditure reports for the TRDP project, October 1991 to October 1992.

TABLES AND FIGURES

Table 1. Pakistan Health and Social Status (1991)

Figure 1. Patients Attended by Age & Sex, NICH Center vs. Outreach (July & December 1991 combined)

Table 2. MCH Center & Outreach, TRDP (July '91-June '92): Patients Attended by Age &-. Sex and Referrals

Figure 2. Patients by Month: July '91—June '92): MC'.H ('enter & Outreach, TPDP

Figure 3. Patient Activity by Month: Jul '91—Jun '92; MCH Centre &. Outreach, TRDP

Table 3. MCH Center & Outreach, TROP (Jul '91 -Jun '92): Patients Attended 1w Diagnosis

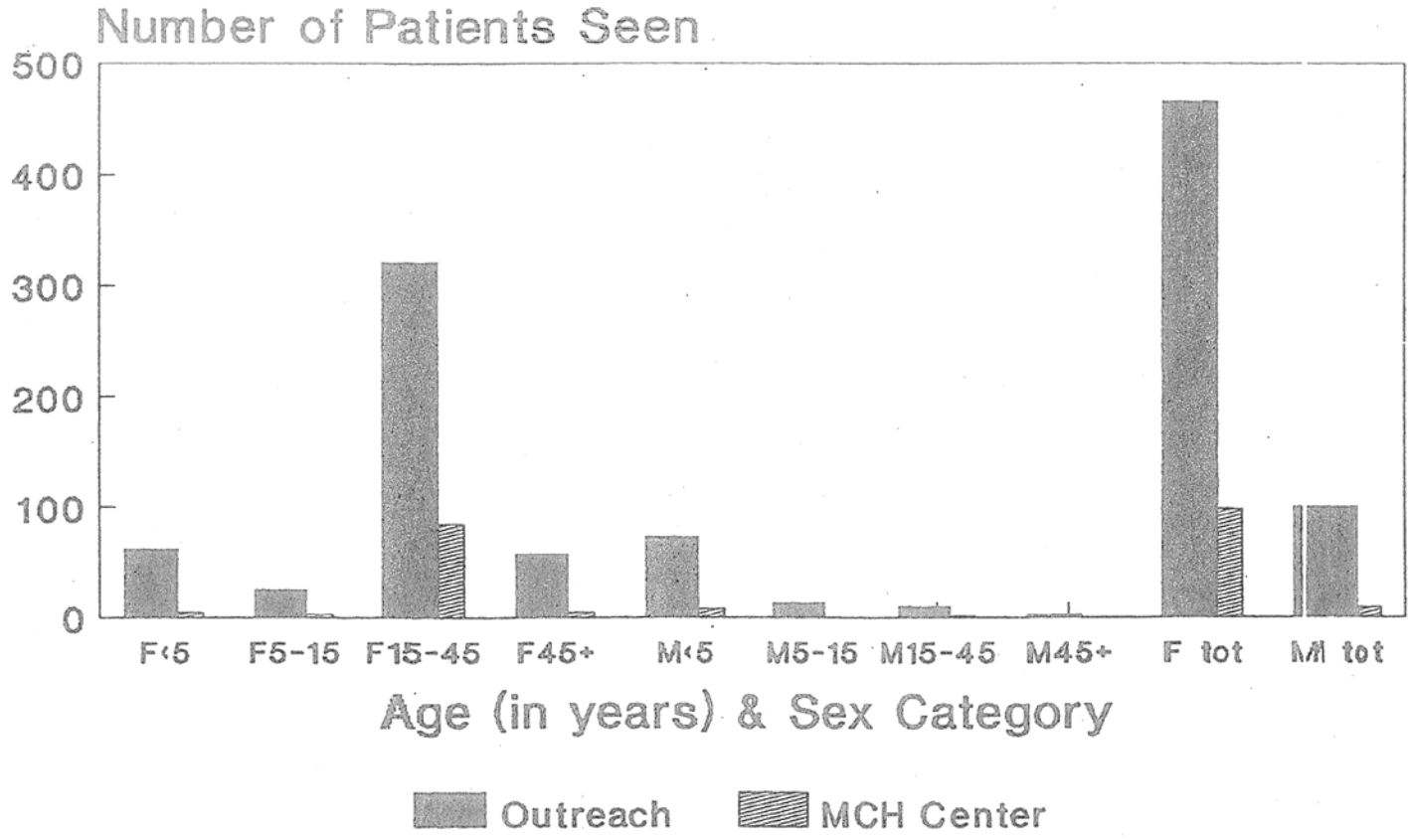
Figure 4. Patient Diagnosis by Month: hi '91—Jun '92; NIGH Centre &. Outreach, TRDP (6 most common diagnoses)

Table 4. Patient Diagnoses: RHC Islamkot, 1991 (In— and Out—Patients)

Table *5.* SCF (UK)/MCH Essential Drugs Program at 2 Sites: Drugs Dispenses/debited & Charges (Jan— Jun '92)

Figure 5. Patient Age & Sex: 1991—1992 — Selected TRDP Outpatient Seiices (MCH Center. Jogirnarhi ED, Joghiar ED)

PATIENTS ATTENDED by AGE & SEX
MCH CENTER vs OUTREACH, TRDP



July & Dec 1991 combined

Table - 2

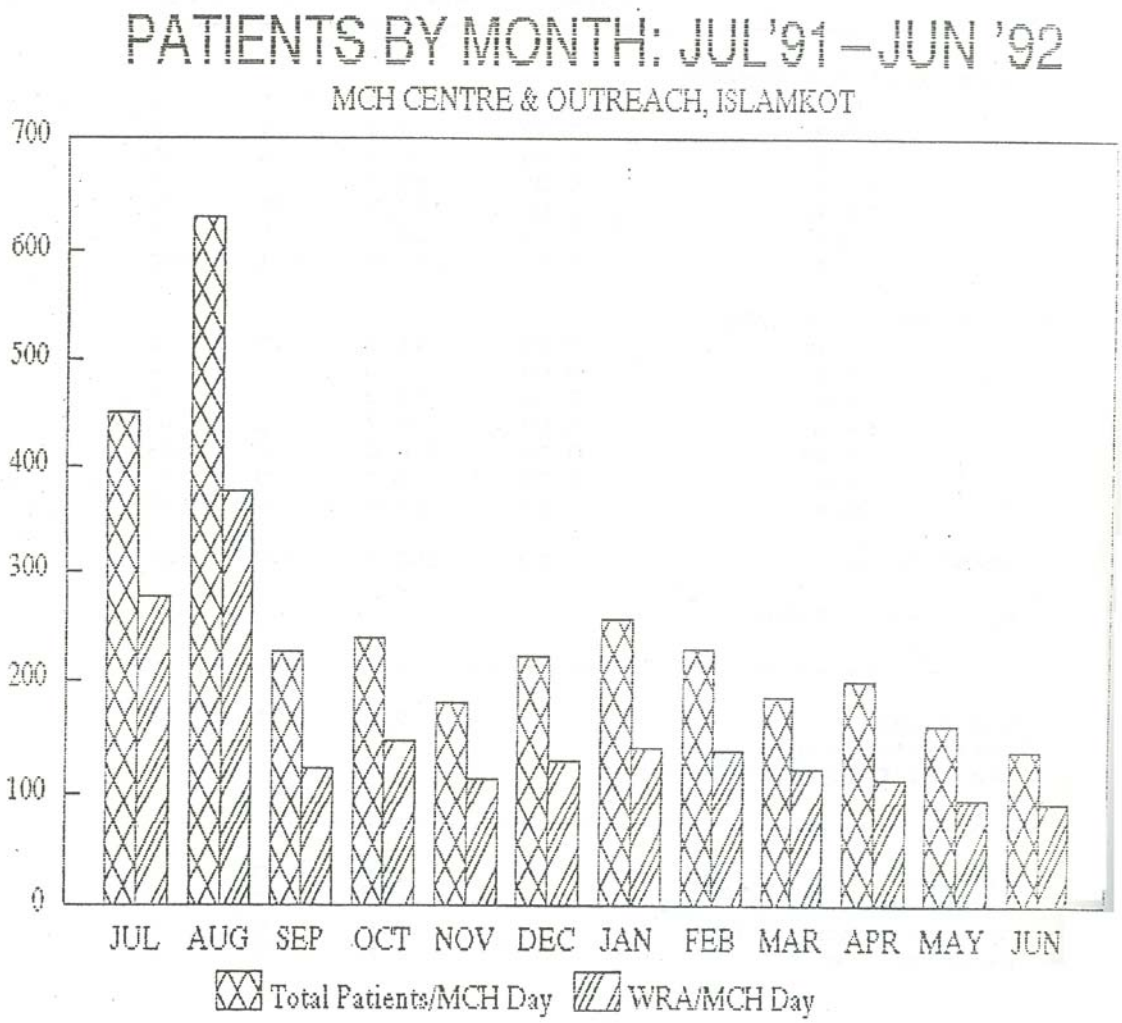
MCH Center and Outreach, TRDP (July 1991 to June 1992)

Patients Attended by Age, Sex and Referrals

	Month						
Females by age (Years)	**Jul 1991**	**Aug**	**Sept.**	**Oct.**	**Nov.**	**Dec.**	**Jan. 1992**
0-1	23	21	10	9	5	8	10
1-2	7	9	6	1	6	5	5
2-5	16	20	6	5	5	8	12
5-15	21	22	13	7	8	7	14
15-45	276	376	122	168	114	130	141
45 +	45	77	31	25	12	18	17
Total	388	523	188	195	148	176	199
Males by age (Years)							
0-1	23	31	7	8	11	16	18
1-2	14	10	5	4	9	4	6
2-5	9	18	10	15	9	15	11
5-15	9	12	11	8	2	5	11
15-45	6	26	4	6	4	5	6
45 +	2	10	3	2	0	1	3
Total	63	107	40	43	35	46	55
Grand Total	451	630	228	238	183	222	254
% of Yearly Total	0.14	0.20	0.07	0.08	0.06	0.07	0.08
No. of MCH days	20	25	21	23	20	25	23
Patients per MCH day	23	25	11	10	9	9	11
WRA patients per MCH day	14	15	6	6	6	5	6
Referral from SCF dais	0	0	1	1	2	3	2
Referral from non-SCF dai	0	0	0	7	0	1	1
No. of emergency calls	0	0	1	8	3	4	3
Referrals up	0	2	1	6	1	0	2

	Feb. 92	March	April	May	June	Total for Year
Females by age (Years)						
0-1	14	11	13	7	7	138
1-2	2	4	2	5	3	53
2-5	9	5	7	8	4	105
5-15	15	8	8	4	1	123
15-45	140	124	114	95	90	1,868
45 +	12	5	17	10	6	275
Total	192	157	161	129	111	2,567
Males by age (Years)						
0-1	14	7	14	13	11	173
1-2	6	4	4	3	3	72
2-5	7	4	11	8	5	122
5-15	3	8	5	4	2	80
15-45	4	7	3	4	6	81
45 +	4		2	3	2	32
Total	38	30	39	35	29	560
Grand Total	230	187	200	164	140	3,127
%age of yearly total	0.07	0.06	0.06	0.05	0.04	1.00
# MCH Days	21	22	20	24	20	244
Patients/MCH Day	11	9	10	7	7	13
WRA Patients/MCH Day	7	6	6	4	5	8
Referral from SCF dais	0	6	2	1	1	18
Refer. From non-SCF dai	0	1	1	0	1	11
No. Emergency Calls	3	11	4	2	6	39
Referrals Up	0	3	0	1	2	16

Figure 2


PATIENTS BY MONTH: JUL'91 – JUN '92
MCH CENTRE & OUTREACH, ISLAMKOT
700
600
500
400
300
200
100
0
JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN
Total Patients/MCH Day
WRA/MCH Day

	Fraction of Total	Average per Month	Month Min. Value	Monty Max. Value
Females by age (Years)				
0-1	0.04	11.5	5	23
1-2	0.02	4.4	1	9
2-5	0.03	8.8	4	20
5-15	0.04	10.7	1	22
15-45	0.60	155.7	90	374
45 +	0.09	22.9	5	77
Total	0.82	213.9	111	523
Males by age (Years)				
0-1	0.06	14.4	7	31
1-2	0.02	6.0	3	14
2-5	0.04	10.2	4	18
5-15	0.03	6.7	2	12
15-45	0.03	6.8	3	26
45 +	0.10	2.9	0	10
Total	0.18	46.7	29	630
Grand Total	1.00	260.6	140	630
% of yearly total				
# MCH days		22.0	20	25
Patients/MCH day				
WRA patients/MCH day				
Referral from SCF dais		1.6	0	6
Refer. From non-SCF dai		1.0	0	7
No. Emergency Calls		3.8	0	11
Referrals Up		1.5	0	6

Figure 3

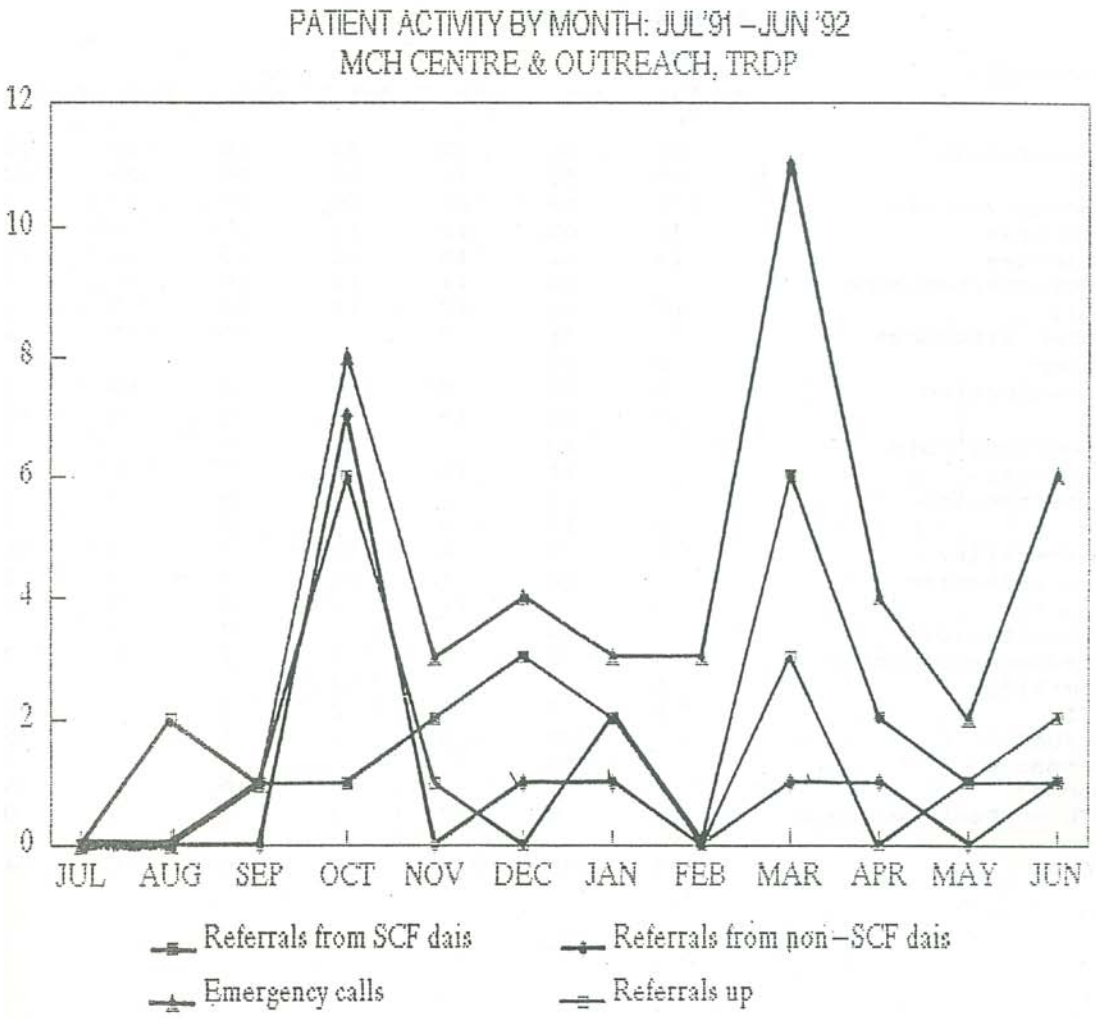

PATIENT ACTIVITY BY MONTH: JUL'91 – JUN '92
MCH CENTRE & OUTREACH, TRDP
12
10
8
6
4
2
0
JUL
AUG
SEP
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
Referrals from SCF dais
Referrals from non–SCF dais
Emergency calls
Referrals up

Table - 3

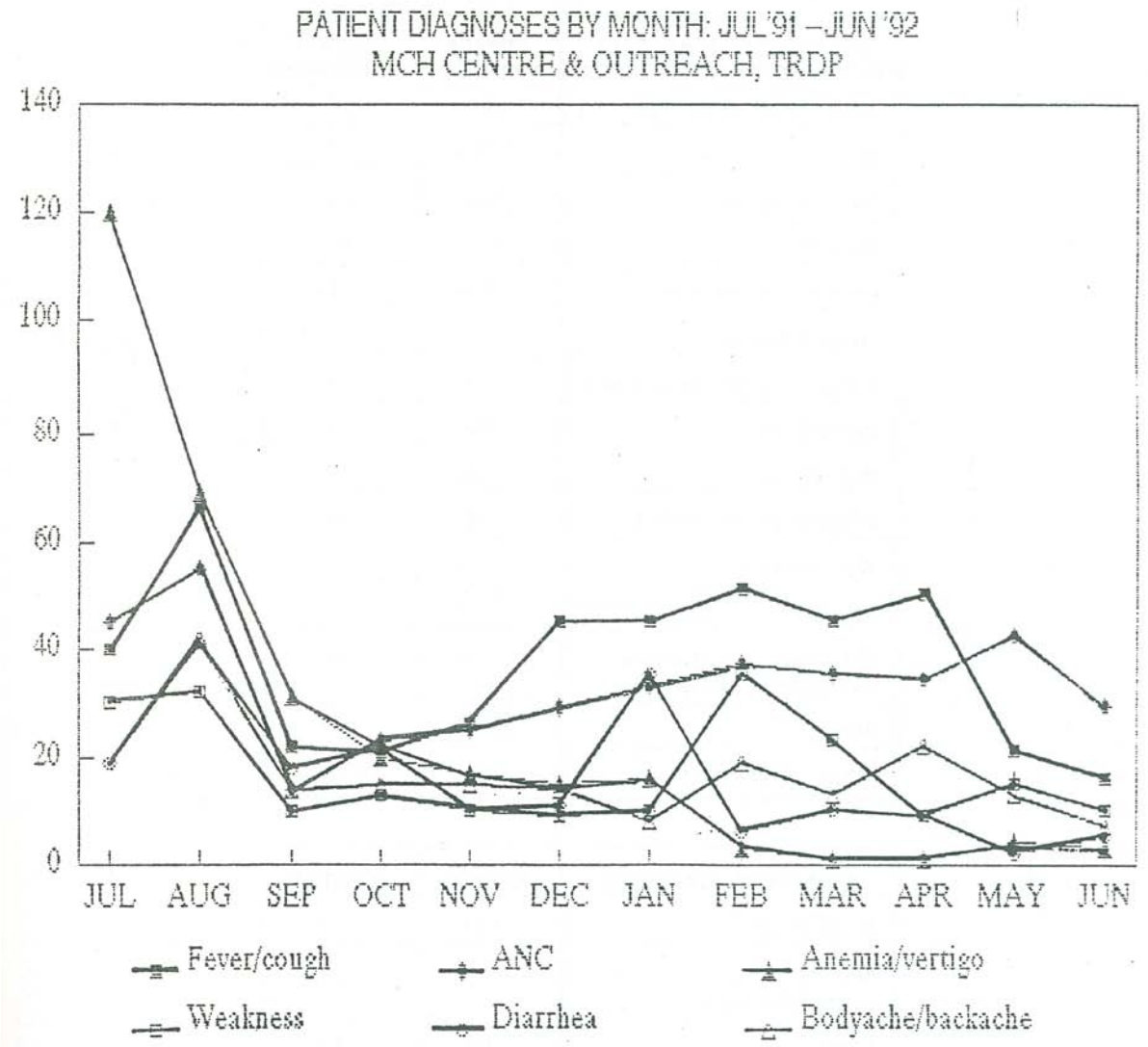
MCH CENTER & OUTREACH, TRDP (July 1991 to June 1992)
PATIENTS ATTENDED BY DIAGNOSIS

Diagnosis	Month						
	Jul 1991	Aug	Sept.	Oct.	Nov.	Dec.	Jan. 1992
Fever/cough	40	66	22	21	26	45	45
ANC	45	55	14	23	25	29	33
Anemia/vertigo	120	69	31	20	17	15	16
Weakness	30	32	10	13	10	9	10
Diarrhea	19	41	18	22	10	11	35
Bodyache/backache		42	14	15	15	14	8
Boil	17	40	17	19	10	3	4
Water discharge		31	9		90	7	6
Other	8	26					
Constipation	6	25	8	16	6	10	15
TB		22	19	8	5	6	12
Abdominal pain		10			6		3
Gastritis		15	13	8	8	7	19
Hypertension		15	7	10	9	7	6
OM	6	17	8	7	5	6	6
Infertility	6	9	4	10	3	2	10
Eye infection		16	3	11	4	9	5
Scabies	7		11	6	8	9	4
Appetite loss		20			7	9	
Pregnancy/Bleeding	3	5	6	5	1	2	7
Vomiting	6			12		11	
VTI	7	7	9	2	2		
Ab/D&C		8	5	6	1		6
Headache		19			4		
Worms				3	2		6
BTL or Post Op Check	0	0	0	0	0	0	0
Total	329	590	228	237	274	211	254

Diagnosis	Month					
	Feb. 1992	March	April	May	June	Total for Year
Fever/cough	51	45	50	21	16	448
ANC	37	35	34	42	29	401
Anemia/vertigo	3	1	1	4	3	300
Weakness	35	23	9	15	10	206
Diarrhea	6	10	9	2	5	188
Bodyache/backache	19	13	22	13	7	182
Boil	3	6	8	24	10	161
Water discharge						141
Other	21	15	34	17	18	139
Constipation			3	1	1	91
TB			3	1	2	87
Abdominal pain	35	15	8	7	7	91
Gastritis	3	3		4	3	83
Hypertension	7	4	3	4	10	82
OM			2	2	1	60
Infertility	4	2	3	2	4	59
Eye infection	1	1	2	2	1	55
Scabies	3	1			6	55
Appetite loss		1	2			39
Pregnancy/Bleeding	1		4	1	3	38
Vomiting	1	2				32
VTI		1	3		2	33
Ab/D&C		2	1			29
Headache						23
Worms				3	2	16
BTL or Post Op Check	0	0				0
Total	230	180	201	165	140	3039

DIAGNOSIS	FRACTION OF TOTAL	AVG PER MONTH	MONTH MIN VALUE	MONTH MAX VALUE
Fever/Cough	0.15	37.3	16	66
ANC	0.13	33.4	14	55
Anemia/Vertgio	0.10	25.0	1	120
Weakness	0.07	17.2	9	35
Diarrhea	0.06	15.7	2	61
Body ache/backache	0.06	16.5	7	62
Boil	0.05	13.4	3	40
Water discharge	0.05	28.2	4	90
Other	0.05	19.9	8	34
Constipation	0.03	9.1	1	25
TB	0.03	8.7	1	22
Abdominal pain	0.03	11.4	3	35
Gastritis	0.03	8.3	3	19
Hypertension	0.03	7.5	3	15
OM	0.02	6.0	1	17
Infertility	0.02	4.9	2	10
Eye infection	0.02	5.0	1	16
Scabies	0.02	6.1	1	11
Appetite loss	0.01	7.8	1	20
Pregnancy/Bleeding	0.01	3.5	1	7
Vomiting	0.01	6.4	1	12
UTI	0.01	4.1	1	9
Ab/DC	0.01	4.1	1	3
Headache	0.01	11.5	6	19
Worms	0.01	3.2	2	6
BTL or Post Op Check	0.00	0	0	0
TOTAL	1.00	253.3	160	590

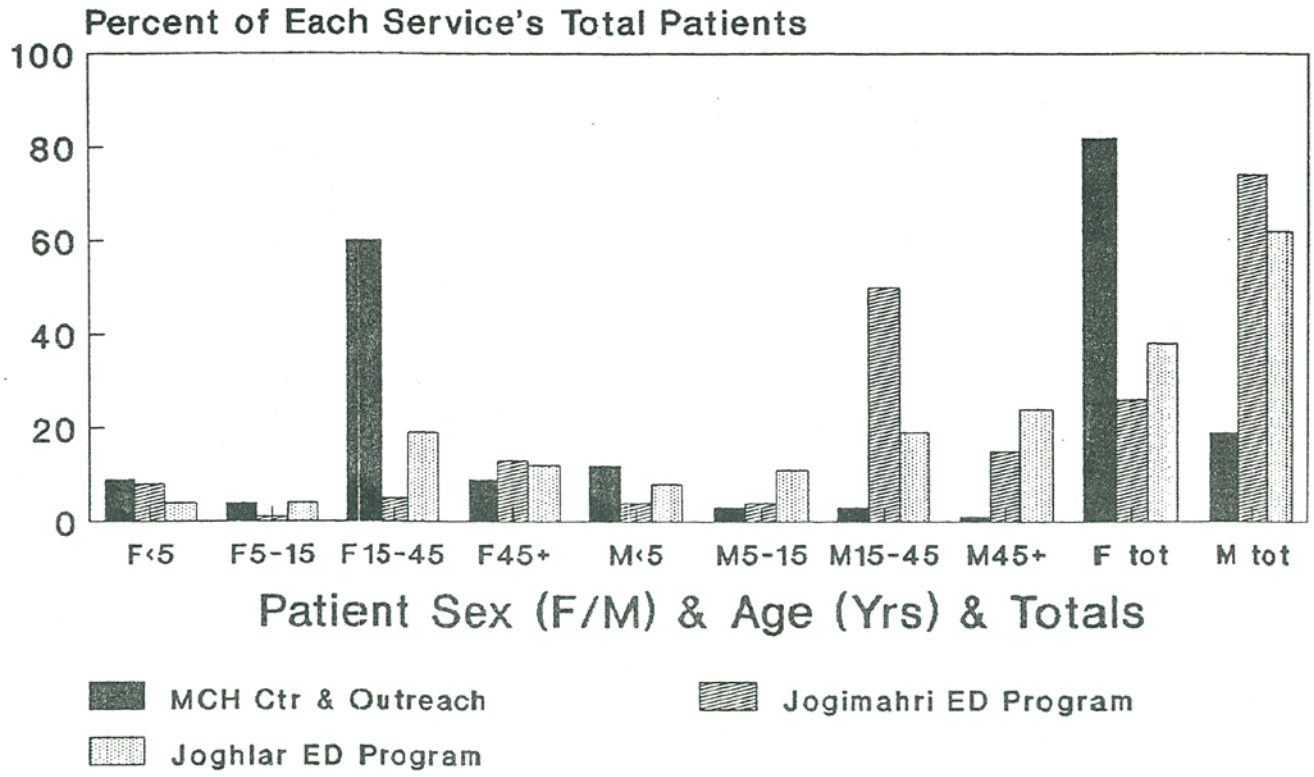
Figure 4


PATIENT DIAGNOSES BY MONTH: JUL'91 – JUN '92
MCH CENTRE & OUTREACH, TRDP
140
120
100
80
60
40
20
0
JUL
AUG
SEP
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
Fever/cough
ANC
Anemia/vertigo
Weakness
Diarrhea
Bodyache/backache

OUTPATIENT DIAGNOSES	NUMBER	PERCENT
DIGESTIVE DISEASES	2470	18
URI	1665	12
SKIN DISEASES	1367	10
WOUNDS	1365	10
URNIARY DISEASES	930	7
TUBERCULOSIS	182	1
MALARIIALIKE SYNDROMES	176	1
DYSENTRY	146	1
SEPATITIS	136	1
INFANTILE DIARRHEA	42	0
MENINGITIS	6	0
HUMPS	4	0
TETANUS,DIPHTHERIA PERTUSSIS,MEASLES	0	0
OTHER	5351	39
TOTAL OUTPATIENT	13840	100

OUTPATIENT DIAGNOSES	NUMBER	PERCENT
SNAKE BITE	65	40
BROACHITIS	18	11
ANEMIA	16	10
HEPATITIS	15	6
PNEUMONIA	4	2
MARASMUS	2	1
MALARIA	2	1
OTHER	42	26
TOTAL INPATIENT	164	100

PATIENT AGE & SEX: 1991-92
Selected TRDP Outpatient Services



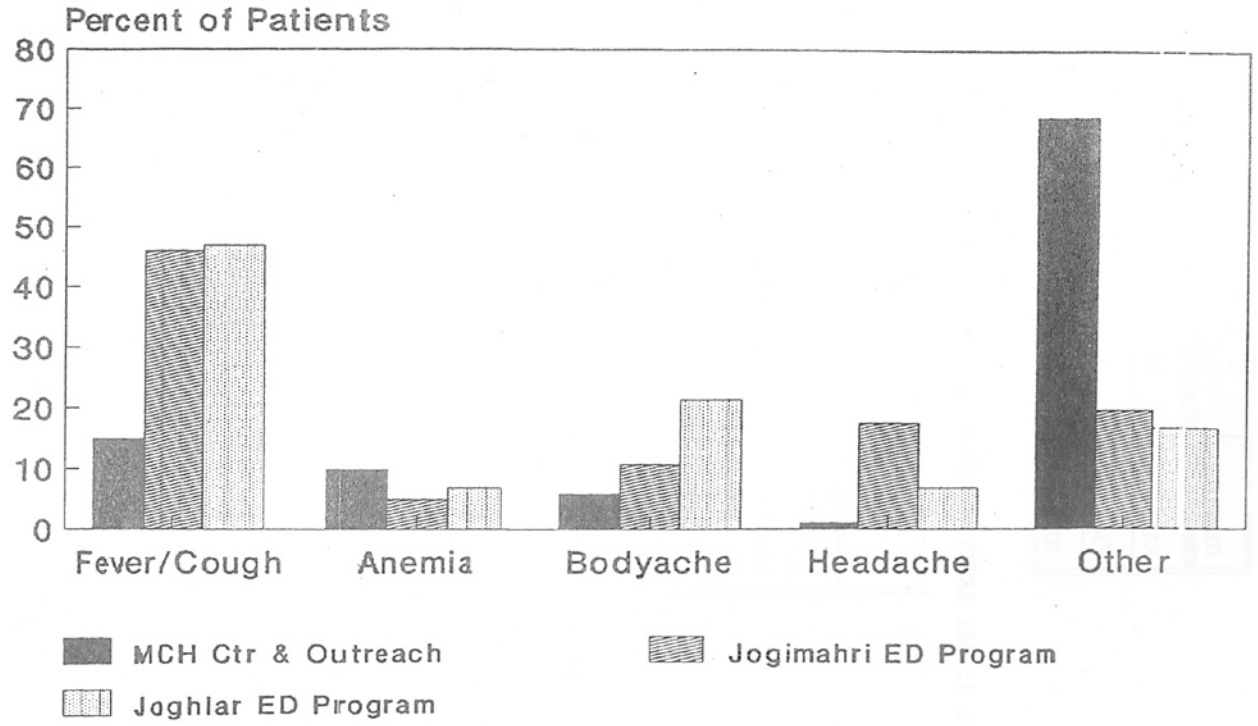
Tot Pts: MCH 3127 (Jogim 141, Joghl 228)

DRUG
PARACETAMOL
COTRIM
CHLOROQUINE
ACETYLSAL
MACATRAN
TETRACYCL INE
ORASAL-F
CHLORPHENIRAMINE

DRUG	
PARACETAMOL	
COTRIM	AST 2 MONTHS
CHLOROQUINE	
ACETYLSAL	N)
MACATRAN	
TETRACYCL INE	
ORASAL-F	
CHLORPHENIRAMINE	? CONCESSION): MISSING ENTRIES
CHLORPHENIRAMINE	
FOLIO ACID	67=0 SELF CORRECTING
EMPRIN	

Figure 6

PRESENTING COMPLAINTS: 1991-92
Selected TRDP Outpatient Services



MCH & Jogimahri: 12 mos; Joghlar 9 mos

Table 6:. OUTCOME OF NIJTRJTIONAIJ PROGRAM -2 VILLAGES

GENDER	TOTAL	BETTER OR SAME	WORSE
MALES	21	7	14
FEMALES	29	14	15
TOTAL	50	21	29

7: DAI ACTIVITY SURVEY: REPORTED BIRTHS AND DEATHS BY DAT CATEGORY (1991)

	SCF DAIS	UNICEFDAIS	UNTRAINED DAIS	TOTAL
DAIS	28	6	12	46
REPORTED DEATH	19	1	6	26
REPORTED BITHS	314	58	115	487

Table 8: REPORTED CAUSES OF YOUNG INFANT DEATH: DAT SURVEY (1991)

CAUSE OF DEATH	%	%
STILL BORN	16	60
NEONATAL TETANUS	5*	19
TOTAL		100

4 of 5 tetanus. deaths reported by untrained dais, only one by SCF ais.

Table 9: VACCINATION DOSES ADMINISTERED (monthly, July 1991 — ***June*** 1992): Numbers Given to Infants and Total; and Tetanus Toxoid x 2 to Women of Child-bearing .Age

MONTH	TOT BCG	0- 11	TOT DPT	0-11	TOT OPV	0-11	TOT MSL	0-11	TOT TT
JUL	87	79	125	118	135	118	46	43	320
AUG	97	75	217	195	242	194	53	53	443
SEP	56	47	147	142	160	142	32	32	214
OCT	49	46	145	142	153	142	28	28	217
NOV	49	46	127	125	135	125	17	17	189
DEC	54	51	139	136	151	137	36	36	222
JAN	60	57	137	134	146	134	28	28	298
FEB	34	29	149	144	154	145	42	42	262
MAR	20	20	056	053	057	053	14	14	076
APR	53	50	120	115	123	115	61	61	185
MAY	47	42	112	111	117	111	34	34	157
JUN	49	45	126	124	131	121	44	44	160
TOTAL	587		1600		1704				

TABLE 10 :TOTAL AND HEALTH ALLOCATED COSTS (Rs)BY MONTH)10/91-9/92)

MONTH	TOTAL PROGRAM EXPENDITURES	TOTAL HEALTH EXPENDITURES	% OF TOTAL ON HEALTH
OCT91	343092	072939	21
NOV	265757	130781	49
DEC	206131	098004	47
JAN92	268419	104535	38
FEB	255200	091911	36
MAR	305567	091863	30
APR	355707	111462	31
MAY	372286	097457	26
JUN	229953	078447	34
JUL	307477	108727	35
AUG	289625	076289	36
SEP	275585	110570	40
TOTAL	3474799	1172985	34

Table 11: COST (RS) BREAKDOWN FOR HEALTH SECTOR BY MONTH (10/91—9/92)

MONTH	SALARY	OFFICE	MISC	MCH	FCHW	NUTR	SCHOOL	TRANSP	TOTAL
OCT	132767	2000	09364	0205	00380	05720	2071	13432	343092
NOV	98659	3250	16608	7387	60586	01258	2071	07732	265757
DEC	105738	1250	09364	0575	41423	03324	0091	10044	206131
JAN	95318	1750	00250	3647	62325	02593	1562	24354	268419
FEB	131281	2500	05020	6208	01480	12593	6966	20849	255200
MAR	139399	4000	02646	3001	00431	18089	1590	24518	305567
APR	147205	1500	19837	3468	02678	06346	2071	42521	372286
MAY	160845	2750	11132	2054	04809	02785	2071	28614	372286
JUN	147696	1250	05098	1141	00595	05676	1000	22450	229953
JUL	140995	2750	03539	3924	18434	05882	1000	42100	307477
AUG	138923	1000	09381	6296	00982	01821	1208	13945	289625
SEP	148416	0750	20131	3802	27091	02557	3148	04381	275585
TOTAL	1467242	26500	112370	41708	221214	68644	24848	254943	3474799

FCHWS INCLUDE ALL COSTS OF TRAINING;ESTIMATES INTERPOLATED FROM EXISTING DATA

Table 12
MONTHLY ESSENTIAL DRUG MONITORING SHEET: TRDP
(from to)

DRUG	BAL	IN	DRUGS OUT AND RS IN						BALANCES	
ASPIRIN (UNIT COST= Rs)		+	-	-	-	-	-	-	=	
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs
CHLOROQUINE (UNIT COST= Rs)		+	-	-	-	-	-	-	=	
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs
CHLORPHENIRAMINE (UNIT COST= Rs)		+	-	-	-	-	-	-		
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs
COTRIN (UNIT COST= Rs)		+	-	-	-	-	-	-		
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs
IRON/FOLATE (UNIT COST= Rs)		+	-	-	-	-	-	-		
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs
ORS (UNIT COST= Rs)		+	-	-	-	-	-	-		
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs
PARACETAMOL (UNIT COST= Rs)		+	-	-	-	-	-	-		
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs
TETRACYCLINE (UNIT COST= Rs)		+	-	-	-	-	-	-		
			Rs	Rs	Rs	+Rs	+Rs	+Rs		+Rs
(UNIT COST= Rs)		+	-	-	-	-	-	-		
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs

(UNIT COST= Rs)		+	-	-	-	-	-	-		
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs
(UNIT COST= Rs)		+	-	-	-	-	-	-	=	
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs
(UNIT COST= Rs)		+	-	-	-	-	-	-	=	
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs
(UNIT COST= Rs)		+	-	-	-	-	-	-	=	+Rs
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs
(UNIT COST= Rs)		+	-	-	-	-	-	-	=	
			+Rs	+Rs	+Rs	+Rs	+Rs	+Rs		+Rs
TOTAL RUPEES										+Rs

TABLE 13
TRDP MONTHLY TALLY SHEET: AGE, SEX, DIAGNOSIS

FEMALES BY AGE							MALES BY AGE						
DIAGNOSIS	<1	2-5	5-15	15-45	45+	TOTAL	<1	2-5	5-15	15-45	45+	TOTAL	GRAND TOTAL
FAMILY PLANNING													
ANC													
POSTPARTUM CARE													
MENSTRUAL PROBLEMS													
INFERTILITY													
IMMUNIZATION													
DIARRHEA													
TB													
PNEUMONIA													
MEASLES													
WHOOPING COUGH													
MALNUTRITION													
FEVER OF UNKNOWN													
GRAND TOTAL													