

Visit and Learning Manual

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Chapter-1

1. Background/Introduction of Chashma Right Bank Irrigation Project (CRBIP):

1. CRBIP lies on the west bank of the Indus River between the chashma and Taunsa barrages. The supply of irrigation water is from the right bank of chashma barrage via chashma right bank canal (CRBC) the length of the canal is about 260 kms and serve an area of about 570,000 acres in D.I. khan District of Khyber pukhtun khwa province and Taunsa Tehsil District D.G khan of Punjab province. Stage 1, of CRBC serves about 150,000 acres which includes about 104,000 acres already irrigated by Pahar pur canal District D.I Khan. Stage 2, serves 94,000 acres of D.I Khan and Parava Tehsils.Stage 3, commands 32,6000 acres of both parava (KPK) and Taunsan (Punjab)Tehsils.The project area was amongst the poorest in Pakistan in the 1970s so CRBIP has had an implicitly powerty focused.

2. Prior to CRBC Construction more than 100,000 acres area in kpk was irrigated by pahar pur canal.Limited area between D.I Khan Multan road and Indus river and some acerage on both right and left side of D.I Khan Chashma road was irrigated by private abd public T/wells.Maximum of the command area of CRBC was either rainfed or under rodkohi rarely getting floods water being located at the tail end.

3. There are following facts and figures about CRBIP.

- Total CCA of CRBC.....570,000acres (approximately)

Stage 1.....150,000 acres

Stage 1194,000 acres

Stage 111....378,400 acres(approximately)

In KPK.....137,400 acres

In Punjab..241,000 acres

-Date of completion

Stage 1.....1987/88

Stage 11....1994/95

Stage 111...2002/03

-Average family size.....10.3

-Stages wise water duty

Stage 1.....122 acres per cusec

Stage 11...117 acres per cusec

Stage 111..133 acrse per cusec

-Water allocation

Stage wise

Stage 1.....1226 cusec

Stage 11.....800 cusec

Stage 111.....2853 cusec

KPK.....1053 cusec

Punjab.....1800 cusec

-Water losses in lined section10%

-Water losses in Unlined section...25-30%

-Planned Cropping Intensity.....130%

-Distributaries Stage wise

Stage 1.....13 no's of 237 kms length

Stage 11...15 no's of 169 kms length

Stage 111..36 no's of 500 kms length

-Stage wise no of water courses

Stage 1.....838

Stage 11....620

Stage 111..1450

Kpk.....800

Punjab.....650

Note; The planned no of water courses in the original PC 1s was less than the above mentioned no's. The irrigation department sanctioned outlets after completion of the CRBC and its distributies.

Chapter-2

Objectives of the Study:

The RIPOORT-GZAP envisages that after the start of preparation in August 2013, a program will be prepared to take a total of approximately 17 visits to the CRBIP as a visits as learning experience for the selected members of village community (VC) Organizations that have been previously created under this project.

The main goal/ objective of this undertaking is:

1. To help the farmers in transition from spate irrigation methods to assured irrigation (regulated canal).
2. To replicate the success story of CRBIP command area farmers in Gomal Zam canal command area project (GZCAP).
3. To take preventive measures and GZCAP for addressing the difficulties faced in CRBIP command during transition to irrigated Agriculture.
4. To assist in developing in a Governance model/ manual where a mechanism for resolving the issues or differences both in irrigation system performance and agricultural development.
5. To assist the government in fillings the gaps/weaknesses and institutions charged with providing agricultural support services.

Chapter-3

Methodology:

The following methodology was adapted:

1. With the assistance of District director on farm water management D.I Khan having more than 25 years working experience in CRBC command area, 17 farmers both successful and slow moving from different distributes of all three stages of CRBIP were randomly selected for discussion/interview. All the selected farmers were either office bearers or members of the water users associations (WUAs) formed and registered by the OFWM department while executing the command area development component of the three stages of CRBIP.
2. During the period from April –July 2013, maximum of the selected farmers farms were visited. The CTA made discussion with them regarding the transition process from rained agriculture to irrigated agriculture adopted on the commissioning of CRBC.
3. Representatives of different development departments like WAPDA, Irrigation, OFWM, Agriculture Extension and Live Stock and Dairy development etc. Whom remained involved in CRBIP main canal and distribution system construction as well as operation and maintenance or command area development were constructed. Discussion regarding the implementation of project, difficulties confronted and resolved were made. Their experiences and suggestions for improvement in similar projects were shared.
4. RIPOORT provincial management developed structure questionnaire for interviewing a sample of 10 reading and successful farmers to find out why they were successful in the early transition to irrigated agriculture as well as farmers who were slow in making the transition and reasons for it after CRBC construction.

5. The selected farmers were requested for attending a meeting at OFWM training center D.I Khan. In the meeting the 23 questions Questionnaire was discussed and the CTA clarified every question to ensure for providing proper answers to each question. The literate farmers filled the questionnaire themselves while others were assisted by the CTA, GZCAP, Project PMU staff and Professionals of the training center D.I Khan for filling the questionnaire.



Farmers are filling the questionnair

6. Related literature like studies of CRBI project impact monitoring and evaluation (PMIE) conducted by scheledia, International Consultants USA in association with Infra-D (IDC) Pakistan.

CHAPTER-4

Analysis of Questionnaire and Findings:

- The average land holding of the key informants was 835 kanals.
- From the analysis it was found that majority of the households under CRBC hold less than 5 acres of agricultural land. On the other side relatively less number of households hold above 5 acres but below 25 acres. Very few of them hold above 25 acres of agricultural land.
- From the study it was found that majority of the respondents were irrigating their lands via Rodkahi or tube wells etc before the construction of CRBC, while very few of the farmers used to rely on rainfed agriculture.
- In response to the question that how much time they devote to their land for practicing agriculture after the construction of CRBC, majority of the famers said that they devote full time to their land and practice agriculture on daily basis, While some of the famers said that they only work off and on.
- In response to the question regarding any kind of assistance received for the development of land, most of the respondents answered that they got technical and financial assistance from the department of On-Farm Water Management. Agriculture Development and commercial banks also provided loan on need basis.
- During the study it was observed that most common crops before the construction of CRBC were wheat, gram, sorghum and bajra. Other crops relatively less common were oil seeds, maize, rice, cotton and sugar cane. After the construction of CRBC production of sugarcane and rice in the command area increased by a large percentage. Similarly cotton, sugar beet, vegetables, and high value crops were also introduced in the command area of CRBC.
- Maximum of the farmers told that they are getting certified seed and other inputs from the private as well as public sectors while one third of the informants said that they are not getting any kind of inputs from public/private organizations.
- During the interviews, it was revealed that the main priorities for successful transition to irrigated agriculture are; farm planning and design, land leveling, precision land leveling, water course construction according to design, soil testing, quality certified seeds, proper dozes of fertilizers application, use of insecticides/pesticides, use of modern equipment's for land preparation, sowing, weeding, harvesting and threshing, farm to market road on both sides of the distributaries/minors and application of irrigation water at proper time and quantity.
- Majority of the farmers were of the view that the supply of irrigation water from the branch canal to the outlets is not reliable and equitable. Following were narrated as the major reasons for non-equitable and short supply of water;

- a. Powerful and politically strong landlords are getting more water than their share by tempering the outlets.
 - b. The farmers at the head of distribution system put obstructions in the secondary irrigation system (distributary/minor) to raise the level of water and as such get more water at the cost of the tail end users.
 - c. Poor maintenance of the distribution system results in to heavy water losses because of over topping and breaches etc.
 - d. Poor administrative control of the irrigation department and failure to stop illegal cuttings and other hindrances in the irrigation system.
 - e. Non-cooperation of police with irrigation department for stoppage of illegal cuttings.
 - f. Non-availability of irrigation department Beldars over the distributaries for controlling theft of water from the system.
- Most of the respondents said that they are not satisfied with the operation and maintenance of the irrigation system. The major causes for poor maintenance as well as suggestions for improvement presented by the farmers were as under;
 - a. Lack of operation and maintenance funds with the department of irrigation.
 - b. Non-existence of Beldar for looking after the system because of little sanctioned strength as well as absence of the concerned officials from duty.
 - c. Political influence
 - d. Lack of administrative powers with the irrigation department to charge with fine/imprisonment of those involved in water theft.
 - Some of the suggestions given by the farmers are stated below;
 - a. Sufficient funds shall be provided to the irrigation department for proper operation and maintenance of the system.
 - b. Desired number of posts of Beldars to look after the system and report theft of water to the higher authorities in time. Similarly, the existing Beldars engaged elsewhere shall be brought back to look after the irrigation system.
 - c. Proper Abiana assessment and collection shall be ensured.
 - d. Farmers' participation in operation and maintenance of the system as well as Abiana assessment/collection shall be introduced.
 - e. A system of joint management of the irrigation system at the secondary level i.e. irrigation department and farmers representatives shall be brought in place. A portion of the Abiana collected shall be retained and used for operation and maintenance of the secondary irrigation system jointly by the department and farmers representatives.
 - f. Abiana assessment and collection may be auctioned and the private contractors shall recover the same from the beneficiaries on volumetric or crops grown basis.

- About 2/3rd of the farmers interviewed were not satisfied with the services provided by the different wings of the agriculture department. The following suggestions for improvement were given;
 - a. In each union council a two room's govt. accommodation for the office of each field assistant and livestock assistant shall be arranged by the govt.
 - b. In each union council an agriculture extension as well as livestock agent shall be posted and their presence be ensured.
 - c. The agents of the above two departments shall visit each village and arrange a meeting with the farmers before Rabi as well as Kharif season for educating them about quality seeds, fertilizers and other inputs as well as preventive and curative measures for animal health. The field assistant of agriculture department shall assist the farmers in collection of soil sample and its analysis from the laboratories of agriculture research institute Rutta Kulachi.
 - d. The on-farm water management department representative shall visit and have a walk through on each improved water course at least once in a year for providing technical assistance to the water users associations regarding improvement/repair needed for efficient conveyance of water. He shall also provide technical assistance for proper planning and design of farms as well as precise leveling.
- Maximum farmers responded that there is no office of agriculture/ livestock agent in their villages/union councils.
- Maximum farmers elucidated that they have not visited the offices of the agriculture/livestock agent. The reasons for not paying visits to the above said offices were given as under;
 - a. Agriculture and livestock agents' offices do not exist in their villages/union councils.
 - b. There is no office of the above said agents where everyone can go easily. In some union councils/villages the offices of the agriculture department may be available but they are stationed in the hujras of local influential landlords and as such the farmers of the villages hesitate to go there because of certain disputes.
 - c. Usually the offices remained closed and the availability of the service providers remained uncertain.
 - d. An expertise as well as agriculture input in the local level offices of the agriculture department is not available to benefit the farming community.
- More number of farmers told that loan facilities from the banks for agriculture purpose are available. The informants suggested that the process of loans from zarai tarakiati bank (ZTBL) and other commercial banks needs to be simplified. Similarly, it was also suggested that the short term loans shall be made available interest free and for the long term loans, the interest rate shall be minimized.

- A lot of farmers responded that they are not members of the Farm Services Centre. Maximum of them told that they are not knowing about such like centers and facilities available over there.
- Maximum number of farmers showed their dissatisfaction over the services of the Farm Services Centre. They suggested that the following measures shall be adopted for improvement;
 - a. The role of the department in functioning of farm services center shall be minimized. All decisions making powers shall be interested to the office bearers/general body of the center.
 - b. Prior to selection/election of the office bearers especially president of the farm service center, the department shall explain the role and responsibilities of each office bearer so that efficient and robust members shall come forward for election to the office bearer posts especially president.
 - c. General body meeting shall be convened at least twice a year and similarly the office bearers shall meet twice a month for taking necessary actions for the welfare of the farming community.
 - d. The president as well as secretary of farm service center (FSC) shall spend some time daily in the center to address day to day issues.
 - e. The agriculture extension department shall start a mass campaign for increasing the membership of the FSC.
- 100% of the respondents told that their life outcomes have been improved many folds after operation of CRBC.
- The informants from the CRBC command area gave the following recommendations for improving the delivery of agriculture and irrigated outputs in Gomal Zam Canal Command Area;
 - Technical assistance from the public/private sector shall be obtained for proper farm planning and design according to the discharge outlets commanding the farm land.
 - Rough land leveling shall be carried out via scraper mounted wheel type tractors.
 - Precision land leveling shall be carried out by laser levelers.
 - Water course porous, weak and sections passing through villages shall be lined and pucca turnouts given in order to minimize water losses in the conveyance system.
 - Farm services center shall be established in the command area.
 - Certified quality seed and other inputs shall be used as per advice of the services providing organizations.
 - Mechanized cultivation shall be encouraged.
- The farmers from different areas of CRBC provided following explanations for the success of some farmers and failure of others few.

Those farmers having labor force, own tractor and financially sound developed their land before the target period while absentee land lords and poor farmers having no resources delayed the development of their land. The immigrants who had purchased the land were comparatively successful in developing the land and starting irrigated agriculture compared to the local owners of the land.

- The informants of CRBC command area proposed for govt. departments and farmers in GZAP is under.
 - Full time be given by the farming community for transition from rain fed agriculture to irrigated agriculture.
 - They shall learn from the experiences of their neighbor CRBC farmers and replicate the same in Gomal Zam canal command area in consultation with service providing agencies.
 - The govt. shall emphasize on the capacity building of beneficiaries of Gomal Zam canal command area. Proper training in water use practices/methods of irrigation, operation and maintenance of agriculture machinery and equipment as well as high efficiency irrigation systems equipment, use of proper and timely application of fertilizer and insecticides.
 - The farmers shall establish linkages with the service providing agencies for technical assistance.
 - The representatives of the organizations of the farmers be given proper role in management, operation and maintenance of the irrigation system jointly by irrigation department and communities.
- Construction of CRBC not only improved the agriculture and income of the land holders but also contributed a lot towards enhancing the education rate. From the analysis it was found that the number of matriculates (those who have passed their SSC exams) in the CRBC command area has increased by 16 times.
- The study found that the number of machinery, equipment and transport has been increased dramatically after the construction of CRBC;
 - Number of tractors increased by 10 times
 - Number of motor cycles increased by 35 times
 - Number of Jeeps, cars, pickups etc. increased by 22 times
 - It is important to point out that most of the tractor owners have procured all modern tractors mounted agriculture equipment. Laser land levelers being the most modern equipment for precise leveling have recently been introduced in the province. Out of the total 20 laser land levelers in the province 17 are with the farmers of CRBC command area. The farmers are of the view that the fields with sugar cane crops need precise leveling after every 3 years.
- Few of the farmers informed that they are testing their soil from the Rata-Kulachi research institute laboratory for knowing the requirement of different fertilizers as well as salinity/alkalinity status. Majority of the farmers informed that they are not testing their

soil from the laboratories for determining the nutrients requirement. The farmers further told that some time ago there was Fauji Fertilizer Company (FFC) laboratory in Dera Ismail Khan where they were comfortably and easily testing their soils but the same has now been shifted somewhere else. They don't feel comfortable for testing their soil from public sector laboratory where a lot of difficulties are faced by them.

CHAPTER-5

Conclusion

From the interviews of the CRBC farmers and project impact monitoring and evaluation (PIME Studies) Chasma Right Bank Irrigation Project Stage 1& 11, the following conclusion are derived.

1. Socio-Economic Conditions

- The population of the project area has been increased four-fold in 23 years (a doubling of population about every 12 years) and in average annual growth rate of 6.8%. Most of this increase has come from immigration, primarily from other parts of KPK from farming and business. The average family size is about 10.3.
- Farms sizes have been declining inside the project area. About 1/4 of the farms were less than 5 acres and represented only 2% of the total land area before CRBC construction. Now about 50% of the farms are less than 6 acres. In 1987, Farms size and rainfed areas was 27 acres; now with irrigation it is less than 11 acres. The advent of irrigation has made it possible to survive on a smaller area. While the average farms size declining, the welfare of farms. The owner's operators get the highest income from the crop production on a per acres basis, followed by owners employing tenants, owners employing shares croppers and finally tenants.
- Impacts on health have been encouraging with a decreased at the no of illness days, suggesting that more effective treatment is now being accessed.
- The enrollment rate of both male and female in the project area have considerable been improved.
- Social services have not kept pace with population as many villages don't have basic health units or schools for girls.
- The life outcomes of the CRBC beneficiaries have been improved many folds after operation of CRBC,

2. Irrigation system performance

- Farmers on the tail reaches of the distributes and water courses are finding themselves without sufficient water. The major causes are the very poor condition of distribution system, upstream users acquiring more than their share, the need too over irrigate to compensate for unlevelled land, poor maintenance and stealing of water by the powerful landlords.
- System losses are more primarily due to poor maintenance because of little budget provision for this purpose.
- The irrigation department has no power to punish those involved in water theft.

- Lack of cooperation from police department in arresting those illegally getting more water than their share.
- Low abiana recovery percentage from the irrigators.

3.Agricultural Development

- The planed cropping intensity of about 130% couldn't not be achieved and due time after commissioning the canals, the highest cropping intensities are from small farms and large farms. settlers had a high cropping intensity compare to those characterizing themselves as locals.
- Areas grown to the high delta crops of rice and sugarcane are much higher to the planned area.
- Yields and the project area especially in case of sugarcane are at the levels of targets set in the pc-1s.
- Livestock numbers have been enhanced after CRBC construction.
- The role of agriculture extension is critical yet a very less percentage of farmers have ever been visited by anyone from agriculture extension. A very little number of farmers have received training related to agriculture husbandry.
- On farm water managements training center D.I khan has imparted very short duration training to a minimum of three persons from each water course.
- Most credits needs in the project area are been met informal sources and the producers of facing financial constraints in crop production.
- Precision land leveling is considered as priority no1,by the farmers in irrigated agriculture.
- Farmers are facing difficulties in transporting and supplying their farms produces to the market because of non-availability of services roads on the right banks of distributories.

Farmers in the tail reaches of distributaries between D.I khan Multan metaled road and Indus River are supplementing canal water by private tube wells water to meet the requirement of their sugarcane and rice crops in the months of June to September.

CHAPTER-6

Key recommendations

From the studies of CRBC command area and discussion made with the farmers, the following recommendations are made for the farmers Gomal Zam canal area for early and profitable transition to canal irrigated agriculture.

- The existing big fields in the project area shall be properly planned and designed for available canal water.
- Technical as well as financial assistance both by the public and private sectors inform of machinery and equipment's for rough land leveling as well as precise leveling shall be provided. The use of chain type tractor with front blade (bulldozer) is not recommended for leveling. It may be use for big bunds removal/reclamation. The leveling shall be carried out by wheel type tractors mounted with scraper or laser levelers.
- Farm to market road on both sides of the distributaries for early and easy disposal farm produces.
- Growing of high delta crops like sugarcane and rice shall be avoided.
- High value short duration crops like fruits, vegetables and other crops with minimum water requirements shall be encouraged. Tunnel farming shall be demonstrated and adopted on the analogy practiced by some of the progressive farmers of CRBC.
- For providing better quality seeds, equipment's and other inputs, private sector participation needs to be encouraged.
- Capacity building process of the farmers in irrigated agriculture shall continue for 4-5 years. The training facility available in OFWM training centre D.I khan could be availed.
- Offices of agriculture/livestock services providers shall be established in each union council of the project area.
- Farm services centre in the project area shall be opened with all necessary agriculture machinery, quality seed and other inputs availability on reasonable rate.
- The Irrigation department shall involve the farmer's representatives in operation and maintenance of the irrigation system as well as abiana collection. Joint management on experimental basis for a period of 5 years shall be introduced and if found successful then the transfer management model be adopted.
- Farmer's organization at water course, distributaries and canal level (WUAS, FOs and AWB) shall be formed, trained and registered under WUAS ordinance 1981 and PIDA act 1997.
- An option of auctioning the abiana collection on each distributory shall be considered for bringing efficiency in the system.
- Keeping in view the scarcity of water in the system, efficient methods of irrigation are must to save every drop of water. Basian irrigation shall be discouraged and replaced by small and narrow borders as well as furrow irrigation.

- Raised bed planters for growing maize, wheat and other crops be used for water saving and increased production.
- High efficiencies irrigation methods like sprinkler and drip shall be introduced and practiced where ever possible.
- Earthen ponds shall be constructed at the tail of each water course for storage of surplus water in the rainy season when not needed for crops. They said could be used for irrigating fallow cultivated land through lift irrigation system.

Annexures

Annexure –I

Questionnaire for Lesson learnt from CRBC farmers

Name of the Farmer:

Father Name:

CNIC Number:

Cell Number:

Size of land holding:

Village: _____ **UC** _____ **P/O** _____

Tehsil _____

Q.1 What is the name/number of branch canal and moga/outlet irrigating your land? Name of village, UC and tehsil that benefits from this branch of canal along with total area shall also be given?

A.....
.....
.....

Q.2 How much land you or (house hold) have under the CRBC?

A.....
.....
.....

Q.3 How much is the land average holding of each house hold in your village?

- | | | |
|----|-------------------|------------------------|
| A. | Above 25 acres | Number ofFarmers..... |
| B. | Above 12.5 acres | Number of Farmer..... |
| C. | Above 5 acres | Number of Farmers..... |
| D. | Less than 5 acres | Number of Farmers..... |

Q.4 Was your village property completely Barani before CRBC was constructed or was there was any other source of irrigation likes Rodkohi tube well etc.

A.....
.....
.....

Q.5 How much time do you devote to your land for practicing agriculture after construction CRBC?

A.....
.....
.....

Q.6 Did you get any technical or financial assistance in form of equipment or cash for development of your land?

A.....
.....
.....

Q.7 What crops were you growing before the construction CRBC and after construction of CRBC?

- A. Before
.....
.....
- B. After
.....
.....

Q.8 Are you getting certified seed, fertilizers, pesticides/insecticides and agriculture equipments from agriculture department/private sector?

A.....
.....
.....

Q.9 In your experience what are the main priorities for developing land to use irrigated agriculture?

A.....
.....
.....

Q.10 Are you getting reliable and equitable supply of water from the branch canals operated by irrigation department? If not what are the reasons?

A.....
.....
.....
.....
.....

Q.11 Are you satisfied with the operation and maintenance of the irrigation system?

- A. Yes
- B. No

How can the delivery of water and repairs of the canal/distributory be improved?

.....
.....
.....
.....
.....
.....

Q.12 Are you satisfied with the services provided by the different wings of the agriculture, live stock and cooperation department?

A. Yes

B. No

If not what are yours suggested improvements?

.....
.....
.....
.....
.....

Q.13 Can you get short/long term loans from the banks for agriculture purpose? what are your Suggestions for improvement.

A.....
.....
.....
.....
.....

Q.14 Are you a member of the farm services centre D.I.Khan. If Yes what facilities/services are provided to you?

A.....
.....
.....
.....
.....

Q.15 Are you satisfied with these services ? If not what are your proposals for improvements?

A.....
.....
.....

.....
.....
Q.16 Have you life outcomes improved after the operation of CRBC?

How?

A.....
.....
.....
.....
.....

Q.17 What are yours recommendations for improving the delivery of agriculture and irrigated outputs in GZAP?

A.....
.....
.....
.....
.....

Q.18 Can you explains why some farmers were able to benefits while a few failed ?

A.....
.....
.....
.....
.....

Q.19 Do you have a word of advice for government departments and farmers in GZAP regarding utilization of project benefits ?

A.....
.....
.....
.....
.....

Annexure –II

1. Case study of Successful transition in CRBC project in respect of Mr. Ghulam Yahya

Contact Number 03459157597

CNIC 12101-0905840-7

The purpose of the study is to serve as teaching material to the beneficiaries of Gomal Zam Canal command area especially members of the village committees developed/organized by RIPORT in both D.I.Khan and Tank districts under Gomal Zam Command area advocacy Project funded by USAID-SGAFP.

The study was conducted by the Chief Technical Advisor (CTA) and Program Officer M&E-RIPORT with the assistance of district Director on Farm Water Management D.I.Khan. For conducting the study the farm of the farmer was visited. A structured questioner to find out why he was successful in the early transition to irrigate agriculture was handed over to the farmer for filling who returned the same after doing the needful. He was also interviewed and detailed discussions were made regarding the process adopted by him for development of his land after commissioning CRBC. The data/informations provided by the farmer are as under.

Mr Yahya son of Ghulam Zakria belongs to village Tekin/khutti, Union council korui/Zandani, tehsil and district D.I.Khan. His farm is situated on D.I.Khan Daraban road at a distance of about 10 km from D.I.Khan city. His educational qualification is Master in Commerce. His personal land holding is 1400 kanals while his family (father and brother) total land holding is about 10,000 kanals. His land is situated in Moza Zandani, Khutti, Tekin and Kotla saidan. His land is irrigated by different outlets and distributaries No 6, 7, 8 and 9 of CRBC stage II. 5 % of the farmers in the village have land more than 25 acres, 9 % have more than 12.5 acers, 36% have more than 5 acers while 50% are having less than 5 acers. Maximum of land is supervised by him-self while less than half of the property has been divided amongst the tenants.

According to Mr. Yahya khan before CRBC commissioning their socio-economic life was miserable as they were hardly producing grain to fulfill their own food requirement. They were living below the Poverty line. He told that at that time the economic position of his family was very poor and were unable to educate all male members of family. Similarly there was no agricultural machinery as well as any transport with the family. Crops like wheat, gram, mong and sorghum etc were growing in the low lying parts of the land to fulfill the requirement of the family food and fodder of the livestock. Mr. Yahya told that all of their land was barani and there was no other source of irrigation except Rod Kohi water which was not available being located at the tail end of the Rod Kohi irrigation system.



Mr.Yahya is Providing informations at his farm

After commissioning of Stage II of the CRBC in 1995, irrigation water was made available to their area. The irrigation water could not be used immediately for all cultivated land because of the fact that the land was not leveled and developed for using the irrigation water. The family planned as under to develop the land as early as possible.

1. About $\frac{3}{4}$ of the landed property was distributed amongst landless farmers of the area with an agreement that the land will be developed/leveled by them and 100% of the farm produce for a period of 2-3 years will be retained by them. The owner of the land will get nothing from farm income during above mentioned period. After 3 years the tenants will vacate the land and hand over the same to the owner. There after it is up to the owner to decide whether to self-cultivate the land or to give it on rent to the tenants or share in crops produce amongst the owner and tenants.
2. The remaining $\frac{1}{4}$ property was developed/leveled by the family in phases by utilizing the farm income of the first year in developing more land in 2nd year and so on. As such the process took 3-4 years to develop the total land.
3. The on farm water management department provided technical assistance in farm planning, developing and precise leveling and financial support in form of land leveling equipment's like scrapers, land planner and laser land levelers

On availability of canal irrigation water and developing the land, the cropping pattern was changed. High value crops like sugar cane, rice, cotton and vegetables etc were grown in addition to traditional cereal, oilseed and fodder crops like wheat, gram, rapeseed, mustard, sorghum, cotton and Guevara etc.

For better irrigated agricultural contacts were established with public as well as private sectors services/ inputs providers for adopting modern techniques of agriculture in order to get maximum profit per unit area. The on farm water management department provided full assistance in designing and constructing main and branch water courses along with educating the community/Water User Associations in efficient methods of irrigations and cultivating corps in accordance with availability of water. The sugar mills available in D.I.Khan district encouraged the farmers by providing loans for growing sugarcane crop which is recovered at the time of supply of sugarcane to the mills. This arrangement motivated farmers to grow more and more sugarcane in the area. For better and modern agriculture, all agricultural machinery and equipment's like tractors, laser land levelers, drills, harvesters and threshers etc were procured by the farmer and now available for use in self-farming as well as on rent to the tenants and other farmers.

Mr. Yahya informed, he has come to know from the agricultural department that presently area under high delta crops of rice and sugarcane is much more compared to the planned by government for rice and sugarcane. The farmers are growing these two crops because they are getting interest free loans from the mills in order to purchase quality seeds and other inputs in addition to high net profit per unit area. Similarly the marketing facilities of these two crops are locally available.

After CRBC construction and development of land the following changes occurred in family.

1. The socio-economic life has totally changed and living standard improved many folds.
2. Pakka (cemented brick) house has been built along with Hujra.

3. All modern agricultural machinery along with equipments has been purchased and available for use.
4. All male family members are having independent transport like Jeep, motor cars and motorcycles.
5. All male and female family members are getting education from Schools, Colleges and Universities.
6. Media and telecommunication facilities like Radio, TV along with dish, mobile phones and PTCL along with internet facilities are now available.
7. Business in different disciplines like business of agricultural machinery and equipment's has been started in addition to farming.
8. Health facilities are availed locally as well as outside the district as and when required.
9. Dairy farming to meet the family requirement has been started.

The farmer succeeded in transition from barani to canal irrigation system in 3 to 4 years against the target period of 10 to 15 years set out in the project documents. Proper planning for development of land, contacts with public/private sector service and inputs providers, use of modern agricultural machinery and equipment's, use of certified seeds and quality fertilizers, pesticides/insecticides improvement of water courses to minimize water losses, efficient methods of irrigation, proper marketing and above all his full time devotion as well as educational background contributed a lot in his success.

2. Case study of Successful transition in CRBC project in respect of Mr.Umair Afzal

Contact Number 03467855533

CNIC 12101-8997229-5

The purpose of the study is to serve as teaching material to the beneficiaries of Gomal Zam Canal command area especially members of the village committees developed/organized by RIPORT in both D.I.Khan and Tank districts under Gomal Zam Command area advocacy Project funded by USAID-SGAFP.

The study was conducted by the Chief Technical Advisor (CTA) and Program Officer M&E-RIPORT with the assistance of district Director on Farm Water Management D.I.Khan. For conducting the study the farm of the farmer was visited. A structured questioner to find out why he was successful in the early transition to irrigate agriculture was handed over to the farmer for filling who returned the same after doing the needful. He was also interviewed and detailed discussions were made regarding the process adopted by him for development of his land after commissioning CRBC. The data/information provided by the farmer is as under.

Mr Umair Afzal son of Sher Afzal Khan belongs to village Fazal Ilahi Shaheed, Union council Miran, tehsil Parova and district D.I.Khan. His farm is situated on D.I.Khan Mltan road at a distance of about 40 km from D.I.Khan city. His educational qualification is Master in Business Administration. His total household land holding is 2000 kanals while only 800 kanals is irrigated from CRBC. His land is situated in village Thoke khwaja, Tahir khail, Dumra, Chigra, Chah Khawja abad. His land is irrigated by different outlets and distributaries No 18 A/D, outlet number 33620/L, 33620/R, 35560/R, 36750/L and

38140/R of CRBC stage III. 7% of the farmers in the village have land more than 25 acres, 13% have more than 12.5 acres, 38% have more than 5 acres while 42% are having less than 5 acres. Total land is self-cultivated.

According to Mr. Umair Khan before CRBC commissioning their family was living in D.I.Khan city and had business. They had no income from their agricultural land before CRBC. They were living normal life. They were having no agricultural machinery as well as any transport. Usually their land remained fallow as there was no regular source of water. Sometime (may be once in five year) Crops like wheat and gram etc were growing in the low lying parts of the land on availability of flood water. Mr. Umair told that all of their land was barani and there was no other source of irrigation except Rod Kohi water which was not available because of location of land at the tail end of the Rod Kohi irrigation system.

After commissioning of Stage III of the CRBC in 2002, irrigation water was made available to their area. The irrigation water could not be used immediately for all cultivated land because of the fact that the land was not leveled and developed for using the irrigation water. The family planned as under to develop the land as early as possible.

4. For rough land leveling the on Farm water management department provided technical assistance as well as subsidy of Rs.600 per acre recoverable in three equal installments with grace period of 2 years.
5. The family was involved in business and certain members of the family were in services and bankers therefore the financial position of the family was sound enough to invest in agricultural.

On availability of canal irrigation water and developing the land, the cropping pattern was changed. High value crops like sugar cane, rice, cotton and wheat, gram, melon and vegetables etc were grown.

For better irrigated agricultural contacts were established with public as well as private sectors services/ inputs providers for adopting modern techniques of agriculture in order to get maximum profit per unit area. The progressive farmers in Multan region were also contacted for learning lessons from their experience in irrigated agriculture. The on farm water management department provided full assistance in designing and constructing main and branch water courses along with educating the community/Water User Associations in efficient methods of irrigations and cultivating crops in accordance with availability of water. The sugar mills available in D.I.Khan district encouraged the farmers by providing loans for growing sugarcane crop which is recovered at the time of supply of sugarcane to the mills. This arrangement motivated farmers to grow more and more sugarcane in the area. For better and modern agriculture all agricultural machinery and equipment's like tractors, laser land levelers, drills, harvesters and threshers etc were procured by the farmer and now available for use in self-farming as well as on rent to the tenants and other farmers. He was proud to say, he is one of the 4-5 farmers of the area growing melons through tunnel farming in the whole district. The net profit from melon is around Rs. 180,000 per acre whereas the maximum net profit from sugarcane is up to 80,000 per acre.

Mr. Umair informed that farmer is the best economist and can fore see and plan to grow crops or vegetables giving highest net profit per unit area. It is important to mention that the high value crops need high value technical know-how regarding crops husbandry. He was of the view that updated literature from inside and abroad shall be consulted for scientific agriculture. Public and private sector

service/inputs provider need to be consulted in all operations right from land preparation, sowing till maturity and harvesting. Knowledge about marketing of farm products is also necessary in order to get good prices.

After CRBC stage III construction and development of land the following changes occurred.

10. The socio-economic life has improved to greater extent.
11. The facilities like transport (Jeeps and Cars as well as motorcycles) have been increased.
12. Farm house has been built in the farm.
13. All modern agricultural machinery along with equipment's has been purchased and available for use.
14. The interest of the family members is increasing in farming and improvements are coming with passage of time.
15. All male and female family members are getting education from Schools, Colleges and Universities.
16. Media and telecommunication facilities like Radio, TV along with dish, mobile phones and PTCL along with internet facilities are now available.
17. Dairy farming to meet the family requirement has been started.

The farmer succeeded in transition from barani to canal irrigation system in 4-5 years against the target period of 10 to 15 years set out in the project documents. Proper planning for development of land, contacts with public/private sector service and inputs providers, use of modern agricultural machinery and equipment's, use of certified seeds and quality fertilizers, pesticides/insecticides improvement of water courses to minimize water losses, efficient methods of irrigation, proper marketing and above all his full time devotion as well as educational background contributed a lot in his success.

3. Case study of Successful transition in CRBC project in respect of Mr. Khizer Hayat

Contact Number: 03459875695

CNIC: 12101-0950123-9

The purpose of the study is to serve as teaching material to the beneficiaries of Gomal Zam Canal command area especially members of the village committees developed/organized by RIPOORT in both D.I.Khan and Tank districts under Gomal Zam Command area advocacy Project funded by USAID-SGAFP.

The study was conducted by the Chief Technical Advisor (CTA) and Program Officer M&E-RIPOORT with the assistance of district Director on Farm Water Management D.I.Khan. For conducting the study the farm of the farmer was visited. A structured questioner to find out why he was successful in the early transition to irrigate agriculture was handed over to the farmer for filling who returned the same after doing the needful. He was also interviewed and detailed discussions were made regarding the process adopted by him for development of his land after commissioning CRBC. The data/informations provided by the farmer are as under.



Mr.Khizer Hayat is interviewed by CTA

Mr Khizer Hayat son of Haji Hussain Bukhsh belongs to village Dhayal, Union council MandraKala, Tehsil and District D.I.Khan. His farm is situated on D.I.Khan Chashma road at a distance of about 10 km from D.I.Khan city. His educational qualification is Middle . His land holding is 1630 kanals. His land is situated in Moza Hisam, Muqim Shah, Girsal, Mandra, kokar etc. His land is irrigated by different outlets and distributaries No 4, 5 and mandra minor of CRBC stage I . 4.5 % of the farmers in the village have land more than 25 acres, 23 % have more than 12.5 acers, 41% have more than 5 acers while 31% are having less than 5 acers. Maximum of land is supervised by him-self while less than half of the property has been divided amongst the tenants. He is giving full time to the farming.

According to Mr. Khizer Hayat before CRBC commissioning their socio-economic life was average as their income from farming was limited due to non-availability of canal water. He told that at that time the economic position of his family was not good and were unable to educate all male members of family. Similarly there was limited agricultural machinery as well as transport(motorcycle) with the family. Crops like wheat, gram, mung, sorghum, oilseed, Bajra and little rice and sugar cane etc were growing. After commissioning of Stage I of the CRBC in 1988, irrigation water was made available to their area. The irrigation water could not be used immediately for all cultivated land because of the fact that the land was not leveled and developed for using the irrigation water. The family planned as under to develop the land as early as possible.

6. About $\frac{1}{4}$ of the landed property was distributed amongst landless farmers of the area with an agreement that the land will be developed/ leveled by them and 100% of the farm produce for a period of 2-3 years will be retained by them. The owner of the land will get nothing from farm income during above mentioned period. After 3 years the tenants will vacate the land and hand over the same to the owner. There after it is up to the owner to decide whether to self-cultivate the land or give it on rent to the tenants or on share basis in crops produce amongst the owner and tenants.
7. The remaining $\frac{3}{4}$ property was developed/leveled by using the available two personal tractors of family and some hired from the market in phases by utilizing the farm income of the first year in developing more land in 2nd year and so on. As such the process took 4-5 years to develop the total land.
8. The on farm water management department provided technical as well as financial assistance in form of land leveling equipment's like scrapers, land planner and laser land levelers.
9. On availability of canal irrigation water and developing the land, the cropping pattern was changed. High value crops like sugar cane, rice, cotton, Sugar beat and vegetables etc were grown on more area compared to traditional cereal, oilseed and fodder crops like wheat, gram, rapeseed, mustard, sorghum, cotton and Guevara etc.

For better irrigated agricultural contacts were established with public as well as private sectors services/ inputs providers for adopting modern techniques of agriculture in order to get maximum profit per unit area. The on farm water management department provided full assistance in designing and constructing main and branch water courses along with educating the community/Water User Associations in efficient methods of irrigations and cultivating crops in accordance with availability of water. Sugar mills available in D.I.Khan district and Bannu Sugar Mill encouraged the farmers by providing loans for growing sugarcane crop which is recovered at the time of supply of sugarcane to the mills. This arrangement motivated farmers to grow more and more sugarcane in the area. For better and modern agriculture, all agricultural machinery and equipment's like tractors, laser land levelers, drills, harvesters and threshers etc were procured by the farmer and now available for use in self-farming as well as on rent to the tenants and other farmers.

Mr. Khizer informed, he has come to know from the agricultural department that presently area under high delta crops of rice and sugarcane is much more compared to the planned by government for rice and sugarcane. The farmers are growing these two crops because they are getting interest free loans

from the mills in order to purchase quality seeds and other inputs in addition to high net profit per unit area. Similarly the marketing facilities of these two crops are locally available. He also informed that in the initial stages before completion of CRBC stage II and III, water logging problem started in the command of stage I because of abundance water availability. This issue has been now resolved to a greater extent as drains were constructed by WAPDA.

After CRBC construction and development of land the following changes occurred in family life.

18. The socio-economic life has totally changed and living standard improved many folds.
19. Pakka (cemented brick) house has been built along with Hujra.
20. All modern agricultural machinery along with equipments has been purchased and available for use.
21. All male family members are having independent transport like Jeep, motor cars and motorcycles.
22. All male and female family members are getting education from Schools, Colleges and Universities.
23. Media and telecommunication facilities like Radio, TV along with dish, mobile phones and PTCL along with internet facilities are now available.
24. In different disciplines like business of agricultural machinery and equipment's has been started in addition to farming.
25. Health facilities are availed locally as well as outside the district as and when required.
26. Dairy farming to meet the family requirement has been started.

The farmer succeeded in transition from barani to canal irrigation system in 4 to 5 years against the target period of 10 to 15 years set out in the project documents. Proper planning for development of land, contacts with public/private sector service and inputs providers, use of modern agricultural machinery and equipment's, use of certified seeds and quality fertilizers, pesticides/insecticides improvement of water courses to minimize water losses, efficient methods of irrigation, proper marketing and above all his full time devotion as well as educational background contributed a lot in his success.

Annexure – III

1. Case study of Delayed transition in CRBC project in respect of

Mr. Nazar Hussain

Contact Number: 03457648211

CNIC : 12101-4055595-7

The purpose of the study is to serve as teaching material to the beneficiaries of Gomal Zam Canal command area especially members of the village committees developed/organized by RIPORT in both D.I.Khan and Tank districts under Gomal Zam Command area advocacy Project funded by USAID-SGAFP.

The study was conducted by the Chief Technical Advisor (CTA) and Program Officer M&E-RIPORT with the assistance of Dr.Allah Bukhsh District Director on Farm Water Management D.I.Khan. For conducting the study the farm of the farmer was visited. A structured questioner to find out why delay occurred in transition to irrigated agriculture was filled in by obtaining answers / explanations given by the farmer. He was also interviewed and detailed discussions were made regarding the process adopted by him for development of his land after commissioning CRBC. The data/information provided by the farmer is as under.

Mr. Nazar Hussain son of Taga Khan belongs to village Gurmani, Union council Naewala, Tehsil Parova and District D.I.Khan. His farm is situated on D.I.Khan Multan road at a distance of about 30 km from D.I.Khan city. His educational qualification is middle. His total household land holding is 7.5 acres and is irrigated from CRBC. His land is situated in village Gurmani and irrigated by moga number 48000/R of distributary No 13 of CRBC stage II . None of the farmer in the village has land more than 25 acres. 12.5% have more than 12.5 acers, 25% have more than 5 acers while 62.5% are having less than 5 acers. Total land is self-cultivated.

According to Mr. Hussain the family had very little income from the agricultural land before CRBC. They were living below poverty line. They were having no agricultural machinery as well as any transport. Usually their land remained fallow as there was no regular source of water except getting water on rent from the adjacent tube well.

Mr. Hussain told that all of their land was barani and there was no other source of irrigation except Rod Kohi/private tube well water which was not always available because of location of land at the tail end of the Rod Kohi irrigation system and self requirement of the private tube well owner. Some of the well-to-do farmers of the village were having tube wells for irrigating their land but he was not having such like facility because of his poor financial status.

After commissioning of Stage II of the CRBC in 1995, irrigation water was made available to their area. The irrigation water could not be used immediately for all cultivated land because of the fact that the land was not leveled and developed for using the irrigation water. He could not understand as how to develop the land because of non-availability of financial resources.

Slow and gradual land development process was continued for a long period of about more than 15yrs. Even today his land needs laser land leveling for even distribution of water through out the fields which would ensure increase in crops yield. Now laser land leveling machinery is available in thier area , therefore he intends to precisely level his fields. His property is situated at the tail end of distributory therefore water shortage problem is faced.

On availability of canal irrigation water the cropping pattern was changed and sugar cane, rice, wheat, gram and fodder are grown now.

For better irrigated agricultural contacts could not be established with public or private sectors services/ inputs providers for adopting modern techniques of agriculture in order to get maximum profit per unit area. There is always acute shortage of water in the month of June, July & August because of the fact that the farmers in the upper reaches are illegally getting more water from the system to fulfill the requirement of rice crop. Unfortunately the yield/production of crops from the farm is low because of shortage of water and non-adoption of modern agricultural techniques as well as use of quality seed. The proper dose of fertilizers are not applied because of its high price. He further informed that his farm is situated where farm to market road facilities are not available therefore difficulties in transportation of sugarcane to the mills are faced.

Mr. Hussain informed that he has realized that proper attention is needed to farming especially the laser land leveling is priority number one for better agriculture production . He intends to properly level the total area in 2-3years and obtain advice from both public and private sector agriculture service providers. The farmer suggested that farm to market road on both side of the distributaries shall be constructed after CRBC stage II construction and development of land the following changes occurred. The socio-economic life has improved to some extent.

1. The facilities like transport (Jeeps and Cars as well as motorcycles) are not available .Modern agricultural machinery along with equipment's has not been purchased and available for use so for.
2. His interest is increasing now in farming and improvements are coming with passage of time as he is no more taking interest in political activities.
3. All male and female family members are not getting proper education from Schools, Colleges and Universities.
4. Media and telecommunication facilities like Radio, TV along with dish and PTCL with internet facilities are not available.
5. Dairy farming to meet the family requirement has been started.

The farmer delayed in transition from barani to canal irrigation system in the target period of 10 to 15 years set out in the project documents. No Proper planning for development of land, contacts with public/private sector service and inputs providers, use of modern agricultural machinery and equipment's, use of certified seeds and quality fertilizers, pesticides/insecticides improvement of water courses to minimize water losses, efficient methods of irrigation, proper marketing and above all his negligence and lack of educational background contributed a lot in to his failure.

2. Case study of Delayed transition in CRBC project in respect of

Mr. Ihsan Ullah

Contact Number: 03239882987

CNIC : 12101-0229436-7

The purpose of the study is to serve as teaching material to the beneficiaries of Gomal Zam Canal command area especially members of the village committees developed/organized by RIPORT in both D.I.Khan and Tank districts under Gomal Zam Command area advocacy Project funded by USAID-SGAFP.

The study was conducted by the Chief Technical Advisor (CTA) and Program Officer M&E-RIPORT with the assistance of Dr.Allah Bukhsh District Director on Farm Water Management D.I.Khan. For conducting the study, the farm of the farmer was visited. A structured questioner to find out why he was not successful in the early transition to irrigated agriculture was filled in by obtaining answers / explanations given by the farmer. He was also interviewed and detailed discussions were made regarding the process adopted by him for development of his land after commissioning CRBC. The data/information provided by the farmer is as under.

Mr. Ihsan Ullah son of M.Ramzan belongs to village Bahar Kacha, Union council Parova, Tehsil Parova and District D.I.Khan. His farm is situated on D.I.Khan Multan road at a distance of about 35 km from D.I.Khan city. His educational qualification is F.A . His total household land holding is 50acres irrigated from CRBC. 8% of the farmers in his village are having land more than 25 acres, 16% more than 25 acres, 30% more than 5 acres and 46 % less than 5acres. Total land is self-cultivated.

According to Mr. Ihsan the family had very little income from the agricultural land before CRBC. They were living below poverty level. They were having no agricultural machinery as well as any transport. Usually their land remained fallow as there was no regular source of water except getting water on rent from the adjacent tube well.

Mr. Hussain told that all of their land was barani and there was no other source of irrigation except Rod Kohi/private tube well water which was not available because of location of land at the tail end of the Rod Kohi irrigation system and self requirement of the private tube well owners. Some of the well-to-do farmers of the village were having tube wells for irrigating their land but he was not having such like facility because of his poor financial status. The literacy rate in the village was very low. Only 5 to 6 persons were matriculate in the whole village.

After commissioning of Stage II of the CRBC in 1995, irrigation water was made available to the area through distributory number 14. The irrigation water could not be used immediately for all cultivated land because of the fact that the land was not leveled and developed for using the irrigation water. He could not understand as how to develop the land because of non-availability of financial resources.

Slow and gradual land development process was continued for a long period of about more than 15yrs. Even today his land needs laser land leveling for even distribution of water through out the fields which would ensure increase in crops yield. Now laser land leveling machinery is available in our area , therefore he intends to precisely level his fields. His property is situated at the tail end of distributory therefore water shortage problem is faced and this is also one of the major reason for non development of land in the village. In summer water is not available in the tail end of distributory because of the fact that illegal pipe mogas have been installed by the powerful landlord resulting into conflicts among the farming communities. This particular problem has not yet been resolved by the irrigation department in spite of repeated requests by the tail end farmers

On availability of canal irrigation water the cropping pattern has considerably been changed, and sugar cane, rice, wheat, gram and fodder are grown now.

For better irrigated agricultural contacts could not be established with public or private sectors services/ inputs providers for adopting modern techniques of agriculture in order to get maximum profit per unit area. There is no agriculture agent office in our village. There is always acute shortage of water in the month of June, July & August because of the fact that the farmers in the upper reaches are illegally getting more water from the system to fulfill the requirement of rice crop. Unfortunately the yield/production of crops from the farm is low because of shortage of water and non-adoption of modern agricultural techniques as well as use of quality seed. The proper dose of fertilizers are not applied because of its high price.

Mr. Ihsan informed that he has realized that proper attention is needed to farming especially the laser land leveling is priority number one for better agriculture production . He intends to properly level the total area in 2-3years and obtain advise from both public and private sector agriculture service providers in case equitable water supply from the distributory is ensured. After CRBC stage II construction and development of land the following changes occurred. The farmer suggested that farm to market road on both side of the distributaries shall be constructed

1. The socio-economic life has improved to some extent. Some of the progressive farmers have their own tractors and equipments especially those having land in the upper reaches of the irrigation system.
2. Most of the farmers are having motorbikes where as only cycles were available before CRBC.
3. His interest is increasing now in farming and improvements are coming with passage of time as he has no other option except to get maximum profit from the available water and land.
4. All male and female family members are not getting proper education from Schools, Colleges and Universities.
5. Media and telecommunication facilities like Radio and mobile phones are available now with all the farmers of the village.
6. Buffalos and cows are kept instead of sheep's and goats for meeting the household requirements.

The farmer delayed in transition from barani to canal irrigation system in the target period of 10 to 15 years. The major reason of delay is because of shortage of canal water in the tail end area of the system. Further no Proper planning for development of land, contacts with public/private sector service and inputs providers, use of modern agricultural machinery and equipment's, use of certified seeds and quality fertilizers, pesticides/insecticides improvement of water courses to minimize water losses, efficient methods of irrigation, proper marketing and above all his negligence and lack of educational background also contributed a lot in early transition to irrigated agriculture.

3. Case study of Delayed transition in CRBC project in respect of

Mr. Malik Mithu

Contact Number 03469498864

CNIC 12101-2576929-5

The purpose of the study is to serve as teaching material to the beneficiaries of Gomal Zam Canal command area especially members of the village committees developed/organized by RIPOPT in both D.I.Khan and Tank districts under Gomal Zam Command area advocacy Project funded by USAID-SGAPP.

The study was conducted by the Chief Technical Advisor (CTA) and Program Officer M&E-RIPOPT with the assistance of district Director on Farm Water Management D.I.Khan. For conducting the study the farm of the farmer was visited. A structured questioner to find out why he was successful in the early transition to irrigate agriculture was handed over to the farmer for filling who returned the same after doing the needful. He was also interviewed and detailed discussions were made regarding the process adopted by him for development of his land after commissioning CRBC. The data/information provided by the farmer is as under.

Mr Malik Mithu son of Rab Nawaz belongs to village Jatta, Union council Naiwala, tehsil Parova and district D.I.Khan. His farm is situated on D.I.Khan Multan road at a distance of about 25 km from D.I.Khan city. His educational qualification is under matric. His total household land holding is 6 acres is irrigated from CRBC. His land is situated in village Jatta. His land is irrigated by two outlets and distributaries No 13 of CRBC stage II. 8% of the farmers in the village have land more than 25 acres, 16% have more than 12.5 acers, 32% have more than 5 acers while 44% are having less than 5 acers. Total land is self-cultivated.

According to Mr. Mithu before CRBC commissioning he was in police service and there was no other male family member to look after agriculture. They had no income from their agricultural land before CRBC. They were living below poverty level. They were having no agricultural machinery as well as any transport. Usually their land remained fallow as there was no regular source of water. Mr. Mithu told



Mr.Mithu is interviewed by the CTA

that all of their land was barani and there was no other source of irrigation except Rod Kohi water which was not available because of location of land at the tail end of the Rod Kohi irrigation system. Some of the farmers of the village were having tube wells for irrigating a portion of their land but he was not having such like facility because of his poor financial status.

After commissioning of Stage II of the CRBC in 1995, irrigation water was made available to their area. The irrigation water could not be used immediately for all cultivated land because of the fact that the land was not leveled and developed for using the irrigation water. He did not plan as to how develop the land.

In the initial stages a piece of land about 1.5 acres was developed by obtaining loan from relatives. After getting crops and money gained, it was desired to level more land but the money available was paid back to the person from whom the loan had been taken. The land development process took a long time and the total area of 48 Kanals could not be developed/precisely leveled during the last 18 years. 8 Kanals of land is still not ready for proper irrigation.

On availability of canal irrigation water the cropping pattern was changed and sugar cane, rice, wheat, gram and fodder were grown.

For better irrigated agricultural contacts could not be established with public or private sectors services/ inputs providers for adopting modern techniques of agriculture in order to get maximum profit per unit area. Unfortunately the yield of crops is amongst the lowest in the village. Mr Mithu was thankful to almighty Allah for giving them shelter and two times bread respectfully. He told that due to his involvement in the religious political affairs he could not pay proper attention to the farming. The on farm water management department provided full assistance in designing and constructing main and branch water courses along with educating the community/Water User Associations in efficient methods of irrigations and cultivating corps in accordance with availability of water. The sugar mills available in D.I.Khan district encouraged the farmers by providing loans for growing sugarcane crop which is recovered at the time of supply of sugarcane to the mills. This arrangement motivated farmers to grow more and more sugarcane in the area.

Mr. Mithu informed that now he has realized that proper attention is needed to farming. He intends to develop the remaining 8 Kanal land for coming rabi. He is well aware how to properly develop the land and obtain quality seed and inputs for better agriculture. Public and private sector service/inputs providers need to be consulted in all operations right from land preparation, sowing till maturity and harvesting. Knowledge about marketing of farm products is also necessary in order to get good prices.

After CRBC stage II construction and development of land the following changes occurred.

1. The socio-economic life has improved to some extent.
2. The facilities like transport (Jeeps and Cars as well as motorcycles) have not been increased.
3. Modern agricultural machinery along with equipment's has not been purchased and available for use so far.
4. His interest is increasing now in farming and improvements are coming with passage of time as he is no more taking interest in political activities.

5. All male and female family members are not getting proper education from Schools, Colleges and Universities.
6. Media and telecommunication facilities like Radio, TV along with dish and PTCL with internet facilities are not available.
7. Dairy farming to meet the family requirement has been started.

The farmer delayed in transition from barani to canal irrigation system in the target period of 10 to 15 years set out in the project documents. No Proper planning for development of land, contacts with public/private sector service and inputs providers, use of modern agricultural machinery and equipment's, use of certified seeds and quality fertilizers, pesticides/insecticides improvement of water courses to minimize water losses, efficient methods of irrigation, proper marketing and above all his negligence and lack of educational background contributed a lot in to his failure.