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EARLIER RESEARCH WORK ON THARPARKAR AND SINDH BARRAGE, AND SIMILAR STUDIES RELATED TO DEMOGRAPHIC, SOCIAL AND ECONOMIC CONDITIONS

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Abstract

This study is earlier research works done on Tharparkar and Sindh barrage, and similar studies related to demographic, social and economic conditions and chapter-2 as a literature review of the thesis of Ph.D submitted in 2002. Purpose of the chapter was to give the complete picture of both areas and at national and international level to support the primary data of the thesis for proper occlusions and recommendations for policy maker to get the lesson for Tharparkar to get prosperous and better demographically socially and economically. Only secondary data from reliable sources is given in this chapter with complete quotations. This study shows that earlier research work is done in Thar with the help of Government of Sindh, United Nations Children's Fund (UNICEF) Save the Children Fund (SCF)-U.K , titled as "Tharparkar rural Development Project (TRDP) Evaluation 1993". From, the detailed study of the chapter we conclude that, from Pakistan origin material, we expect more in future. Some active NGOs has also worked for the awareness and welfare of Thar. From the literature of foreign origin material, it is concluded that development of any area depends upon the awareness and leadership of local participation of indigenou people and results are comparatively better. From the study of Baroda project, Somalia, Grameen Bank of Bangladesh and other NGOs' who run the micro credit programs, it is evident that such programs are essential for the alleviation of poverty and lead towards the income generation of the local masses. Every work should be done through local NGOs, because NGO's works are on the basis of honesty and is demand driven. It is recommended that Local organizations are must for the awareness welfare and development and they must demand facilities from government and donor agencies.

Keywords: Earlier Research; Demographic, Social and Economic Conditions; Livestock; Rangeland Plantation; Thardeep; Banh-Beli
JEL Classification: D13;H51;H52;H53;I38;J16;J21;J24;J28;O19;O47;P21;P28

CHAPTER-II

EARLIER RESEARCH WORK ON THARPARKAR AND SINDH BARRAGE AND SIMILAR STUDIES

I. Litrature Review of Pakistan Origin

A. Steps Taken by NGO's for Tharparkar

1. Save The Children Fund (UK) Sindh

a). Introduction

(1). Background

"Throughout 1987, Thar, the desert region in the southeastern part of the Sindh province in Pakistan, was in the news. 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 practices, which had made it possible for the people of Thar to withstand and survive long period of drought in the past". (1)

b). Aims and Objectives of the Organization:

(1). Organizational Goal

"To facilitate a community managed process contributing towards the development of sustainable livelihood in Thar.

(2). Operational Objectives

- (a). To contribute in poverty alleviation programme in Tharparkar
- (b). To develop human resource and to enhance local capacities.
- (c). To develop, promote and implement approaches to sustainable land use
- (d). To evolve programme of basic health and education and to carry out child focus activities

c). Projects/Work Done

A Comparative Study of Agro-based Industry of Tharparkar with Canal Barrage Area Sindh (1988-2000), Suggested Techniques Leading to an Industrial Economy, PhD Theses, Department of Economics, University of Sindh, Jamshoro, April, 2002, Chapter-2 By: Gobind M. Herani

Save the Children Fund (UK) Sindh came to Islamkot in the later part of 1987 in response to a situation of acute distress which resulted from a severe 1987 drought. Since its inception in 1987 the project has passed through the following phases:

(1). Assessment Phases

In 1987 SCF in collaboration with UNICEF and Government of Sindh, undertook a study entitled. "A comprehensive Assessment of drought and famine in Arid Zone Thar area, leading to realistic short and long-term emergency intervention plan".

(2). The Relief Phases

To address the most immediate needs, SCF undertook three relief activities during 1988 (under the title Marvi Project).

- (a). Seed Distribution.
- (b). Vitamin - A Capsule distribution.
- (c). Supplementary Feeding Programme.

(a). Seed Distribution:

It was observed that four years of the drought (1984-87) had led to indebtedness among the Thar population and there was a fear that, even if 1988 monsoons were satisfactory, many cultivators would have insufficient purchasing power to buy seeds. The fear was exacerbated by the society of desert-viable seed after four years of poor or non-existent harvests. Government and non-government aid was providing invaluable assistance to help people survive, but little or nothing was being done to reinforce farmers ability to take maximum advantage of rain which finally came in 1988. In view of this situation it was decided to provide the seeds of Bajra & Guar to about 10,000 farmers. Each of the farmers was provided 20 kg of Guar & 5 kg of Bajra seeds. (Who was cultivating his / her own small land holding 6-8 acres). The total seed distributed to about 10,000 farmers was about 250 tons (200 tons Guar & 50 tons Bajra).

- (b). Vitamin - A Capsule distribution.

315,000 Vitamins A capsules were distributed.

- (c). Supplementary Feeding Programme:

A total of 21.7 tons of feeding material was used in this program with good results.

(3). The Development Phases

From early 1989, SCF has been building on the knowledge, experience relationship and credibility gained during the previous two phases to establish a long-term Rural Development Project, under the title of "Tharparkar Rural Development Project (TRDP)"

While the project is still at experimental stage it aims to attempt a number of improvement strategies in different sector some of them are given below:

- (a). Socioeconomic Development (SED)
- (b). Health Services Development (HSD)
- (c). Development education & Training (DET)
- (d). Development Research (DR)
- (e). Land use Management (LUM)
- (f). Women's Development (WD)

(a). Socioeconomic Development(SED)

In terms of SED, Tharparkar, aims to mobilize the Community through education to set up alternative village level institutions to combat the

debt-cycle. Deep seated sociocultural attitudes to economic problems exacerbate problems of indebtedness as community members take out loans at high rates of interest.

(b). Health ServicesDevelopment (HSD)

SCF(UK) felt, it is essential to demonstrate alternative models of the government adopting and sustaining such services in the future.

(c). Development Education & Trainings (DET)

SCF(UK) aims to increase the education of village children and non-formal education.

(d). Development Research (DR)

Given that reliable information concerning Thar is very scarce, it is essential that the project develops its own research and documentation capacity and that it shares as broadly as possible, the development ideas generated from it. Development Research is seen essentially as a tool for facilitating together “research” problems and proper solutions. It will continually update knowledge of the people, of social & economic activities, of felt needs and of perceptions of change and development. The objective being to use the evidence that is collected to convince opinion makers in Pakistan and beyond.

(e). Land use Management (LUM)

Ultimately the future of Thari children depends on present and future stewardship of the desert environment’s resources. Growing populations: animals and humans have stretched the desert’s capacity to the limits. In response TRDP aims to motivate the communities for better care of the desert environment through communal initiative in reforestation, range management and water harvesting. It also aims to improve range and crop land productivity to make poor people aware of their land rights and obligations.

(f). Women's Development (WD)

d). Number Of Beneficiaries Of TRDP Activities

TABLE-2.1 NUMBER OF BENEFICIARIES OF TRDP ACTIVITIES.

Name of the activities	No. of Family head/ Centers	Total No.of beneficiaries	Remarks
Socioeconomic Development			
01. Goat Raising	41	246	
02. Seed Bank	15	8356	
03. Micro enterprise	23	138	
04. Village poultry(HH) (MPF)	16	96	
05. Village poultry (HH)	65	335	
06. Kitchen Gardening	4	24	
07. Kitchen Grading (HH)			Attempted sporadically.
08. Tree Planting (Local trees)	4000		Environmental Protection No immediate economic benefit of individuals or communities.
09. Well Development	4	3850	
13. Improved variety seed	5 (plots)		
15. Dune Stabilization	1 unit		
16. Live fencing	2 unit		
17. One Child one tree Programme		20 Schools	
18. Adult literacy center	13	383	
19. News letter	53	318001	200 Circulation.
20. Training	-----	-----	Imparted to all the staff of SCF & the target beneficiaries

The TRDP Women’s Development programs aims to ensure that Women’s central role in the social and economic life of the desert is reflected in development plans and that services such as health, education, credit and technical training are available to women include credits for embroideries and raisers of goats, provision of seed for kitchen gardens, technical advice for house level Tree planting, diffusion of smokeless stoves, improvement of well etc. A start has also been made in mobilizing women’s group aimed at planning development initiatives at house hold and village level.

e). Basic Information About Project Area.

TABLE-2.2 BASIC INFORMATION ABOUT PROJECT AREA

01.	Covered Area	90 sq. Km
02.	Population	40,000 (1992)
03.	Village settlement	70
04.	Density per sq. Km	44
05.	Literacy Rate	12%
06.	Per capital Income (Annual)	RS. 964/-
07.	% live below poverty line	90
08.	Infant Mortality Rate (IMR) 150/1000	70/100 TRDP (92) (fore Thar
09.	Maternal Mortality Rate (MMR) 8/1000)	1/1000 TRDP (92) (fore Thar
10.	One Doctor to population 8750	(fore Thar)
11.	One Nurse to population 35000	(fore Thar)
12.	Children deficient in growth 80%	(fore Thar)
13.	Animal heads	44,220 (1989) (2)

]

2. Thardeep Rural Development Programme**a). Profile**

Name of Organization	Thardeep Rural Development Programme
Head Office	Mithi (69230), District Tharparkar, Sindh
Date of establishment and legal status	Registration Number: 3835/ 13-07-1898
Place of Registration	Hyderabad Region, Sindh, Pakistan
Date of Registration/establishment	July 13, 1998 Societies Registration Act XXI of 860

b). Background

Throughout 1987, Thar, the desert region in the southeastern part of the Sindh province in Pakistan, was in the news. 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 practices, which had made it possible for the people of Thar to withstand and survive long period of drought in the past. (This is the same, of TRDP mentioned above). On the date of July 13, 1998, it is registered/established as NGO of Thar, and it was fully handed over to Tharies under Societies Registration Act XXI of 1860.

c). Aims and Objectives of the Organization:**(1). Organizational Goal**

To facilitate a community managed process contributing towards the development of sustainable livelihood in Thar.

(2). Operational Objectives

- (a). To contribute in poverty alleviation programme in Tharparkar
- (b). To develop human resource and to enhance local capacities
- (c). To develop, promote and implement approaches to sustainable land use

(d). To evolve programme of basic health and education and to carry out child focus activities.

d). The Community, TRDP Works With

Men, women and the children focusing on community mobilization, through a gradually process of dialogue and motivation, aimed at organizing them into Village/ Para Development Committees.

(1). Men and Women

Organizing them separately, in Para Development Committees, in order to ensure their representation in planning and monitoring of activities at village level. Facilitating men and women organization in opening their saving bank account; Conducting meetings discussions, focus group interviews, workshops and conferences with them, in order to assess their needs and perceptions; Conducting technical and managerial training, in accordance with their needs, to enhance their skills and expertise



Thari girls getting education

<http://tharparkar.sdnpk.org/>

(2). Children

Facilitating the children in organizing children groups Working directly with organized children groups

Developing work plans in order to involve the children in the process of designing the strategy to work directly with them and supporting the families with the children involved in carpet labour in order to eradicate child labor

e). Geographical Coverage

TABLE-2.3 GEOGRAPHICAL COVERAGE

No. of Districts	01 Tharparkar
No. of Tehsils/Taluka	03, Mithi, Chachro, Diplo
No. of Union Councils	21+3
Town Committee	(Islamkot+Mithi+Diplo
No. of Villages	400
No. of Households	43,335
Population of Project Area	316,345
Programme area of six field units	(Square kilometers) 12,000

f). Administrative/Structural Units:

(1). Programme Operation Unit

Programme Operation Unit organizes and conducts the implementation process within the three field units of TRDP. Besides, it also plans, monitors and manages the activities with village organizations in line with TRDP's yearly plan of action. A team of subject specialists supports the social mobilizers in undertaking the different activities pertaining to the respective area of technical sphere like health, sustainable land use and water and sanitation. It also does the action research by collecting the information and channelizing it to support unit for proper management and usage.

(2). Programme Support Unit

Programme Support Unit collects and communicates the information that can be used as a base to compare and monitor the progress on regular intervals at different levels. It covers the discussions, presentations, suggestions, and action points that evolve in the course of programme review workshops, monthly team meeting, community meetings, partners meetings and meeting with line departments. The information organized such a way also implies a reference to indicators signifying programme progress in the TRDP interventions. Besides, it also supports and co-ordinates the staff in getting guidelines and making course correction in joint exercises for future planning. Besides, support unit also supports in organizing the training both for TRDP team and community in a manner that they can complement each other. To achieve this it attempt to build on folk wisdom to create training modules in the fields of management, gender, reproductive health, children rights, social mobilization and the monitoring. In addition, the unit also publishes a quarterly newsletter and develops/ promotes liaisoning and networking with other NGOs and line departments for joint ventures and partnership. It also ensures the proper 'process documentation and research' and sharing it with others to transform the strategies and approaches of the programme.

(3). Finance and Administration Unit

Finance and Administration Unit works within a system of TRDP finance framework. It coordinates and manages all the financial transactions in line with activities and yearly plan of operation. It also coordinates with partner's in the framework of financial monitoring mechanism developed in partners round table meetings. Besides, it takes care of all the routine administrative affairs like boarding, logistic, etc.

(4). Community Physical Infrastructure Unit

(a). Advocacy & Networking Unit

(b). Human Resource & Gender Development Unit

g). TRDP Assets

Vehicles, Audio-Visual Equipments, Furniture, Fixture, Buildings, Land etc, of worth about Pak, rupees five million.

h). Thardeep Brief

- (1). Emerged from relief work of Save the Children in 1987
- (2). A Registered NGO (registered under society act 1860)
- (3). Works in Tharparkar district only with its Head quarter in Mithi
- (4). Run by independent Hon. Board of Directors (15) including community representatives
- (5). Elected representatives from community on the General Body
- (6). Donor funded (all institutional support comes through Donors)
- (7). Auditors: Khalid Majeed Hussain Rehman

i). TRDP has:

- (1). Equipped Six Field offices and One Liaison Office in Karachi, 10 four-wheel drive jeeps and one desert drive truck
- (2). Team of Subject specialists (managers, Doctors, Veterinarians, LHVs, Engineers, Sociologists, accounts staff, and enterprise development experts)
- (3). Finances an annual portfolio of about 50 million rupees including 20 percent overhead cost.

j). Major Areas of Interest

- (1). Social Mobilization (men, women, and Children)

- (2). Water Development and Management in Arid Zones of Thar
- (3). Sustainable Land Use (Livestock, agriculture, and, improvement of common grazing lands)
- (4). Micro-credit and enterprise development
- (5). Children citizenship and children rights (child labour)
- (6). Health, education and women rights
- (7). Relief and Rehabilitation in emergency situations

k). Achievements so far

- (1). Village level organizational network in 200 villages (800 org., 6 million savings, etc)
- (2). Networking, credibility developed systems, etc.
- (3). Water development at grassroots level (pioneers) such as deep hand pumps, dug wells, RWH tanks,
- (4). Tube-wells etc.
- (5). Micro-credit 21 million
- (6). T.B control 500 patients in credit
- (7). Supported 30000 families by food supply during drought
- (8). Relief to 250000 animals through supply of feed
- (9). Economy stoves, latrines and kitchen gardening in 200 villages
- (10) Health (MCH) and EPI coverage, etc.

l). Action Research

- (1). Child Labour situation of carpet Industry of Thar
- (2). Rainwater Harvesting in Thar
- (3). Gender Profile in Thar
- (4). Drought Monitoring and Assessment in Thar
- (5). Pilot Projects and Advocate to Line Departments for Scale Ups
- (6). Thardeep Rural Development Programme. (3)

3. Baanhn Beli

a). Introduction

Baanh Beli is a phrase used in the Sindhi, Seraiki and Punjabi languages to say that someone is " a friend forever."

Literally, however, the word "Baanh Beli" means hand or arm and the word " Beli" means " Friend" so that a more direct expression of the phrase " Baanh Beli" could be said to be " a helping hand". On balance, as the two possible meanings are very close to each other, we prefer to use " a friend fore ever" as the more descriptive interpretation of the phrase.

b). Objective.

Baanhn Beli brings together disadvantaged people who live in remote villages, with professional specialists living in large cities to learn from each other and achieve shared development aims. Born out of the experience of working in remote areas often suffering from drought and sometimes famine like conditions. The Baanh Beli organization works with those citizens of the country, who are amongst the most deprived segment of the rural population, residing in small, far-flung settlements of the Tharparkar and region in Sindh and in other parts of Pakistan.

Baanhn Beli prefers to work in places where there are no metalled roads, no electricity, and no piped water, places where traditional development paraphernalia and personnel rarely go due to absence of facilities.



HARVESTING WATER BAANH BEL'S INTERVENTION
<http://thaparkar.sdnpk.org/pic/8/htm>

c). A Consistent Commitment

The unique and remarkable aspects of Baahn Beli's work is that in the years when conditions had deteriorated in Sindh and extreme polarization had taken place between urban and rural areas. It's city based volunteer members regularly traveled hundreds of kilometers through areas considered very unsafe to sustain contact with village base members in remote areas and steadily expanded the scope of their work in critically difficult conditions.

d). Achievements

- (1). Bridge distances, geographic, demographic linguistic, religious, educational and economic to create and nourish bonds of friendship and progress.
- (2). Advocate the cause of about 1 million disadvantaged people who live in the Tharparkar arid region by raising awareness about their development issues on international, national and provincial levels.
- (3). Over 200,000 people are benefited by work in about 200 settlements.
- (4). Projects include 130 girls schools, water wells, health education, medical camps, literacy & education, income generation, Environmental awareness-building, capacity building.
- (5). Thousands of work hours by urban-based citizens and village based residents rendered on voluntary basis in difficult terrain & conditions.
- (6). Over 95 percent of funds invested in project & fieldwork
- (7). Excellent example of co-operation between citizens, corporations, associations, media and Government departments.

e). Guiding Principles of Baahn Beli.

- (1). Reach out to bring people together.
- (2). Do voluntary service, even at the expense of personal convenience.
- (3). Bridge the rural urban divide.

A Comparative Study of Agro-based Industry of Tharparkar with Canal Barrage Area Sindh (1988-2000), Suggested Techniques Leading to an Industrial Economy, PhD Theses, Department of Economics, University of Sindh, Jamshoro, April, 2002, Chapter-2 By: Gobind M. Herani

- (4). Concentrate on remote areas without modern infrastructure because these areas deserve the most attention.
- (5). Work for the most disadvantaged groups.
- (6). Promote development; discourage handouts, except in extreme emergencies or special cases.
- (7). Use a democratic, participative process.
- (8). Ensure open, transparent, accountable procedures.
- (9). Keep accurate financial records that are regularly audited by external, independent specialists.
- (10). Prioritize the advancement of women and children while supporting the betterment of poor and dispossessed men.
- (11). Co-operation with all other relevant institutions, do not compete with them
- (12). Respect traditional knowledge, values and culture, even as contemporary information and skills are enhanced and exchanged.
- (13). Transcend all differences of race, religious, caste, gender, language, in order to serve people.

f). The Volunteer Spirit in Action.

Giving money for a cause is good and easy. Giving time and personal attention to a cause specially some distance away from your normal place of residence and work is rare and difficult, and even more expensive than giving money.

Every individual from Karachi, Hyderabad, Naukot and Tando Kolachi, associated with the exploration of the Tharparkar region and with the formation and operation of Baanhn Beli has regularly and frequently given five to six days of working time every month for several years without charge to make journeys over rugged terrain, often in difficult and harsh conditions, sometimes even risking health and safety.

Between these journeys as well, on a daily basis, these members devote time and effort to the work of Baanhn Beli.

g). A New Phase Begins

Text of a Resolution adopted at the Annual General Body Meeting of Baanhn Beli held at Mithi Tharparkar on 2nd October 1998.

Resolved that:

- (1). After the completion of eleven years of work of Baanh Beli, several of the original objectives for which this organization was established have been successfully achieved, particularly in respect of the formation of village organizations in which the people of the Tharparkar arid region are taking an active part.
- (2). A model for rural-urban cooperation for development has been evolved and established.
- (3). The work of organization has been conducted as per the laws of the land and in strict observance of the norms, rules and procedures of transparency and accountability.
- (4). The work of the organization has been acknowledged widely within the Tharparkar arid region in Pakistan and internationally.
- (5). Several village level organizations of Baanh Beli are now in a position to apply directly to the Government of Sindh for registration and to donors and partner organizations for aid and support.
- (6). It has therefore become necessary to increase decentralization to ensure optimal participation by grass root organizations in all aspects of decision-making.

(7). Further, as discussed and resolved in earlier meetings, there is a need to replicate and expand the work rendered during the past 11 years in other parts of Sindh of Pakistan.

(8). Baanh Beli Tharparkar would eventually, during 1999, assume complete responsibility for continuing the work of the original Baanh Beli inside the Tharparkar arid region whereas Baanh Beli Pakistan would be responsible for replicating and initiating new work in other parts of Sindh and of Pakistan.

(9). Thar in view of the services rendered by the first and founding President of Baanh Beli. Mr. Javed Jabbar, towards the establishment and development of Baanh Beli, he is authorized to formulate an appropriate programme of transition from the original Baanh- Beli to the two necessities. (4)

B. Steps Taken by Government for Tharparkar

1. Exploration and Exploitation of Ground Water in Thar:

Abdul

Khalique A. Shaikh. (1992).

a). Background:

The Inhabitants of Sindh Arid Zone are deprived of basic amenities of life even domestic water supply therefore, their living condition are pitiable, specially during droughts in the area. The Sindh Arid Zone Development Authority” realized their hardship and decided to overcome their sufferings and focused the top priority to the development of Ground Water Resources .

The resources of surface water in Arid areas of Sindh are meager, therefore the available ground water is only source to be developed for domestic agro livestock industry and agriculture purposes. In this respect SAZDA prepared the short term and long term schemes for development of ground water by applying the scientific approach. The object and achievements in the field of ground water development made by Hydrological wings of SAZDA are briefed as under.

b). Objectives.

- (1). To develop the ground water resources based on Hydrological information and establish domestic water supply system at or in the close vicinity of sizeable village in Arid areas in order to provide the dependable and hygienic water supply to the inhabitants.
- (2). To investigate and evaluate the parameters for economical and dependable ground water development by applying the latest scientific approach / technology in order to avoid the adverse affects of droughts, such as depletion in ground water resources and deterioration of water quality.
- (3). Based on the parameters for ground water development evaluated by ground water investigations, the exploitation of ground water is to be planned for development of agro livestock, agricultural and industrial purposes.
- (4). Exploitation of ground water from promising aquifers by drilling and installation of tube wells in order to develop the socioeconomical conditions of the inhabitants and increase the population absorption capacity of the region in future.

c). Achievements

- (1). Carried out feasibility studies for availability of ground water for domestic use at or in the close vicinity of more than 100 villages in Thar Region.
- (2). Evaluated, estimated and designed / Planned for development of ground water for domestic use at more than 50 No. Villages.
- (3). Drilled/ installed 2 Nos. Tube Wells and established water supply systems on them. At present all the water supply schemes are under operation.
- (4). At present the ground water investigational program is at the final stage. During these investigations Hydrogeological Wings of SAZDA encountered a deep promising aquifer of quartzitic sand stone having thickness around 200 - 250 feet with the depth of 700 - 1200 feet . The water encountered in this aquifer is under semic artisan conditions, which rises to the depth of around 150 feet. The quality of water is little brackish, having Electric Conduction around 3000 - 3500 ppm , acceptable for drinking purposes as per Russian Desert Standard.

- (5). Drilled around 16 Nos. Test Holes having maximum depth 1240 feet.
- (6). The great and remarkable achievement of SAZDA is encounterness of big storages of ground water scattered over around 10,000 sq Kms in Central and North. East of Thar Region. At the present stage this ground water reservoir is estimated to be enough for domestic and irrigation of limited fodder for animals, accepting little brakish water, such as Barseem Janter etc. The life of this water could be excepted little more than century if it is used scientifically and limited by using the sprinkle system of irrigation.
- (7). The SAZDA is developing the starategy for establishing the experimental fodder and agrolivestock farms at about 3 -4 locations in Thar Region.
- (8). The top priority of SAZDA is for water sector inorder to supply the potable water to sizeable villages and also to elevate the socio economical conditions by irrigating the animal fodder and developing the agro-livestock industry.
- (9). Based on the newly encountered huge ground water reservoir, the SAZDA is evaluating and preparing the strategy for the development of other industries such as Milk Plant, Meat Preservation Plant, establishment of China Clay factories and granite glazing factories etc.
10. In order to acheive the above mentioned targets, lot of finance is required. However, the Sindh Government and the Authority is approaching to the donor agencies from different countries and the Federal Government in order to procure the required machinery, material alongwith technical assistances.
- (11). In the last it is to be required the administration of Thar District, the Government of Sindh and Pakistan, the exports of various fields / sectors, worthy scholars and the respective inhabitants of the Thar to join their hands and assist the Authority with valuable suggestions, and financial assistance, in order to acheive the targets, within shortest priod. (5)

2. Seminar Paper of Dr. Allah Warayo Mohammadi, read in Thar Seminar 1992 at Mithi

a). Introduction

According to Seminar's paper of Dr. Allah Warayo Mohammadi read in Thar Seminar 1992 at Mithi, he said there are two schemes of development of Thar. The feasibilities of these schemes are already prepared and comparatively they are cheaper than other alternative schemes. These schemes are:

(1). Renni Canal Scheme

The Renni River was starting from Brihampatara and Satlaj River, and flowing through Cholistan, Obaro (Sukkur) Mirpur Mathelo, Ghotki, Sanghar, Khipro, Umerkot, Islamkot and Nagarparkar and was ending in Rann of Kutch. Its direction is changed at the time of building Guddu Barrage. It was also to face the floodwater at emergency. At this time if this is connected to Guddu Barrage as a feeder it may help at the time of flood and the South East of Thar may be irrigated.

(2). Alternative Disposal of LBOD Scheme:

For the water thirty land of Thar the feasibility report of this scheme is prepared in 1989 and submitted to the government of Pakistan and WAPDA. This scheme is also profitable and economical. According to this scheme the water of Sukkur, Nawabshah, Sanghar and Mirpurkhas districts will be thrown to Shakoor Lack and Arabian Sea. According to some sources the expenditure on this schemes is 44 billion. Expending about rupees 20 billion. It has reached near Jhudo town of District Mirpurkhas and another Rs. 20 billion will be spent. After that this water will fall into the Shakoor Lack and Arabian Sea. According to experts it is un-natural and at the time of tides, the same water will come back and will spread the saline through Sindh. Therefore it will be feasible that in order to develop Thar the water near RD5- Jhudo be diverted towards Thar .At the same time the soil of Sindh should be saved from salinity. On this schemes 4 or 5 million rupees will be spent. By completing these schemes west and South Thar may be irrigated. The people of Thar drink water of 6000 PPM in same areas. The water of LBOD is in between 1500-2660PPM. So it can be useful. According to Prof. Dr. Rafique Ahmed, the experiments done on the seashore water 35000PPM, has proved that lot of crops can be sown on the salinity water by doing some alteration. A defense channel can be formed on the Runn side from Ali Bunder (port) to Nagarparkar .This proposal is not implemented and water is going into sea.

b). Benefits of These Schemes

A Comparative Study of Agro-based Industry of Tharparkar with Canal Barrage Area Sindh (1988-2000), Suggested Techniques Leading to an Industrial Economy, PhD Theses, Department of Economics, University of Sindh, Jamshoro, April, 2002, Chapter-2 By: Gobind M. Herani

- (1). By making defense channel border of Runn of Kutch can be saved from guarding.
- (2). Expenditure on Khairpur SKARP, East Jamraoo scheme and tidal link schemes can be saved.
- (3). Main thing is that there will be no need of SAZDA.
- (4). Low Hydal Power electricity may be produced.
- (5). Drinking water problems of Thar will be solved.
- (6). The sub-soil level of water of Thar will come up, resulting better rains and lots of forests will emerge.
- (7). The scattered villages will become town and cities and gradually every kind of industry will come into existence. (6)

3. Recommendations of Thar Seminar - 92' Held at Mithi. (Oct: 9th To 11th)

a). Back ground

A galaxy of scholars, including two former Vice chancellors of the univesity of Sindh, Jamshoro, Dr.Nabi Bux Bloch and Dr. G.A Allana and a host of professors from Karachi and other universities and colleges converged on Mithi to attend the first ever seminar.

b). Objectives

To suggest ways and means to improve the problems of Thari people .

c). Recommendations

- (1). Thar district be renamed as Tharparkar district.
- (2). Thar development authority be established.
- (3). Five year Thar development program be prepared.
- (4). Water supply scheme, supplying drinking water from Naukot-Mithi and Cheel Bund- Chachro be implemented and new scheme be prepared to complete within a shortest possible time.
- (5). All the Taluka headquarters towns be connected with the district headquarters by metalled roads.
- (6). Coordination of NGO's multinational and international organization be channelised properly.
- (7). An uptodate survey of various resources be made.
- (8). Royalty be paid for the resources of Thar to Thar development authority.
- (9). Solar energy system be developed and utilized for the betterment of the people and development of the area.
- (10). Thar Cultural Development Centre, Museum and Library be established with the coordination of the department of Culture & Tourism.
- (11). Touristic sites of Thar be developed and the Ministry of Culture and Tourism be requested to construct the guest -house at Mithi and Nagarparkar
- (12). A research cell be established to write history and folk litrature of Tharies branch of Sindhi language
- (13). A" who's who" of writers, prominent personalities
- (14). Net work of vocational centres be established in entire area of Thar.
- (15). Poly Techenical institute be established in every Taluka Headquarters.
- (16). A mass education programme in the field of education Health and social services be introduced.
- (17). An education fund be established for books/ clothes etc for Thar students with assistance of government and philanthropists.
- (18). Retired local Noble Male Teachers be re-employed in Girls schools.
- (19). New Land Grant Policy 1985 -86 be reviewed.
- (20) A sattelichte city adjacent to Mithi be planned and built reflecting the character and culture of Thar and Parkar , which should have basic amennities such as roads, water supply, sewerage etc.

- (21). Indigenous experts of animal husbandry medicines, artisan be recognised and registered and be provided adequate facilities to serve and advance them respective knowledge.
- (22). An Institute of Veterinsary Research be established at district headquarters.
- (23). Archaeological sites of Thar district be surveyed and protected.
- (24). Tharies people should be given priority in respect of jobs in Government Departments.
- (25). A Qarz-e Hasna scheme be introduced for local vocational and small industrial units.
- (26). Arrangement to protect the Wildlife of Thar be made.
- (27). Proper health cover be provided specially on female side.
- (28). Doctors domiciled from Thar be made to serve compulsorily for two years in their home districts.
- (29). Special Transport network be built up.
- (30). Network of small dams & check dams may be established around Karoonjhar Hills to retain rain water for irrigartion and other purposes. (7)

4. Experience of Artificial Rains

“Artificial rainmaking or cloud seeding was successfully attempted for the first time in Pakistan in the drought-stricken Tharparkar desert on July 2 and 3., 2000. (Dawn.com/2000/07/09/). As a result Kokhrapar, Chachro, Umerkot and surrounding areas received rainfall. Good job done definitely. In this process, aircraft sprinkle chemicals on the clouds. The fairly effective and cheapest chemical being used was Sodium Chloride, which induces precipitation. Initial experiments with cloud seeding were conducted in 1946. Thereafter Rockets and Cannons were tried for cloud seeding, a peaceful use indeed. Whatever be the methodology, the question of short term and long-term economics be taken into consideration. What would be the overall cost? How much rain we are likely to get and do we have the infrastructure to make judicious use of the water? Another source of water is through desalination, a process being employed by 120 countries. But the economics has to be worked out judiciously”. (8)

5. Steps, Taken by WAPDA 's about Electricity to Tharparkar

“Inhabitants of Thar are seriously concerned about Tharparkar District, which is not being provided electricity by WAPDA despite, the fact that grid stations have been functioning at Mithi, Chachro, Islamkot and Diplo towns since last couple of years. In the past, WAPDA had sanctioned schemes for laying 11 KW feeder lines from Mithi to Chachro, Islamkot to Veenjhniari, Mithi to Posorko, Mithi to Bheemaneth and Chachro to Keetar. It had installed poles for completing some of these schemes, but unfortunately the work has been left incomplete for reasons best known to senior WAPDA officials. Out of 2,305 villages in Thar, WAPDA has provided electricity to five villages: Sanyasar, Misri Memon, Phangario, Harchand Kolhi and Sokhru; while out of eight towns, it has provided electricity to only four: Mithi, Islamkot, Chachro and Diplo (Dawn.com/2000/06/26/)” (9). Light is also supplied before 1993 to Othabad and Saisur (APPENDIX-17).

6. Thar Uplift projects Under the Chief Executive's Drought Relief Package

“The Sindh Government has launched various development schemes to linking the far-flung areas of the Thar with its small towns and to ensure water supply to the people of Thar, the most neglected area of the province. The schemes will be completed at the cost of more than Rs. 489 million”. (10)

“Informed sources disclosed here to this correspondent (May, 23, 2001), that Chief Executive General Pervaiz Mushraf is taking special interest in the development of Thar. On the directives of the CE, the Sindh Government had occurred approval to the said schemes and the Federal government provided funds. The government had started water supply schemes at the cost of Rs. 120 million under which the water would be supplied to Naukot to Mithi. The Public health Engineering Department was working on the scheme under the supervision of Army; the Sindh Government had released Rs. 50 million in the first phase of the scheme. These

funds were given from the released fund.

The work on the construction of roads had earlier been started to link the far-flung areas of Thar with its small towns. The 12-kilometer roads will be completed at the cost of Rs. 369.2 million. In the first phase of said schemes, Rs. 100 million have been released from the relief fund. The General Officer Commanding (GOC) is supervising the Thar development projects. Sources said that Federal Government had released Rs. 900 million in terms of Relief funds on the directives of the Chief Executive who announced the said package in view of drought and Famine in Thar. The victims of the calamity had been provided foodstuff, medicines, fodder for their cattle as well as cash relief. The rest of the amount lying unutilized had been marked for the development of the deserted area the lags far behind so far as the development and basically required Human facilities are concerned". (11)

"Various schemes of water, roads, electricity and health care were being undertaken in the desert area of Tharparkar to solve basic problems of the people. Such schemes, which were being undertaken under the Chief Executive's Drought Relief Package at a cost of Rs1 billion, would be completed by April 2001.

The GOC of Hyderabad, Maj-Gen Khalid Munir, here stated this on Tuesday. (1-11-2000 Dawn-Local). He said that these schemes were being launched in addition to the Poverty Alleviation Programme. He said the CE had announced the package during his visit to Tharparkar in May last." (12)

7. Drought Assessment Mission (4 to 6, June 2000)

a). Coping Mechanisms and Food Security at Household Level.

"Major sources of livelihood in the arid zones of Sindh are livestock, rain-fed agriculture and wage labour. In normal years, main crops are sown immediately after the rainfall, followed by harvesting, stocking, marketing and feeding animals in grazing lands for the rest of year. The seasonal calendar provides opportunity for the people to secure their subsistence for the whole year and it determines their economic security and social credibility. In dry seasons, from 15 to 20 percent of the human population, comprising mostly of Bheel and Kolhee, migrate to irrigated lands along with their animals to work as farm labour. They work in irrigated areas from November to June (for sugarcane and wheat harvest and picking of cotton). Sale of livestock has increasingly become a source of cash with which they meet their requirements of medicine, education and other social obligations (marriages & funerals).

The foremost impact of the drought has been on the movement of the people and animals. The migration of people in Thar has increased by 20 percent. The increase in labour force in irrigated areas has resulted in declining wage rates and problems in procuring work.

Lack of fodder and grazing opportunities in rangeland has resulted in 80 percent migration of cattle, 15 percent for sheep and 10 percent for goats. High mortality rate and reduction in the weight of livestock have significantly reduced the income of the people in the drought-affected areas. NGOs are quite active in the Tharparkar District and seem to have effective implementation, though often limited to accessible areas.

b). Priorities

Availability of potable drinking water, proper management of water resources and communications are the three priority areas and are key to the long-term development of the desert areas. Water sources in the eastern desert are still un-exploited and the permanent installation of tube wells, hand pumps and check dams can alleviate future water problems. Similarly, construction of all-weather roads will improve accessibility of the population, will stabilize market prices and will stimulate economic activities. These areas have good potential for WFP to undertake food-for-work infrastructure development activities.

c). Immediate Measures

On an emergency basis, seeds of millet and guar should be provided in the affected areas of Tharparkar, Umerkot District before the sowing season that starts from early July. Feed and roughage to the affected livestock population in all severely affected districts is needed for a period of a minimum of three months to last until pasture is available. In case of rain failure during the coming monsoon season, these inputs will be required for at least six months. Vaccination and de-worming for the livestock population is needed to mitigate further deterioration. WFP should extend support to MCH services through mobile/medical camps with the provision of edible oil and iron tablets from its on-going health programme in these districts. WFP should consider an emergency relief operation if there are no rains this year. The situation should be re-assessed in July.

d). Medium and Long-Term Measures

Tube-wells and hand pumps should be installed and the existing ones rehabilitated. Check dams and small water reservoirs should be constructed to improve storage, conserve water and thereby improving the recharge. Wherever potable water is available, Possibilities for the supply of water through pipes to the affected villages should be explored. WFP should undertake food for work and income generating activities (roads, water development facilities, income generating activities for women, etc.). Accessibility to remote areas should be improved through construction of roads. Electricity should be supplied to these areas to facilitate development and improve water-pumping capacity.” (13)

8. Thar Drought Presentation (1997 - 1998) (1998 - 1999) (1999- 2000) (2000 - 2001)

a). 1997 - 1998

“Reasonably good year characterized with Fair and timely rainfall during July - September Reasonable crop yield Sufficient fodder for livestock and cattle Normal migration to barrage area (up to 15%) People purchased gold and silver New clothes purchased Weddings and rituals performed Public appeal NGOs for drought relief

b). 1998-99

Cyclone in May 1999 causing loss of animals and houses No monsoon rain occurred (Mid June-Mid August) .No cultivation of crop. No grasses to feed animals Migration towards Indus Plain (Barrage Area) started People turn to moneylenders for loans to buy food items. Tharparkar Drought highlighted in the local papers Politicians appeal for relief in Thar Public appeal NGOs for drought relief Commissioner Mirpurkhas visits Thar to assess situation. Media Advisor to PM distributes some rice as relief Maroora Coordination Council meet to take stock of situation. An NGO from Thar conducts a situation analysis on drought

c). 1999-2000

Drought Situation gets worse. Out migration reaches 40% 80% of cattle and 40% livestock migrate by Oct-Nov. Non-availability of grain Decline in the rates of animals. People forced to sell animals at throwaway prices to purchase food times. Cattle markets full of weak Thari animals. Problem of malnutrition among women and child get worse by February-March. Quality of drinking water in wells changes. Diarrhea gastroenteritis, ARI reported nutritional deficiency related illnesses and deaths. Women, Children and older people become worse sufferers. Women with high-risk pregnancies increase. Babies born with low weight 30%, drop in primary school enrollment All leading Newspapers high light Thar Drought. International media gives news of Thar Drought. New Military Regime declared drought in November. Governor of Sindh visited Thar to assess situation, Government announce relief measures In January 2000, “3520” tons of wheat were distributed by government at 50% market rate. In April government distributed another 3520 tons. OXFORD Mission sponsored by OXFAM, asses the drought situation. Interim relief for 500 poor families, by OXFAM PVDP makes appeal to donors for seed and fodder CRS approves seeds for 2500 farmers CWS gives seeds relief for 750 families and fodder relief for 1500 families Other NGOs start relief programme Government give cash hand outs to 34,418 families throughout Tharparkar

d). 2000-2001

First rain of the monsoon falls in the first week of July. Whole of Thar receives rainfall; People start agricultural activities, NGOs, and Donor Organization continues Relief Operation. Second Rainfall comes after 15 days interval. Rainfall not even throughout Thar Crops show good sign where as second rain was good By Mid September NGOs and Donor Organizations reached more than 28,700 families with food packages covering about 60% of Thari villages. Malnutrition status of women and children improved as a result of food relief to poor families. Milk from animals increased Cattle and livestock weight increased due to availability of fodder. A third rainfall is needed in 3/4 of area to bring the crop to maturity. By September, the chance of rainfall becomes dim as climatic condition change. No third rain would mean 20-30-crop yield in 40 % area and 10-20 % in 35 % of the area. The landless people have slowly started migrating towards barrage area. The Thari people can survive on the available resources up to December 2000. As mass migration is predicted in the first quarter of 2001, if rainfall did not occur by end September the Drought may make come back” (14).

9. What steps will help to solve Thar's Problems and make the lives of people better:

- a). Development of Infrastructure (roads, electricity),
- b). Improvement in Communication Network (transport, telephone);

- c). Small scale industries (non-rain dependent program),
- d). Increase in Employment of Tharies in government and private jobs;
- e). Alternate agricultural crops (beer grafting),
- f). Fodder development (fodder trees, grasses, stock of fodder, grazing lands)
- g) Promotion of good quality animals (should be economically viable),
- h). Development of Water Resources and Management system,
- i). Development of skills and capacities of Tharies people,
- j). Improvement in Health and Education provision,
- k). Awareness creation on Environment,
- l). Health, Education and positive Social Change,
- m). Increase in real assets of the people (land, livestock, and skills).
- n). To have political commitment and will for Thar's.
- o). Development of NGOs, CBOs and Village Organizations,
- p). Revival of lost values Drought Management Plan Ensuring and Food security. (15)

C. Steps Taken by Government for Barrage Area of Sindh

1. Agriculture Borrowing Limit Raised for Cane Growers

Sugarcane growers can now borrow Rs 8,000 per acre instead of Rs 5,000 from the banks. The State Bank has announced the increase in per acre lending for sugarcane crop and instructed the banks involved in agricultural lending to implement it "with immediate effect"

The banks engaged in agricultural lending are:

- a). Agricultural Development Bank of Pakistan
- b). Federal Bank for Co-operatives
- c). National Bank
- d). Habib Bank
- e). United Bank
- f). Muslim Commercial Bank and
- e). Allied Bank.

These banks provide farm credit at a minimum mark-up of 14 per cent with no ceiling on the maximum mark-up. Sugarcane growers, say that 60 per cent raise in their borrowing limit would certainly encourage them to grow more sugarcane. In fiscal year 99-00 Pakistan had produced 46 million tones of sugarcane, down from 55 million tons as compared to the corresponding year 98-99.

Chief of Sindh Chamber of Agriculture, Syed Qamaruzzaman Shah welcomed the SBP's decision, while talking to Dawn from Hyderabad, over telephone. "This is a timely move," Shah said pointing out that sugarcane sowing had started in parts of Sindh. "In Punjab also sowing would start next month and the growers would be able to borrow according to their requirements." Bankers said the increase in per acre borrowing limit of sugarcane growers, was part of an exercise aimed at revising such limits for all other crops. Qamaruzzaman Shah said a committee headed by Chief Economic Advisor of the State Bank Muhammad Ashraf Janjua had finalized its recommendations on this subject. Himself a member of the committee Shah would neither confirms nor denies the view that an increase in borrowing limits for other crops was on cards.

Five local major banks namely (i) NBP (ii) HBL (iii) UBL (iv) MCB and (v) ABL have asked the State Bank to raise the borrowing limit from Rs 2,500 per acre to Rs 4,500 for paddy; Rs 4,000 to Rs 6,000 for cotton; Rs 9,000 to Rs 11,000 for potato and from Rs 7,000 to Rs 9,000 for tobacco. They have also requested upward revision in per acre borrowing limits for other crops including maize, sunflower, canola and rapeseed etc.

In October last year SBP had raised the borrowing limit for wheat growers from Rs 2,500 to Rs 4,000 on the recommendation of farmers and bankers. Banks offer farm loans both for crop raising and purchase of agricultural machinery and tools-like tractor and tube well and loader and thrasher. Bankers say they offer crop loans for six to eighteen months whereas loans for machinery and tools are offered for three to seven years. Under the annual credit plan the banks engaged in agricultural credit are supposed to lend Rs 49 billion to the growers. Of this ADBP is to lend Rs 31 billion, five major banks Rs 11 billion and Federal Bank for Co-operatives about Rs 7 billion. (16)

2. Address of Syed Ali Mir Shah Provincial Minister

“Provincial Minister for Irrigation, Power, Public Health, Engineering and Communications Syed Ali Mir Shah has said that due to shortage of funds, the government is not in a position to give subsidy on paddy. Addressing growers and landlords here on Saturday, the minister said that the government could not leave tax on tail-enders after their complaint that water was not reaching them. The minister heard the problems of growers, noted their complaints and assured of necessary action. He praised the historical city of Shikarpur and said that he used to visit Shikarpur as he had many friends there.

President Sindh Abadgar Board Abdul Majeed Nizamani, Wali Tamachani and others were present on the occasion. Our Sukkur correspondent adds: Sindh Minister for Irrigation Syed Ali Mir Shah has advised the growers to ensure efficient use of irrigation water

Addressing an open Kuchehry at village Tamachani, some 20 km off here, he asked the growers of paddy-banned areas to work on growing other productive crops and consume less water. He directed the officials of Irrigation and other concerned departments to change their attitude with the people and solve their problems on priority basis. He said that the government would consider giving relief in Dhal, water rate and recovery of loans to the farmers of Upper Sindh especially in the command area of Sukkur and Guddu barrages. He said that the demand of growers for waiver of Dhal and other government charges on account of massive crop damage in Upper Sindh was justified and he would talk to the concerned revenue authorities and the Commissioner Sukkur division for the needful. On a demand of installation of tube wells to overcome water shortage, the minister asked the growers to do the needful on self-help basis and not to rely totally on the government. He said that the government would provide every available assistance and relief in this regard. He also announced that the desilting of Gousarji Minor and Garang Wah would be carried out in the current year. APP adds Talking to APP Syed Ali Mir Shah, who is on a two-day visit of Sukkur and Larkana divisions, attributed the persisting water shortage in Indus during the last two to three years to the “changing worldwide climatic conditions and dry monsoon spell in Sindh for the last six years.”

He said that the government had adopted various measures to overcome and improve the irrigation water shortage and tendency of water thefts and added that Participatory Irrigation Management (PIM) had also been introduced in Nara Canal area, which would serve as a pilot project for other farming areas. Once the system worked satisfactorily it would be expanded to other areas, he added. He said that Sindh Irrigation Development Authority (SIDA) had been created under a legislative act some time back. He said that telemeter system would be launched at barrage heads from Tarbella to Sindh at a cost of Rs 600 million and the installation telemeters would take about three years. He hoped that with the computerized telemeter system in action, there would be no complaints about river water thefts. He said that a study would also be made for boring of large number of tube wells, in Upper Sindh where sweet sub-soil water is reportedly available for irrigation purpose. He cited the example of Punjab where despite water shortage the growers had installed tube wells in large number to meet their agricultural needs. The minister said the government was ready to extend maximum financial aid to the farmers for installing private tube wells to overcome the water shortage. (17)

3. Address of Sindh Governor Muhammad Mian Soomro 29th November 2000

Special steps taken to eradicate poverty and unemployment

Advocates agriculture cooperatives to finish role of middlemen; asks farming community to promote sheep breeding, livestock and dairy farming. Special measures for removing poverty and unemployment in Sindh had been taken and the Sindh cabinet had also taken some decisions for the development of agriculture sector.

Sindh Governor Muhammad Mian Soomro stated this, while addressing an inaugural ceremony of one window operation scheme of seasonal loans of Agriculture Development Bank of Pakistan (ADB) in Municipal Hall here on Tuesday. (November, 2000. Press releases, Soomro)

Soomro said the government had been trying to solve the basic problems of the masses on a priority basis despite limited resources. Soomro said the ADB one window operation scheme would be fruitful for the growers.

He said, there is natural shortage of agriculture water in the country and the growers should think to

grow other crops like sunflower, which requires less water as compared to paddy. Crops like sunflower also fetch good rate, he said.

He said, the Sindh government had been making efforts to fix rice rate and in this connection meetings with exporters had also been held. Soomro said the latest technology for agriculture produce would be provided to Abadgars of Sindh soon. ADBP Chairman Ghulam Farred Abbasi presented address of welcome. Earlier, Beldars of agriculture extension department strongly protested, demanding payment of arrears of their 12 months' salaries, in the Municipality Committee Hall, here. Soomro assured the Beldars of early release of their arrears.

Addressing during his visit to Hashim Agriculture Farm, some 15 kilometers from Khipro Town (District Sanghar) in connection with wheat sowing campaign, Soomro underlined the need for the formation of agriculture cooperative system on modern lines for the benefit of the growers. The wheat sowing campaign has effectively been launched throughout the province.

The governor said by forming the agriculture cooperatives, the grower could minimize the role of middlemen and get maximum benefit of their agriculture produce. In this case the growers will also work hard for achieving quality production for export, he said. He said despite the limited resources, the government was giving top priority to the development of agriculture sector, which is the backbone of the national economy.

In order to meet the shortage of water in the province, he suggested the use of land leveling and other modern technologies in order to increase per-acre yield. The governor said efforts are also being made to overcome the problems of water logging and salinity by changing the crop pattern in the province. He said, the introduction of latest technology as well as proper research by the farmers will further improve the quality of their crop production and they will not only be able to fulfill the requirement of the country, but can export their produce abroad and earn the valuable foreign exchange for the country.

The governor also called upon the farming community to take keen interest for promotion of sheep breeding, livestock and dairy farming in the province. The development of these fields will open new avenues for the farmers to achieve maximum benefit and meet the demands of the country.

Sindh Minister for Agriculture, Food and Forest, Hassan Ali Chanihio said, an Agriculture Export Processing Zone is being established at an area of 200 acres of land at Super Highways Karachi, where the facilities for a grading and packing will be provided to farmers for their vegetables, fruits and flowers. Besides, he said, training will also be provided to growers regarding improvement in their agriculture produce. (18)

D. Steps Taken for Pakistan Overall

1. Poverty Remains A Serious Problem in Pakistan

Average per capita income was about \$450 in 1994-95 and income and wealth is not equitably distributed. The population of about 130 million is growing at almost 3 percent per year. Economic fortunes are closely linked to cotton and the textile products made from it. Pakistani governments, however, have made some progress in diversifying the economy, and have committed to improving the quality of life for poorer citizens through the Social Action Program, a multiyear effort to raise education, health, and non-aromatic Irri-6 rice planting in Sindh and sanitation standards and reduce the population growth rate.

Livestock contributes about 34 percent of the value produced by the agricultural sector. Principal products are milk, beef, mutton, poultry, and wool. The most notable recent growth has been in poultry production, following a series of government concessions and incentives.

In an effort to enhance milk and meat production, the GOP recently launched a comprehensive livestock development project with Asian Development Bank assistance. In addition, the GOP is broadening extension and artificial breeding services, rationalizing animal health services, and introducing high-yielding fodder varieties.

The tanning sector is concentrated in the Punjab, where units process primarily buffalo and cow hides; tanneries in the Sindh process primarily goat and sheepskins. The local market for leather is limited, and about 80 percent of production is exported.

Coal: Pakistan's coal reserves received a substantial boost from the recent discovery, thanks to assistance from the U.S. Agency for International Development (USAID), of deposits estimated at 100 billion tons in the Thar Desert. Although, studies on the physical characteristics of this coal and its mine ability are continuing, initial data suggest that the coal is minable and suitable for power generation. As an underground mineral resource, coal (and its extraction) falls, within, the jurisdiction of the provincial governments. The Sindh Coal Authority has taken a leading role in devising a development strategy, working in conjunction with WAPDA and the relevant

federal ministries (Water and Power, Petroleum and Natural Resources). The policy for development of Thar coal provides that its primary use will be to fuel large electric power plants built in tandem with coalmines, and that development, ownership and operation of both mines and power plants will be in the private sector. The Thar coalfield has enormous economic potential for Pakistan and its development and exploitation will be a major infrastructure project in the coming decade.

Pakistan has one operational coal-fired power plant, located near Quetta, Blochistan. The Lakhra Coal Development Company (LCDC), a joint venture of the GOP, WAPDA, and the Government of Sindh, has been formed to develop large-scale mining of the Lakhra deposit to supply a proposed WAPDA power plant nearby at Khanote. The LCDC has engaged a Chinese firm to prepare a study on mine design and in May 1994, the Sindh Coal Authority signed a Memorandum of Understanding with a U.S Firm to develop a coal a 200-MW coal-fired power plant and mine fueled by Lakhra coal. (19)

2. AKRSP Conclusion (Lessons Learned)

“AKRSP is a flexible operation and its savings and loan program has not been static one. The Savings Program is as old as AKRSP itself: savings were a condition of VO/WO formation and they could only be accessed when a member left the VO/WO. One of AKRSP’s initial objectives was to develop, through experimentation with selected means and methods, a replicable approach to rural development. Three hallmarks of AKRSP’s success are the organization’s community focus, savings emphasis, and flexible operations. These are the features that are perhaps most often attempted to be replicated, in other areas, including Pakistan, India (Gujarat), Bangladesh (BRAC), Sri Lanka, and the rest of South Asia.

The fundamental features of AKRSP’s success, however, are consistent with established international best practices and can be adapted not only to surrounding countries, but also indeed to most places in the world. Community Focus AKRSP’s savings and credit operations have been dependent on the formation and functioning of VOs and WOs. The energy and health of the VOs/WOs appear to be major determinants of savings levels and credit use, and of the quality of the credit portfolio. At the same time, successful savings and credit operations reinforce the strength and sustainability of the VOs/WOs.

Savings Emphasis AKRSP is a flexible operation and its savings and loan program has not been static one. The Savings Program is as old as AKRSP itself: saving was a condition of VO/WO formation and deposited funds could only be accessed when a member left the VO/WO. Emphasis on savings reflects a central concern of AKRSP, which is to mobilize funds and deploy them locally. Initially, this concern reflected the objective of making the project area self-sufficient. With this strategy, AKRSP has over time been able to providing not only savings services but also loan products. The concept was modified due in large part to the linking of the rural economy with the national economy upon completion of the Karakoram Highway, and to urban-rural migration of able-bodied males.

The Savings Program is now seen as a means of encouraging employment locally, especially self-employment by members of village and women’s organizations. Flexibility in Operations As an experimental project, AKRSP operations have demanded flexibility. The evolutionary process of developing, refining, and expanding products and services has been a major strength of AKRSP’s management of its savings and credit operations. VOs/WOs develop at their own pace with growth commensurate with the ability and willingness of the VO/WO manager and village. Flexibility has permitted responsiveness in AKRSP outreach and design, as seen in the discontinuation of some products (for example, the medium-term credit product) and the introduction of others (for example, the MECP). Part of AKRSP’s flexibility has positive implications for eventual financial self-sustainability of the program. AKRSP’s approach to credit is that subsidies can initiate certain activities that will eventually be financial sustainable.

The organization has consistently moved toward increasing cost recovery, toward higher rates of interest on credit and toward institutional evolution that is expected to culminate in the establishment of a bank and enterprise support operation. Future Challenges AKRSP’s history of relatively good performance in savings and credit operations creates a wonderful platform for growth and innovation. It also can be improved. The future direction that is most useful can be described in general terms as the professionalization of financial intermediation.

Professionalization is basically an exercise in increasing specialization. This is a well-worn path, but not without challenges. Areas where professionalization could be most helpful include a shift in strategic focus from meeting credit needs to creating debt capacity, building financial information systems and introducing other measures to control and manage risk, improving operations support and training at the VO/WO level and increasing controls and other internal prudential oversight. It is easy to lend for credit needs and to lose money doing so. This is the fate of most donor-supported credit programs, which are unsustainable. Needs are not subject to very precise quantification, are subjective, and tend to expand as time passes and programs are politicized. Needs also tend to create or encourage dependence. This is not, of course, desirable. A better focus for AKRSP would be on creation of

debt capacity, defined as the amount an individual or entity can borrow on a sustainable basis. Attention to risks facing borrower and lender are paramount here, as is an attention to the ingredients of durable loan contracts, which leads to more responsive financial services and more responsible financial behavior.

In this regard, the existing credit programs (and especially the VO/WOCP) have produced much information in the form of savers' and borrowers' financial flows, which has not been adequately used by AKRSP. More focus of strategic attention on savings and credit patterns would make for a more cogent program and be useful in defining the role of the new bank that is likely to take over AKRSP's savings and credit operations.” (20)

3. Key Characters of PPAF and Khushali (Micro Finance) Banks

“General expectation is that the Khushali Bank will quickly make in roads into the field of micro finance and become a major player in the market over the next few years.

TABLE-2.4 KEY CHARACTERISTICS OF PPAF AND KHUSHALI (MICROFINANCE) BANK.

	PPAF	BANK (KB)
Regional Focus	Mostly rural	Mostly rural
Programme components		
Micro credit	Do	Do
Infrastructure Development	Do	Do
Institutional Capacity Building	Do	Do
Level of lending	Wholesale (to POs NGOs)	Retail (individuals)
Loan collateral	POs reputation/ physical a	Social/physical c (individual's reputation)
Nominal interest Rate per year)	6-8%	18-20%
Typical Loan Term	12 months	6 to 12 months.
Frequency of Disbursement	Quarterly	Lump sum
Progressive Lending	Yes	Yes
Voluntary Saving Encouraged	Yes	Yes
Gender Focus	Yes. b	yes
Main financier	Multilateral donor agency (WB)	Multilateral donor agency (ADB)
Major collaborator/ partner	NRSP	NRSP
a. Property, if any owned by PO	b. Preference for female POs and borrowers	c. One forth of the loan amount

Source: Social Development Pakistan, Annual Review, 2000.pp.180-181.

The Khushali Bank Has A Number of Advantages.

First, it is likely to obtain cheap (perhaps forced) equity for coming operations from Pakistani commercial banks. As per the ordinance, the bank is not under any obligation to pay dividends to its members the shareholders. Second, it has the major advantage of enjoying complete tax exemption on its income, profits, or gains and can use these savings to increase is capitalization. Third the Bank is exempt from the Banking companies Ordinance of 1962, and is therefore not required to follow the normal reserve requirements, nor SBP's prudential regulations. Fourth, the Bank has been promised a large and subsidized line of credit from the Asian Development Bank. Fifth the bank has already been able to develop a partnership with NRSP, which as pointed out, has substantial experience organizing group-based borrowing among communities in Pakistan. Sixth, the Bank is being provided with specialized institutional support from the nationalized commercial banks, in the form of access to their extensive network of branches where micro finance counters can be set up at low cost.

This combination of favorable factors represents a unique example in the Pakistani setting. The fact those tax laws, regulation and the institutional framework have been conscious-oriented towards supporting pro poor initiative testifies to the governments and donors commitments to poverty reduction in Pakistan. Such a head of start, the general expectation is that the Khushali Pakistan will quickly make inroads into the field of micro finance and become a major player in the market over the next few years.

In terms of proportion, the informal economy now appears to represent almost 50 percent of the national economy. As far as growth rates are concerned, both the informal and formal economics had high growth rates of close to 8 percent and 7 percent respectively during the 1980s (see table-2.5). Growth rates generally fell in

A Comparative Study of Agro-based Industry of Tharparkar with Canal Barrage Area Sindh (1988-2000), Suggested Techniques Leading to an Industrial Economy, PhD Theses, Department of Economics, University of Sindh, Jamshoro, April, 2002, Chapter-2 By: Gobind M. Herani

the 1990s with a sharper drop to 4 percent being registered by the formal economy, while the informal economy showed an annual growth rate of less than 5 percent. It is of particular significance to note that the less of dynamism of the informal economy in the second half of the 1980s.” (21)

TABLE -2.5 ANNUAL GROWTH RATES OF THE INFORMAL AND FORMAL ECONOMIES (%)

	Informal Economy	Formal Economy		Informal Economy	Formal Economy
1980s			1990s		
1981-82	4.0	9.5	1990-91	6.7	5.8
1982-83	11.0	8.2	1991-92	5.0	7.8
1983-84	13.5	9.1	1992-93	3.4	4.0
1984-85	5.8	5.3	1993-94	4.8	3.0
1985-86	12.0	6.7	1994-95	7.5	4.2
1986-87	13.1	6.7	1995-96	7.9	5.1
1987-88	8.0	8.2	1996-97	-0.4	0.6
1988-89	1.5	3.3	1997-98	2.8	3.2
1989-90	6.4	5.5	1998-99	4.4	4.2
Average	8.4	6.9	Average	4.7	4.2

Source: Social Development Pakistan, Annual Review, 2000

II. Literature Review of Foreign Origin

A. Examples of Some Similar Studies

1. Baroda Experiment.(India)

“Baroda project also seeks to develop in its clientele as a keen desire for a higher standard of living as a will to live welfare the king lord though, would develop capacities for self help and self reliance. The other objective of the Baroda project was to help peasants to develop auxiliary occupations by way of improving cottage industries (e.g. Bee keeping, Poultry, live stock and to provide thereby a technical support to the growing will of villagers.” (22)

For the achievement of these objective following work is done by the project:

a). Education and its Scope.

“In 1870 the state was backward in terms of education. By the year 1942, Baroda is reported to have out paced all British provinces and other princely status, except two, Travancore and Cochin the ratio of literates was 229 for every 1000 of population. One of the observations made by Raja Sir Madhava Rao is : “Education of masses is certainly important. But my profound conviction is that higher education though necessary for a smaller number is more important in the present conditions and circumstances of India. I am fully convinced that one native to whom high education has been imparted at an expense of Rs. 1000/- contributed indefinitely more to the general progress of the community than 333 natives, only slightly or superficially educated at charge of Rs. 3/- per head” He compares a higher educated man with hydraulic bellows and feels that intellectual bondage has to be broken. This observation was made by him while opening a high school. He believed in the leadership of truly “Educated”(23).

“In 1893 Compulsory education was introduced and responsibility of it was given to village pater. Education spread so soon, in all over state. In addition to liberal education, technical education received special attention, and it was connected with rural needs. This education progress developed more and more and education network spread. In 1925 state-wide library Association came in existence. In schools local villagers are appointed and are allowed to remain more time with out transfer.” (24)

b). Village Panchayat (local organization)

“Village panchayat (local organization) in Baroda State was an integral part of the democratic administration. Next to the village panchayat (local organization) come Taluka board and district board leading to state assembly. This situation prevailed in the year 1904. Looking to the fact that it was a princely state, such a measure in the beginning of the century was indeed revolutionary.

One of the earlier advisor on such a progressive measure was the famous historian, R.C.Dutt. Who served as diwan during the close of the last century. The administrative report 1903 and 1904 records: "The withdrawal of criminal and police powers from village officials has rendered them more or less useless for settling disputes and keeping order in the village. The power, privileges and responsibilities of self-government which were the heritage of centuries, cease to exist.” (25).

1. Study of Somalia as a Local Organizations

In Somalia condition were very bad government could not pay full attention on development. Somalian started to become social on development. Somalian started to make social and local organization. They organised these in well planned and disciplined manner. In the result of it somalian people started their own schools, Hospitals, and so many other works creating confidence and motivating for selfhelp. All organization worked for the purpose of development of their own. Slow by slow this spirit increased, people got awakened and aware of programme of development. The results of these organizations encouraged them and they realised that by self help they can develop their country. They made roads arranged electricity. They learnt to get loans up from government and government also encouraged them by giving aids and new programmes for betterment according to their sources available.

Now a days Somalia is more developed as compared to previous. These people now know very well that they can do every work for their country and for themselves by organization and self help spirit are must for development (internet).

3. Human Development in Somalia

"Somali communities seek to advance human development and meet basic needs in an unusually challenging environment namely, a context of complete statelessness. No other society in the contemporary world has had to deal with such a prolonged period of state collapse, a condition that has gripped the country since 1991. Somali communities exist in unprecedented conditions as they develop coping mechanisms for meeting basic development needs.

A few aspects of human development, such as income generation from interstate commerce, have proven resilient in the face of state collapse and have even benefited from low and easily evaded taxes in Somalia. Likewise, access to telecommunications, so important to trade, commerce and money transfers, has dramatically improved since 1990. However, most basic components of development, such as public health care, clean water supplies, public sanitation, and primary education, and have been badly compromised by the collapse of the central state. Quintessential public goods ("law and order") such as government agencies producing records and travel documents, overseas assistance, as well as the judicial system have either disappeared or have been appropriated by private groups serving their own, rather than national interests. In the absence of a central state authority, very few basic development services are provided to the Somali people. Provision of public social services and human development activities, have thus become almost exclusively the domain of international aid agencies. Though essential in the short-term, this level of dependence on external social services is unsustainable. Due to problems of insecurity and resource constraints, international aid is also unable to reach more than a fraction of the population. Internationally funded social services in health, sanitation, education, and water supplies tend to be concentrated in more secure zones (the Northwest and Northeast) and in larger towns." (26)

4. Denmark as an Agrobased Industry.

Denmark before second world war was depending upon agro-based industry and reliable source of it was only live stock. Agriculture was not totally rejected but it was decreased and done for the purpose of fodder and some what for other purposes. The products of dairy were main sources of income. After that the economy was very down, that is why they emphasised upon export and decreased their imports. They started to increase dairy products. For example cheese, butter, meat, hides, milk etc. The hides gave birth to some industry. Agriculture of it was suffered due to drought condition and did not remain as sustainable source.

At this time the conditions are not same and it is well developed in comparison of previous conditions, it is result of only agro-based industries, out of agro-based industry live stock and its products were reliable source of income generating, and gave birth to industries. Now this is an industrial country due to only agro-based industry. Agro-based industry had made this country into an industrial economy. (27)

5. Development of Dry land Agriculture on Watershed Basis in Hot Arid Tropics of India: A Case Study

"A study on watershed management was initiated in 1986-87 at Jhanwar village (District, Jodhpur) and surveys were conducted to assess the problems, resources and potential of the area. The action plan was prepared and implemented. Farmers in the watershed area showed keen and sustained interest in adoption of improved dry land farming technologies, including sustainable land use systems. Productivity analysis of watershed area indicated considerable improvement in gross monetary returns under different cropping systems.

Water harvesting, through creation of farm ponds and its recycling in agro-horticulture (*Zyzyphus mauritiana*) system resulted in diversified production (fruit, fuel and fodder) and sustained 1.14 adult cattle unit ha⁻¹

yr-1. Development of pastures in community grazing lands increased forage production (2-3 t ha⁻¹) over traditional methods (0.3-0.4-t ha⁻¹). Adoption of various physical and biological land treatments in the eroded rocky catchments reduced the soil erosion and increased the ground water recharge: The program has resulted in an overall increase in the productivity by 25-30%. Although highly location, specific, such a model has high replicability, in large part of arid tropics in India and elsewhere.” (28)

6. Partnerships and Collaborations

“UNCDF knows that strong and lasting solutions to the problems of poverty can only come about through partnerships and collaborations. As part of its programming, UNCDF involves a wide range of partners, including host governments in the countries where it works, donor countries, other multilateral organizations and community organizations.

The Fund's relationship with the United Nations Development Programme (UNDP) is both organizational and collaborative. While UNCDF is under the administration of UNDP, it has its own specific mandate and receives its own funding. However, UNCDF also considers UNDP to be its closest partner, and as such nearly all of the Fund's projects are formulated jointly with that UN agency.

In other cases, large multilateral organizations like the World Bank partner with UNCDF. The Fund's relationship with the World Bank has involved joint missions and collaborative efforts in several countries including Malawi, Uganda, and Senegal. The Bank and UNCDF also agreed to co-sponsor a study on Social Funds and Decentralization.

In addition to general contributions, donors often support UNCDF projects as partners through various co-financing arrangements, such as cost-sharing and trust fund arrangements. Donors can select a specific project, group of projects, country, region or programme theme for support through UNCDF. An example of this is the 1998 expansion of the UNCDF Vietnam programme, through bilateral support from the Government of Australia, and similar arrangements where the Government of the Netherlands expanded a UNCDF project in Mozambique. And the Government of Belgium got involved in UNCDF projects in both Mali and Niger.

A partnership with the Asian Institute of Technology in Bangkok is developing joint programme support to UNCDF activities in Vietnam, Cambodia, Bhutan and Bangladesh. AIT has also integrated UNCDF project case material in its programme, and has assigned students to do research on certain UNCDF project issues.

The search for lasting solutions to the problems of poverty has also led UNCDF to forge collaborations with many non-traditional partners, including community groups, private entrepreneurs and non-governmental organizations. UNCDF is working to promote collaboration with NGOs and to involve them more in its operations, in line with new policy directives on NGOs and grassroots development being prepared and adopted by UNDP.

Collaboration with NGOs is not determined by overall policy but on a project-by-project or country-by-country basis, depending on circumstances. UNCDF tends to work either with international NGOs (such as CARE, Development International Desjardins and the World Wildlife Fund) that have a local presence, or with appropriate national NGOs (such as the Grameen Agricultural Foundation in Bangladesh and the Foundation for Micro-Enterprise Development in Bolivia).

Most often, NGOs cooperate with UNCDF by providing technical assistance through sub contractual arrangements. However, cooperation with NGOs can vary according to country needs and NGO expertise. Recent initiatives have included projects co-financed with NGOs, and use of NGOs as intermediaries to identify individuals and/or groups to receive credits or loans in communities involved in credit projects. Occasionally, NGOs also contribute to the evaluation of UNCDF projects and Programmes. UNCDF also supports a range of NGO projects designed to stimulate grassroots community development and self-help activities, such as a partnership with WWF in Madagascar to development sustainable livelihoods near the fragile ecosystems of a national park.

Following are a few of UNCDF's partners, with links to their websites: The United Nations Development Programme The World Bank The Asian Institute of Technology UN Office for Project Services The Australian Agency for International Development.” (29)

III. Conclusion

From, the detailed study of the chapter we conclude that, from Pakistan origin material, we expect more in future. At this time more active NGOs Thardeep and Baanh-belli are working for the development of Thar on different fields. They are creating awareness in Tharies for their better future. PVDP is also working according to it's own capacity, but plan is very good.

SAZDA had done some work mostly in the field of water supply. It has supplied potable water to some villages and towns and it is continuously working for it. ADBP Branch Mithi is serving for Tharies with good plan, but result is not positive due to much poverty but so many people have got benefit. Health care facilities are improving with additional help of Thardeep.

Thar seminar held in 1992 recommended for Thar so many matters out of them one is water through pipeline. Present government of Chief Executive General Pervaiz Mushraf started it and is completed in 2002. Other main recommendation was for roads, previously speed of making metalled road was slow but now its speed has increased and so many schemes are to be completed or near completion, December, 2001. Work is going on let us see what happens. By reading new schemes for roads, it is seems that by 2003 and 2005 a network of roads will be completed. On the other hand electricity sector is slow and is not looking in nearby to be spread into the villages.

Employees who are hired in NGOs are hard workers as their services are hired on the basis of hard work and honesty. Some micro-credit Programmes started by NGOs' are producing good results, but they are limited. It is observed that in barrage areas NGOs are not so active. Proposed study of Thar canal is good step, but need implementation as earlier as possible. Government is also taking keen interest to improve the agricultural sector in barrage area.

From the literature of foreign origin material, it is concluded that development of any area depends upon the awareness and leadership of local participation of indigenous people and results are comparatively better. Every work should be done through local NGOs. Because NGO's works are on the basis of honesty and is demand driven. From the study of Baroda project, Somalia, Grameen Bank of Bangladesh and other NGOs' who run the micro credit programs, it is evident that such programs are essential for the alleviation of poverty and lead towards the income generation of the local masses.

Local organizations are must for the development and to demand facilities from government and donor agencies. Going through the studies as included in chapter two and in appendix it is concluded that micro credit and indigenous knowledge and leadership are very essential key indicators for the development.

All the studies, which are in this chapter and in appendix, are necessary for reader and planner who desire improvement and development in Thar or in any other area. The NGOs' works are demand driven and not, supply driven like happens in government. Steps already taken, by NGOs indicates that if government will help them and administration is given to them then there are chances of rapid growth and development in Thar area

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