Study Report on BADP

ACKNOWLEDGEMENT

We are highly thankful to the Planning Commission, Government of India, for financial assistance without, which this study could not have been possible. We express our sincere thanks to Madam Firoza Mehrotra, Advisor, Planning Commission, for providing unique opportunity to Haritima to study the impact of Border Area Development Programme in two border development blocks having distinct geo-climatic conditions and socio-cultural identity in two extreme parts of the country. We are thankful to Sh. T.K. Burman, Special Secretary (Home), Government of West Bengal, for valuable discussions on the progress of BADP in West Bengal with special reference to district Malda.

We are equally thankful to Ms Indu Patnaik, Deputy Advisor, Planning Commission, for her cooperative discussions and providing valuable insights about the BADP. Her suggestions and encouragement throughout the work have been the major source of inspiration to complete the task well in time. Thanks are also due to Mr. Sib Sankar Basu, Deputy Secretary, Home (Political) Department, Government of West Bengal, for his valuable discussions on the status of BADP in general and in Habibpur block in particular.

We are grateful to Sh. Ashok Bala, IAS, District Magistrate and Collector, Malda for his very keen interest and cooperation in the present study. He was extremely approachable and helpful in this work and provided all support for this study in all possible ways. We are equally thankful to Mrs. Kiran Soni Gupta, IAS, District Magistrate and Collector, district Sri Ganganagar, Rajasthan. We are also thankful to Sh. Ashwani Bhagat, IAS, additional District Magistrate & C.D.O., district, Sri Ganaganagar.

We are specially thankful to Ms Sarita Bishnoi, *Pramukh* (Chairperson), *Zila Panchayat*, district, Sri Ganganagar and Ms Shaifali Khatun, *Sabhadhipatai* (Chairperson), *Zila Panchayat*, district Malda, for their valuable discussions on various aspects of the BADP and its impact on the socio-economic development and sense of security.

We are thankful to Mr. Hajari Lal, B.D.O., Ganganagar, N.Chandran-ADJT-105 BN B.S.F, Sri Ganganagar, B. Dhaka, Officer Incharge, BADP, Sri Ganganagar, Jagdish Nehra, Asstt. Agriculture Officer, Phatuhi, Rajendra Kaur, Principal, Govt. Girls' High School, Kotha, Kamta

Prasad Singh, Head Master, Middle school, 4Z, Shashi Chandra Sharma, Jr. Accountant, Collectorate, Sri Ganganagar, Ashok Sharma, Statistical Assistant, Sri Ganaganagar and Hari Ram Sharam, Patwari, Kotha, for their cooperation in collection of data and information pertaining to the study.

We are equally thankful to Mr. Debajyoti Bhattachargy, District, Planning Officer, Malda, Dev Joyti Baral, Project Officer, D.P.E.P, Malda, N. Hajra, Executive Officer and Add. District Magistrate, *Zila Parisad*, Malda, Amitabh Sen Gupta, Dy. Collector, Malda, B.C. Dey, Dy. Commandant (BSP & TRG) B.S.F. Malda (11 BN-4BN-5BN), Vijendra Singh, Dy. Commandant, 11 BN. BSF, Malda, Mahadev Chandra Mandal, B.D.O., Habibpur, Dr. Raman Ray, Medical Officer, R.N. Ray Rural Hospital, Bulbulchandi, Dr. Shankar Nath, Veterinary Officer, Habibpur, Gautam Haldar, Block Fishery Officer, Habibpur, Sukumar Burman, Principal, Samu Hembrum Secondary School, Habibpur, Ashish Kumar Das, Principal, Rishipur High School, Rishipur, Ramesh Chandra Ray, Principal, Manikora High School, Manikora, Vijay Kumar Das, Sub-Astt Engineer, Habibpur, Shailendra Choudhary, Sub-Astt Engineer, Habibpur, Ashit Karmakar, Sub. Astt. Engineer, Habibpur, Nikunj Singha, U.D.C. (Planning), Malda, Swadesh Sarkar, Assistant, in B.D.O. Office, Habibpur, Ms. Sandhya Adhikari, Multi Purpose Health Worker, (F)-Bahadurpur Hospital, Michin Haque, Medical staff, Bahadurpur Hospital, Malin Chandra Burman, Teacher, Manikora High School, Manikora, Moti Lal Gosh, Teacher, Mainkora High School, Manikora for their active participation in collection of data and information on various aspects of the BADP.

We are specially thankful to the people's representatives and knowledgeable persons of development block Ganganagar, namely, Mr. Jagdish Chandra Jandu, Chairman, Municipality, Sri Ganganagar, Mrs. Jasbir Kaur, *Sarpanch*, Hindu.Mal Kot, Tirath Singh, *Sarpanch*, 7Z, Balbant Singh, *Sarpanch*, 11Q, Kamla Devi, *Sarpanch*, Sangatpura, Mahesh Buraniya, *Sarpanch*, Daulatpura, Bhupendra Pal, *Sarpanch*, 27 GG, Sarashwati Devi, *Sarpanch*, Phatuhi, Shashi Singh, *Sarpanch*, Madera, Ranjeet Kumar, *Sarpanch*, 4 ML, Suresh Kumar Upveja, *Sarpanch*, Kotha, Puru Ram, *Sarpanch*, Mohanpur, Hiralal Mehra, *Sarpanch*, Rohirawali, Mangal Singh Sharma, *Sarpanch*, 19Z, of Ganganagar development block for their participation in discussions on various aspects of BADP and deliberation of their problems and 'felt needs'.

We are equally thankful to the people representatives and knowledgeable persons of Habibpur development block, namely, Ms. Shanti Roy, *Sabhapati* (Block *Pramukh*), Habibpur Block,

Bimla Murmur, *Pradhan, Gram Panchayat*, Bulbulchandi, Dolli Burmam, *Pradhan, Gram Panchayat,* Jajol, Mohan Tudu, *Pradhan, Gram Panchayat,* Mangalpura, Duryodhan Mandal, *Pradhan, Gram Panchayat,* Rishipur for their active participation in discussions on different aspects of BADP.

We are again thankful to Mr. Nandlal, Director, *Panchayat Samiti,* from Khatalbana, Nachatra Singh, Ex Member-Zila Parisad from Kotha, Ragubir Arora, C.E. (M), *Vyapar Mandal,* Sri Ganaganagar, Dr. Jugal Kishore Arora, Medical Officer, Rohirawali, Phakir Singh, Member, *Panchayat*, 13Z, Harish Chandra, Retd. Teacher Khatalbana, Vir Van, Ex. *Sarpanch,* Khatalbana, Prem Prakash Godara, Ex. *Sarpanch,* Madera, Darshan Singh, Ex. *Pradhan* & Block *Pramukh,* 19.Z, Ram Chandra Sharma, Retd. Collector (Irrigation), 4Z, Kalu Ram, *Panchayat Sachiv*, Sangatpura, Avtar Singh, *Panchayat Sachiv*, 3h (Chotti), Vinod Kumar, Secretary, *Panchayat*, Khatalbana, Kishanlal, Secretary, *Panchayat*, Koni, Ganganagar development block. And Mr. Uma Shankar Roy, Dakshin Vridabanbati, Ms Aato Burman, Kanturka, development block Habibpur.

We express our sincere thanks to the people of all forty villages under study for their fine cooperation, hospitality and help in various ways during the fieldwork. There are hundreds more who have also played important role in competition of this study but due to want of space it is not possible to mention their names. However, their cooperation is equally important. The study team deserves special mention for its sincere and continues efforts to complete the study well in time.

Place: New Delhi. - Dr Prahalad Kumar
Director

Dated: 15th May, 2002.

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EXECUTIVE SUMMARY

BADP-the Special Programme

- The Border Area Development Programme is a cent percent funded special scheme of the Government of India, introduced in Seventh Five Year Plan with a provision of Rs. 200 crore. The programme aims at making special arrangements by way of different developmental activities for the socio-economic development of the border areas to ensure the sense of security among the people living in stressful environment of the border.
- The programme was revamped in the Eighth Plan and extended to the states, having international border with Bangladesh. The emphasis changed from the education to the balanced development of the border area. During Ninth Plan, the programme has been extended to the States, which have a common border with Myanmar, China, Bhutan and Nepal. At present, it covers 348 blocks of 90 districts of 17 different border States sharing international land border. The funds under BADP are allocated among the beneficiary States on the basis of i) length of international border (km), ii) population of border block and iii) area of the border block (sq. km) giving equal weightage to each of these criteria.

The Study Blocks

- The study covers two border blocks viz. Ganganagar block in western sector along Pakistan border in Sri Ganganagar district, Rajasthan and the development block Habibpur, in eastern sector, along the Bangladesh border in district Malda, West Bengal. The Ganganagar block is located in desert climatic conditions marked with large variations of temperature, extreme dryness and scanty rainfall, while Habibpur block is characterized by a scorching and oppressive summer, ample rainfall and moisture in air throughout the year. The land resources of the Ganganagar block are 965.67sq. kms and Habibpur block possesses 397.10 sq. kms of land.
- Both blocks are predominantly agro-based having chunk of their workforce engaged in agriculture sector. The major agriculture produce of Ganganagar block is wheat, while in Habibpur block, rice is the main crop. The major bovine resource of the Habibpur block is cow, while in Ganganagar block, buffalo is the major cattle stock. The poultry are a backyard activity, among scheduled castes and tribes of both blocks. Fishery is an important resource in Habibpur block only.

- The total human resources of the Ganganagar block are 324766 persons (including population of Sri Ganganagar City), whereas total population of Habibpur block is 168538 persons (1991). The population density of the Ganganagar block is 336 persons, while it is little more (424) in Habibpur block.

- The Habibpur block is predominantly a tribal block, having 31.16% tribal population, mostly Santhal. There is also a very high concentration of scheduled castes (46.56%) population, peripheral to this, there is insignificant number of tribals in the Ganganagar block. However, the concentration of scheduled castes is very high (33.86%), being more than double of the national average. The general literacy rate in Ganganagar block is 43.19%, while it is only 26.87% in Habibpur block. The literacy rate among tribes is far better than the scheduled castes. The percentage of workforce is higher in Habibpur block (43.5%) in comparison to the Ganganagar block (34.34%). However, the female workforce is higher in Ganganagar block.

- The survey of income levels shows that 63.6% respondents in the Ganganagar block and 79.3% in Habibpur block, have their income level less than Rs 1000/- per month. Only 4.2% households in Ganganagar and 1.5% households in Habibpur block, have their income level above Rs 4000/- per month. The saving rate 5.2% in Ganganagar block is far better than 2.1% of the Habibpur block. The expenditure pattern of the income shows that in Ganganagar block 50.3% and in Habibpur block 56.2%, of the total income, is spent on food items. The income level, availability of household goods and expenditure pattern reveal that Ganganagar block is well developed in comparison to Habibpur block.

Status of BADP

- During the reference period of the present study (i.e. year 1994-95 to 2000-01), total 246 projects in the Ganganagar block and only 47 projects in the Habibpur block have been executed under BADP. The total funds allocation to the Ganganagar block was to the tune of Rs. 1331.32 lakhs, while it was only Rs. 116.92 lakhs for Habibpur block during the same period.

- In Ganganagar block, 58.54% of the total projects has been executed in the infrastructure sector, followed by education, (18.29%), security (14.22%), health (6.10%), agriculture and allied sector (0.4%), and other social sectors (2.45%). In Habibpur block, out of total 47 project implemented, 38.30% has been executed in education sector, 25.33% in infrastructure, 21.28% in security and 14.89% in health sector. Almost no work has been done in agriculture and allied sector in any of the blocks.

- The maximum funds (67.44%) of BADP in Ganganagar block, during the reference period of the study, has been utilized in infrastructure sector, followed by education (10.88%), security (10.59%), health (10.02%), agriculture and allied sector (0.06%) and other social sectors (1.01%). Whereas, in Habibpur block, 47.84% of the total funds has been utilized in infrastructure sector, 38.78% in education, 7.5% in security sector and rest 5.87% in health sector.

- Most striking aspect of the BADP funds utilization is related to the infrastructure development. Almost half of the total allocation (48.52%) in Ganganagar block, has been utilized for construction of administrative buildings of different departments in Sri Ganganagar city only. While in Habibpur block, staff quarters at BDO office, doctors and other health staffs quarters have been constructed.

- The funding pattern of the study blocks under BADP shows that the Ganganagar block received funds at the rate of Rs. 409.80 per head of it's population, Rs. 138 thousand per sq. km of area and Rs. 41.59 lakh per km of international border length during the reference period. While Habibpur block received funds at the rate of Rs. 69.37 per head of it's population, Rs. 29 thousand per sq. km of area and Rs. 1.43 lakh per km of international border length in the same period.

- The assessment of the satisfaction level of the beneficiaries of the BADP, concludes that 72% people and 78% *Panchayat* representatives and knowledgeable persons in Ganganagar block and 65% people and 70% *Panchayat* representatives and knowledgeable persons in Habibpur block are satisfied with the work, which had been undertaken under BADP. The major reasons of discontent are different priorities of the people, participation of the people is not ensured at planning stage, 'felt needs' of the people are not being considered, standard of the work done is not upto the desired level and absence of monitoring committees in the blocks.

Impact of BADP and Critical Gap

- The BADP has played a significant role in the development of educational infrastructure in both study blocks. In Ganganagar block, 9.24% of the total funds has been utilized for this purpose. This has benefited 41 schools. In Habibpur block, 38.78% funds of BADP has been utilized for construction of additional infrastructure for education, which benefited 18 schools. This has increased the total enrolment in the schools. Which has created awareness among people particularly poor scheduled castes and tribes for the education of the girls. There is a significant growth in enrolment of students in primary, middle and secondary levels of education in Ganganagar block. Contrary to it, Habibpur development block

registered a very poor growth rate in educational infrastructure and a heavy dropout of students, particularly at secondary level (-24.80%) during the reference period.

- Though, both study blocks are agriculture dominating areas but unfortunately no work has been done in this sector under BADP. This is the neglected sector, which needs attention under BADP. The critical gap identified in the field of agricultural sector is in the area of minor irrigation, quality seeds and regular supply of fertilizers and pesticides, training in new techniques and technologies of farming and allied areas. Development of animal husbandry and veterinary aid centres is also needed. There is gap in the field of pisciculture, sericulture, horticulture and social forestry. De-siltation of ponds and watershed development needs special attention, particularly in Habibpur block.

- BADP has done good work in extending the health facilities to the people in both blocks, 15 health related activities in Ganganagar block and 7 activities in Habibpur block have been completed. 10% of the total funds in Ganganagar block and 5.87% of funds in Habibpur block has been incurred on health related schemes. There is wide gap in the health sector. Blood bank, X-ray and ECG machines and laboratory in all sub-hospitals of both blocks, are needed. 16 PHCs in Ganganagar block and 19 in Habibpur block are needed. Besides, provisions for dental, eye clinic and mother & child programme, are also required.

- A commendable work has been done in security sector under BADP, particularly in Ganganagar block, where 10.56% of the total allocation of the block (during 7 year of reference period) has been incurred on security arrangements. Whereas 7.5% of total allocation has been incurred in this sector in Habibpur block. Under BADP *Naka-cum-OP-Machan*, barracks for Jawan, DCB at BOPs, WSS at BOPs and *banker Nirman* has been done in Ganganagar block. In Habibpur block, repair of BOPs, purchase of wireless sets have been done under BADP. Beside this, police station, police line and police quarters have also been constructed in Ganganagar block. However, a significant gap has been observed in the security sector.

- It is too early to make a clear cut statement about the impact of BADP on socio-economic development as the scheme is itself only 7 years old. There are certain activities, which have been completed recently but have not started functioning yet. However, the schemes implemented under BADP in both blocks, have brought a significant impact in certain areas leading to socio-economic development and sense of security among the people living in border blocks.

BADP and Sense of Security

- By and large, people of both blocks perceive no sense of insecurity. The constructions of BOPs and OPs have reduced their apprehension of cross-border threats to their security to insignificant level, particularly in Ganganagar block. However, about 90% respondents have reported that cattle (particularly cows) are most favoured targets of the hordes of invading dacoits from Bangladesh, who have turned cross-border crime into a major industry turning the lives of the local into an endless nightmare in the Habibpur block.

- Cattle lifting is the most profitable crime in the Habibpur development block, as there is great demand of cattle particularly, cows and oxen in Bangladesh for ploughing as well as for supply of beef and hides to gulf countries. The local people mostly scheduled castes and tribes are poor and simple people, who are being threatened and looted (mainly cattle lifting) by the Bangladeshi gangs. This has caused a great concern among the local people. Persisting meetings between the BSF and Bangladesh Rifles have not been able to check to growing manace of smuggling, cattle lifting and illegal infiltration of Bangladeshis into India.

- The study of investment pattern, purpose of the loan taken and source of the loan, assets of the households and migration patterns, confirms that there is no sense of insecurity among the residents of these borders. No case of outward migration is reported from any of the blocks. However, there are cases of inward migration in both blocks. These 'newly settled outsiders' do not perceive any sense of insecurity.

- The serious issue of infiltration of Bangladeshi in the Habibpur block is a major cause of concern among the people. The Bangladeshi infiltrators have become majority (about 95%) in the border villages; they have brought land in border area and have entered into the local politics. They are taking advantages of most of the Government schemes and outnumbered the bonafide Indian citizens.

People's Participation in BADP

- The participation of the people has been ensured in the implementation of the BADP in both study blocks. In Ganganagar block, 46.74% of the total activities has been executed through people's participation. In Habibpur development block, the involvement of the people has been ensured in 82.97% activities. The maximum people's participation has been reported in education sector both in terms of money and activities in both blocks (100%). This is followed by the security sector (42.85% of total work and 47.35% of total allocation), infrastructure (35.41% of the work and 19.87% of the allocation) and rest in health sector (26.66% of the work and 28.08% of the allocation) in Ganganagar block. In Habibpur block,

second important sector in terms of people's participation is infrastructure sector (91.66% of the work and 91.06% of the total allocation), followed by health sector (71.42% of the work and 9.76% of the allocation) and rest in security sector (50% of the work and 22.77% of the allocation). There is no people's participation in agriculture and allied sector and other social sectors. However, no Voluntary Organization/NGO has been involved in any of the block.

'Felt Needs' and Priorities of People

- The major problems identified in Ganganagar block, are irrigation facilities, drinking water, border land disputes, lack of good roads, unemployment, health services, poverty, electricity, veterinary centres, schools, inadequate cooperation of Govt. staff, land fragmentation, community halls, public library, supply of kerosene, transport facility and cross-border crimes in order to their preference. In Habibpur block, the main problems are poverty, cross border crime, lack of good roads, border land disputes, unemployment, drinking water, health facilities, irrigation facilities, electricity, inadequate cooperation of Govt. staff, veterinary hospital, schools, inadequate supply of kerosene, community hall and library, transport facility, and flood and soil erosion in order to the preference of the people.
- The study observes that monitoring schedule was not notified in any of the block. Grass- root level organizations, block level *Panchayat Samities*, BSF etc. are not involved in the monitoring of the BADP work. There is no clear-cut policy or indicators of monitoring the progress of the work in any of the block.
- The scheme did not seem to give due important to the 'felt needs' of the people in both blocks. The participation of the people is restricted only to the execution of the projects, their participation at planning level is absent in both blocks. Moreover, in most of the cases projects only related to infrastructure building were encouraged by the administration for people's participation. In Habibpur block, BADP is not a popular scheme and most of the representatives of the *Panchayat Raj* institutions including Block *Pramukh* are not aware about this scheme.

Recommendations for Action Plan

- The effective and timely implementation of the scheme needs a proper mechanism for the monitoring of the expenditure and work performance. However, this is the weak area in the implementation of the BADP schemes. There is no Monitoring Committee and Monitoring Schedule in any of the blocks. A permanent Monitoring Committee should be formed at the district level, having all district level heads (including BSF) of the implementing agencies it's permanent members. The work sanctioned to different agencies under BADP should be

informed to all members of the Committee. Each member should be empowered to monitor the work for each implementing agency. The Committee should have atleast one meeting in the year, and evaluation report of the Committee should be kept ready by District Planning Office for the consideration of Screening Committee and Empowered Committee in decision-making for future policy and action plan.

- The role of Empowered Committee at the Centre and Screening Committee at the state level is very important in deciding the policy and action plan, scope of the programme, allocation of funds for different schemes and recommendation of the scheme to be implemented under BADP. As per present scope of the programme, there are three important areas, which need special attention under BADP. These areas are science and technology, health and agriculture and allied sector, which have potentials for socio-economic development - one of the two major objectives of the BADP. Therefore, it is advisable that Secretary, Ministry of Science & Technology, Secretary, Ministry of Agriculture, and Secretary, Ministry of Health, should be the members of the Empowered Committee. Similarly, equal rank officers at the State Government level should be the members of the Screening Committee.

- The channel of fund flow from State level to district level has to be changed. This should be uniform in all blocks. Funds from the State should be released directly to the District Planning Office and not to the line departments. The District Planning Office should be equipped and empowered to release the funds to different implementing agencies. There is need of capacity building and delegation of power to district Planing Office for planning, implementation and coordination of schemes under BADP at the district level. This may be considered by the Screening and Empowered Committees for effective implementation of BADP and preparation of the district level data base needed for future policy and action plan.

- The BADP is a special programme as additive to the normal state plan aiming at creation of infrastructure to strengthen the sense of security, while meeting the special needs of the people leading to socio-economic development of the border areas. This is an unusual task and cannot be met in the traditional manner of planning and scheme implementation. Therefore, it needs an off-the-track strategy and scope for intervention. As per 'felt needs' and priorities perceived by the people, it is advisable that proposals having Science & Technology components should be given priority. A tribal village in Habibpur block and a village dominated by the scheduled castes in Ganganagar block may be taken up to develop a role model through Science & Technology intervention under BADP.

- Since, to meet the specific requirements of the people is the main thrust of the BADP, hence, people should have major role to play in the identification of their 'felt needs' and priority

areas. Their participation at the project formulation stage should be ensured. Some reputed NGOs/Voluntary Organization and educational/technical institutions of the border districts, may be involved to assist the people in the task of identifying the 'felt needs' and priorities. Moreover, potential areas and low cost rural technologies suited to the block may also be identified for intervention for employment and sustainable development.

- The emphasis on creation of permanent infrastructure, like roads (including culverts/bridges), schools and hospitals should be continue but within the 16 kms of the international borderline. Moreover, only like roads connecting villages along the border line and link roads to connect BOPs and OPs of BSF should be constructed and repaired under BADP. Priority should be given to the culverts/small bridges upon these connecting roads. The funds of BADP should not be utilized to repair those roads of the block, which have been constructed under any other scheme of the State/Central governments. Construction of administrative buildings at district headquarter, even if it lies in the border block, should not be allowed under BADP. Moreover, building constructed for different purpose as per 'felt needs' and priority of people should not be concentrated on a few locations, rather spread all along the border line. All construction work should inscribe on the walls (in front and back side both), "constructed under BADP" with year of scheme.

- The funds of BADP fall under non-lapsable category. Therefore, formulation and funding of short-term projects under BADP, may be given a re-thought. It is advisable that projects of importance and priority may be formulated and implemented on a long-term basis. However, such projects should not be clubbed with regular projects, under different schemes of State/Central Governments. Secondly, the criteria for allocation of the BADP funds should consider the threat perception, topography, remoteness and accessibility of area and socio-economic backwardness, in addition to the present criteria of funding. Hence, area specific projects should also be considered under BADP.

- There is a co-ordination lapse between the civilian population of the border villages and BSF, which causes misunderstandings among the people and the forces. Therefore, a co-ordination-cum-vigilance committee having members from *Panchayat* representatives, knowledgeable persons of the village and BSF personnel of near by BOPs should be constituted in each block. This Committee should organize some joint programmes to keep watch on infiltrators and other border crimes.

- Based on the local resources base, skills available, 'felt needs' and market availability, a few areas in forest sector, agro based, animal husbandry & allied activities, service and cottage based activities and some miscellaneous areas, have been identified as potentials for new

avenues of employment in both blocks. Besides, 60 low cost rural technologies have been identified and recommended for intervention in both blocks for employment generation and sustainable development.

- Special emphasis should be given to the education sector, particularly in Habibpur development block, where there is no significant increase in educational infrastructure and heavy drop-outs has been reported. In fact, all funds provided for infrastructure development should be utilized for the development of schools, health centres and link roads (including culverts/small bridges), particularly connecting border villages, BOPs, and OPs.

- Funds under BADP should be provided to some selected high schools to develop the hostel facilities for girls' of the weaker sections (SC in Ganganagar and SC & ST in Habibpur blocks, who have registered very poor literacy rate) on the pattern of *Ashram* schools. These hostels should be constructed in the central places of the main border area. Two locations for Habibpur block (Habibpur and Aktail) and two locations for Ganganagar block (Phatuhi and Hindu Mal Kot) have been identified. These hostels should run the training programmes in pre-decided (based on survey) low-cost rural technologies suited to the resource base and local market potentials of the blocks.

- Besides mentioned recommendations, there are certain importance issues, which need to be highlighted at this juncture for their amicable solution. Such issues have been summed as follows:

    i) The artisans, small entrepreneurs and petty businessmen of the border areas need special loans and marketing facilities as institutional credit, are not available as per requirement in the near border villages. Some arrangements have to be made for credit them through District Planning Office, involving NABARD services.

    ii) There is a serious problem about the land between fencing and zero-line in Ganganagar block. This has caused a confrontation between the farmers and BSF. Farmers should be allowed on permanent basis to work on their land. The irrigation timing should be changed and pipes should be provided to farmers for irrigation.

    iii) A few farmers have taken loan for the land development, which later on acquired by the BSF/Army. In such case, loan either should be waved off or paid by the Ministry of Home/Defence.

    iv) Low-tension electrification is needed in the border region of Habibpur block.

v) Since, there is scarcity of water for drinking, as well as irrigation purpose, hence "paid tubewells" should be allowed under BADP.

vi) To make communication fast, all villages should have telephone facilities.

vii) There should be TV relay centres in the border area to counter the propaganda of hostile country. All *Gram Panchayats* should be given TV sets with antennae.

viii) Modern surveillance equipment should be provided to the BSF.

ix) There are the seeds of discontent among the people of 35 villages in Habibpur block over the fencing. The fencing should be created only 150 meters away from the zero line and not beyond that in any case. Moreover, the present type of fencing, which is being created, is useless and sheer wastage of public money.

x) There is grim situation of dacoity (mainly, cow-lifting) by the Bangladeshis and infiltration in Habibpur block. This has to be checked on priority basis. The piggery should be promoted along the border area.

CHAPTER-I

INTRODUCTION

The problems and prospects of the development along the border regions, have unique place and significance in the process of the national planning and development due to specific need that the people living in the stressful environmental conditions seek for. However, the magnitude of the problem differs from region to region depending upon the geographical condition, socio-cultural set-up of the region and attitude of the neighbour country, etc. The districts along Pakistan border face the problem of terrorism and occasionally skirmishing struggle across the border. Due to constrained relations with the Pakistan, a modicum of hostile situation looms over the western border. Contrary to it, the border districts in the eastern sector, along the Bangladesh, face the peculiar problem of infiltration of refugees from Bangladesh. This problem is so severe that the infiltrators have out numbered the bonafide citizens of several border blocks. The process of infiltration has created the unique problem of cow lifting by the Bangladesh infiltrators, which has created a panicky situation among the poor people of the border blocks.

Absence of war, and civil dissension's are preconditions for the success of any development initiatives and development activities. India, with a land frontier of 15,200 kms, experience fragile peace conditions along the border, particularly in the western sector, which jeopardise the developmental efforts in the border areas. The main characteristic features of these areas are inaccessibility and insecurity. Therefore, these areas merit special treatment for accelerated and integrated sustainable development. No wonder, therefore, the normal plan schemes were less effective in transforming the economies of the border areas. It is also obvious that private initiative for development is unlikely to come through in areas where people do not enjoy a sense of security. The policy makers and planners realized that normal plan programmes alone are inadequate to set the development process in motion and that creation of a congenial environment to impart a sense of security among the local people should be a part of any development strategy for border areas.

The different border regions face different and unique types of problems, which need specific programmes and policies, unlike other regions of the country. The Government has recognized and realized the gravity of the socio-psychological problems, poverty, and over all backwardness of these areas. Special attention has been paid to border areas and the Government of India introduced a special programme-the Border Area Development Programme (BADP) for these

areas. The Border Area Development Programme was initiated during the Seventh Five Year Plan with twin objectives of the balanced development of the sensitive border area in the western region through adequate provision of infrastructure facility and promotion of a sense of security amongst the local population. The programmes was revamped in the Eighth Five Year Plan (1993-94) and extended to the States, having international border with Bangladesh. The nature of programme was changed from a schematic programme with emphasis on education to a state level programme with emphasis on balanced development of border areas. During the Ninth Five Year Plan, the programme has been further extended to the States, which have a common border with Myanmar, China, Bhutan and Nepal. Thus, the programme at present covers 348 Development Blocks of 90 Districts of seventeen different border States sharing international land border. Following table-1.1 shows the allocation and release of the funds to these states during the Ninth Plan period.

Table-1.1: Allocation & Release of funds during the Ninth Five Year Plan (1997-98 to 2001-02) under BADP

State	1997-98		1998-99		1999-2000		2000-2001		2001-02
	Allocation	Release	Allocation	Release	Allocation	Release	Allocation	Release	Allocation
Assam	4.12	2.06	4.27	4.27	7.20	7.20	7.48	3.74	7.48
Gujarat	8.58	8.58	8.88	8.88	9.87	9.87	10.26	10.26	10.26
J & K	20.68	10.34	31.38	31.38	33.52	33.52	34.85	39.65	34.85
Meghalaya	3.95	3.95	4.11	4.11	4.52	4.52	4.70	4.70	4.70
Mizoram	6.73	6.73	6.82	6.82	8.00	8.00	8.32	12.32	8.32
Punjab	8.54	8.54	8.82	7.72	9.70	9.70	10.08	14.08	10.08
Rajasthan									
i}Formula	25.63	25.63	26.52	26.52	29.17	29.17	30.32	30.32	30.32
ii}IGNP	60.00	60.00	30.00	30.00	8.00	8.00	0.00	0.00	0.00
Tripura	10.96	10.96	11.34	11.34	12.47	12.47	12.96	12.96	12.96
West Bengal	30.81	15.00	31.86	29.38	38.05	38.05	39.56	37.99	39.56
Arunachal	4.00	4.00	11.00	11.00	13.00	13.00	13.51	6.75	13.51
Mainpur	4.00	4.00	4.00	4.00	4.00	4.00	4.16	4.16	4.16
Nagaland	4.00	4.00	4.00	4.00	4.00	4.00	4.16	4.16	4.16
Himachal	0.00	0.00	4.00	4.00	4.00	4.00	4.16	8.16	4.16
Sikkim	0.00	0.00	4.00	4.00	5.50	5.50	5.72	4.63	5.72
Uttar Pradesh	0.00	0.00	4.00	4.00	12.00	12.00	8.32	8.32	8.32
Uttaranchal	0.00	0.00	0.00	0.00	0.00	0.00	4.16	4.16	4.16
Bihar	0.00	0.00	0.00	0.00	7.00	7.00	7.28	3.64	7.28
Total	**196.00***	**163.79**	**195.00**	**191.52**	**210.00**	**210.00**	**210.00**	**210.00**	**210.00****

Source: Report of the Working Group on BADP 2001.

* 1997-98 Rs. 4 Crore were left unallocated for Myanmar Border States.

** Actual = Rs. 240.00 Crore.

BADP-THE SPECIAL PROGRAMME

The Border Area Development Programme (BADP) was introduced at the instance of the Prime Minister, as a Special Area Programme fully funded by the Government of India, out of a separate provision of Rs. 200 crores for the Seventh Plan. The committee of Secretaries, in their meeting held in November 1985 observed that the idea behind such a programme would be definitely supplement the efforts of the State Governments to meet the socio-economic and other requirements of the border areas. The programme was approved by the National Development Council in the last quarter of 1986, during the course of finalizing the Seventh Five Year Plan. The programme covered the border areas of Punjab, Rajasthan and Gujarat and was later extended to the other border areas. Originally, the programme was implemented under the supervision of the Ministry of Home Affairs with an emphasis on the development of infrastructure in the border areas to facilitate development of Border Security Force. The infrastructural development was to include development of power, roads, along with the creation of administrative support through construction of rest houses, provision of drinking water facilities, development of health and education facilities in these areas and issue of photo identity cards to the permanent residents of the border villages. The programme was to be supplemented by the State governments with the programmes of development like IRDP, DPEP, etc. to improve the income earning capacity of the people living in the border areas.

Subsequently, in November, 1986 emphasis changed to the development of human resources through primary education. The programme was reoriented to concentrate on education and, therefore, the Department of Education, Ministry of Human Resource Development, administered the programme. In a meeting held in Planning Commission in May 1987, it was felt that the programme must focus on the strengthening of the school infrastructure up to middle schools, vocational education and technical training through Community Polytechnics and I.T.I.s, as well as provision of opportunities for non-formal flexible and need-based vocational programmes for youth, who have completed primary education.

Since, 1987-88, the Indira Gandhi Nahar Project (IGNP), a state government project of Rajasthan State was also included within the purview of the programme. The Ministry of Home Affairs was diverted of the responsibility of administering the programme and the concerned ministries were instead entrusted with the work. Besides education and irrigation (IGNP in Rajasthan), two other schemes were included under the programme. The first related to 'Issues of Photo Identity Cards' in the border areas of the four states along the western border. The scheme was executed by the

Ministry of Home Affairs, Government of India. The second scheme was the 'conduct of a research study' in the border area of four states along the western border under the aegis of the Planning Commission, which assigned this task to the Center for Research in Rural and Industrial Development (CRRID), Chandigarh. Thus, the final shape of BADP comprised the schemes for education, the IGNP for irrigation in Rajasthan, the scheme for issue of Photo identify cards and the scheme for research study on the border areas of the four states.

The programme continued during the Eighth Five Year Plan (1992-97) with an extended coverage to the five eastern states having international border with Bangladesh, viz., West Bengal, Assam, Tripura, Mizoram and Meghalaya. Since 1993-94, the programme has been revamped. Though its basis objective continues to be a balance development in the remote, inaccessible areas situated near the border for ensuring effective administration, its scope has been reoriented to give a sharper focus tackling special problems, which arise in the areas contiguous to the international border.

CRITERIA OF FINANCIAL ALLOCATION UNDER BADP

The BADP is 100 percent centrally-funded area programme. Under the programme, funds are available to certain Border States as Special Central Assistance for execution of duly approved schemes/projects on a 100 percent grant basis. The funds are allocated among the beneficiary states on the basis of i) length of international border (km), ii) population of border blocks and iii) area of border blocks (Sq. kms), giving equal weightage to each of these criteria. The spatial unit of the programme is the border blocks and all schemes/projects have to be implemented in the border blocks only.

The annual allocation under BADP is not very high (less than Rs. 210 crore in 2000-01) and should be considered as an additionally to normal state plan funds. The scheme is designed to be implemented in the identified border blocks (basic unit of planning) through the State governments. The funds available under the programme can be used only in identified blocks for creation of durable assets. According to the guidelines, only those projects/schemes are to be financed, which either address the problems of the people living in the border blocks (based on the felt needs of the people) or bridge the critical gaps in the physical and social infrastructure in the border areas. Such projects must generate employment, promote production activities and provide critical inputs in the social sector. The guidelines provide for use of 7.5 percent of available funds on security related schemes in a particular year. Construction of housing for

crucial functionaries such as teachers, doctors, nurses, etc. may be taken up in border blocks under the programme along with construction of small culverts, bridges, bridle paths, feeder roads etc. However, expenditure on schemes including provision of basic amenities such as supply of drinking water, approach roads, etc., for the border out posts, administrative buildings and roads and bridge construction taken together should not be more than 60 percent of total allocation in any particular year. In addition, 15 percent of the total allocation could be used for maintenance of the assets already created under BADP. The State Governments are to ensure that no single sector gets a disproportional large share of the total allocation.

The funds made available under the programme fall under non-lapsable category and are meant for the creation of durable assets and not for meeting the recurring revenue expenditure. They are additive to the State Plan funds and are not to be used to supplant the normal state plan flow. An exception is made only when it is necessary to do so to augment the facilities and services or to make up deficiencies consistent with the objectives of the progamme.

Two schemes, namely, IGNP of Rajasthan government and Photo Identity cards of the Ministry of Home Affairs are also funded under BADP. Funds for the former are given to the state government to supplement their resources for construction of IGNP and for the later, the amount is decided on the basis of proposals sent by the Ministry of Home Affairs. The distribution of funds under BADP to the beneficiary states is done after deducting the allocation for these two schemes. The actual amount allocated for the schemes under BADP per year, is decided at the level of the Deputy Chairman, Planning Commission, on recurrent year basis. The scheme of issue of Photo Identity cards has not taken off as the enabling legislation is still pending in Parliament. Therefore, towards the end of each year the amounts meant for this scheme has been reallocated amongst the states.

As regards releases of funds, the Department of Expenditure, Ministry of Finance makes these, on the basis of recommendations of Planning Commission in two installments. Before commencement of a financial year, Planning Commission informs the states about the funds available for them during the next year. A summary of the schemes proposed to be executed within confinement communicated , will have to be sent to the Planning Commission for release of funds to the states. The first release is made by the month of June every year. The list of schemes, duly approved by the Screening Committee along the expenditure incurred till the last quarter of the previous year must be submitted by 1st of May every year. The second release is

made in the month of February of a year, after reviewing the progress up to 31st December and adjusting unspent balance, if any.

COVERAGE OF THE BADP

The BADP initially was introduced in the Seventh Five Year Plan (1985-90) in the border areas of Gujarat, Rajasthan and Punjab and subsequently extended to the border areas along J & K to cover the four states fringing Pakistan border. Since 1993-94, the states along the Bangladesh border viz., West Bengal, Assam, Mizoram, Meghalaya and Tripura were also covered under the same programme. Moreover, the Planning Commission has decided to extend the BADP to four other States along Myanmar border viz., Arunachal Pradesh, Nagaland, Manipur and Mizoram during the Ninth Five Year Plan, the number of district, blocks/talukas, population and area covered under BADP are given in the table as below:-

Table-1.2: Statewise Number of District and Blocks, their Population and Area Covered Under BADP (2002)

S. No	Name of State (Bordering)	Covered under BADP				
		No. of District	No. of Block	Population (in lacs)	Area (Sq.kms)	Length of Border (Kms)
1	Arunachal Pradesh(Myanmar, China, Bhutan)	10	20	150179	18663.00	520+1126+217=1863
2	Assam (Bangladesh, Bhutan)	7	18	2474912	5130.32	262+267= 529
3	Bihar (Nepal)	7	31	3738325	18438.01	729
4	Gujarat (Pakistan)	3	8	1057328	18346.00	508
5	Himachal Pradesh (China)	2	3	50978	12809.00	201
6	Mainpur (Myanmar)	3	8	147352	9570.00	398
7	Meghalaya (Bangladesh)	5	16	300795	5136.04	443
8	Mizoran (Myanmar, B'adesh)	6	12	202831	11944.31	510+318= 828
9	Nagaland (Myanmar)	3	7	100773	1884.26	215
10	Punjab (Pakistan)	3	16	1467400	6473.00	553
11	Rajasthan (Pakistan)	4	13	1983765	73958.81	1037
12	Sikkim(China,Nepal, Bhutan)	3	17	14698	133.76	220+99+32=351
13	Tripura (Bangaldesh)	4	38	2924504	10172.08	856
14	Uttar Pradesh (Nepal)	7	19	2364696	171852.51	742.5
15	Uttaranchal (Nepal,China)	5	9	427009	15142.92	80.5+344=424.5
16	West Bengal (Bangladesh, Bhutan, Nepal)	9	69	10811838	17483.82	2216.70+183 +100=2499.7
17	J&.K(Pakistan,China, Afghanistan)	9	44	N.A	N.A	N.A
	Total	**90**	**348**	**28217383**	**397137.84**	**12177.7**

Source: Report of the working Group on BADP 2001.

BADP –REVIEW OF THE PREVIOUS WORK

It is difficult to isolate the impact of BADP on the development of border areas and on the well being of people, as BADP funds are used to supplement normal state plan funds. However, in the study of the Programme Evaluation Organization, Planning Commission, an attempt has been made to establish an association between the development efforts under BADP and their results. The study observed a change in the occupational pattern in border areas between 1991 and 1997. Except for Punjab, the proportion of principal earners in agriculture shows a decline, while that in non-agriculture has ascended. Most of the earners have shifted to petty trade and household industries. Abnormally low work participation rate (23 per cent and 25 per cent) was observed in Assam and Tripura, resulting in a very high dependency ratio. In these two states (border areas) both male and female work participation rates are much lower compared to the border areas of West Bengal and the western border states. The work participation rates in the border areas of Assam and Tripura are also lower than their respective state averages (Census 1991).

However, some explanations for low work participation rate in Assam and Tripura could be found in the un-remunerative agriculture and lack of diversification in rural economic activities in their border areas. The average size of land holding and the proportion of holding under irrigation are the lowest in the border areas of all border States. Perhaps because of sluggish agriculture and low purchasing power of people, there is no development in non-agricultural activities. This is supported by the fact that a very low proportion of earners in these border areas is engaged in non-agricultural activities. While low participation in the border areas of Assam and Tripura can be explained partly to the sluggish economic activities in these areas. It is necessary to examine if factors like the relatively unrestricted cross border movement and unaccounted trade have any impact on the work participation rates of local population (BADP Report, 1999).

It is interesting to note that except in Gujarat, agricultural productivity in border areas is comparable with the state average yields of crops grown in these areas. It has been observed that wherever irrigation facilities are available, the agricultural productivity in border areas is reasonably good. Thus, there is remuneration increased in the availability of irrigation, complementary inputs and other facilities of agriculture in these areas.

It is interesting to note that the two northeastern border states have done much better in the area of education that the western Border States. The literate population among the sample households was found to be 79 per cent in Assam, 36 per cent in Gujarat, 57.3 per cent in Punjab, 33.6 per

cent in Rajasthan, 69.4 per cent in Tripura, and 67.7 per cent in West Bengal. A comparison of these estimates along with district level Census statistics indicates that there has been significant improvement in the education participation rate in the eastern/north-east border areas, while no marked improvement is noticed in the case of western border areas.

The state governments were permitted to use BADP funds for improving the access to safe drinking water in border areas. A pre-and-post comparison reveals that even though safe drinking water facilities were created in 19 per cent of the villages under BADP, the access ibility is still very unsatisfactory. Only 38 per cent of the border villages were found to have adequate access, while in the remaining villages people were dissatisfied because of irregular supply of electricity and water, paltry quality of water and defunct/non-operational sources.

As per available information, a large proportion of border village have benefited from the creation of physical, social and security related infrastructure under BADP. In Assam, 75 per cent of the border villages benefited from road construction and 25 per cent from school projects. In Gujarat, 50 per cent of the border villages were covered under road construction, 38 per cent under security related infrastructure and 63 per cent under water supply schemes. Fifty per cent of the villages in the border of Punjab were covered under health infrastructure schemes (PHC, CHC etc) and 75 per cent in security infrastructure schemes. In Rajasthan, Tripura and West Bengal, too, a large proportion of border villages benefited from the creation of physical, social and security related infrastructure (BADP Report, 1999).

In the opinion of knowledgeable people, construction of roads and bridges in Assam, Gujarat, Rajasthan, Tripura and West Bengal has increased mobility, provided easy access to other villages, markets, hospitals and reduced hardships of people. However, there are several inadequacies, like lack of maintenance, low-lying roads and delay in making roads operational due to lack of funds. The drinking water supply and irrigation projects implemented in Gujarat, Punjab and Rajasthan have increased supply of drinking water, reduced incidence of diseases and drudgery of women. However, the facilities created lack maintenance, resulting in erratic supply. In the case of schools and health centres, the complementary facilities are lacking, making these ineffective.

Some areas where BADP has made notable contribution are: i) construction of building for police stations, check posts and residential quarters for security personnels, night vision equipments and tube wells at Border Observation Posts (BOPs) and Observation Posts (Ops) has improved the

security environment in Punjab, Rajasthan and West Bengal. ii) The construction of community centres in Rajasthan has been received well by the people of border areas of Rajasthan. iii) The piggery projects have improved the economic conditions of some people in Tripura. iv) Construction of roads in Tripura has improved connectivity of other villages and market, with positive impact on the welfare of people; and v) establishment of polytechnic, college and residential quarters for teachers, particularly in Punjab had a favorable impact.

At the other end, the BADP has not made any notable contribution in some priority areas. BADP has failed to attack the major problems of recurrent floods, water logging, salinity and soil erosion in Assam and Punjab. It has not contributed towards streamlining the public distribution system (PDs) in Assam where exclusion of the Jhumias- the majority of whom belonged to the below poverty line (BPL) category, was noticed. In Assam, the scheme has not been able to motivate the local people to participate in the development process. The scheme has not helped in the development of a reliable transportation system to enable the people to have access to facilities created in the nearly towns/cities. Non-availability of safe drinking water in border areas continues to remain a major problem. In the northeast Border States, a large majority of the households live in abject poverty for lack of employment and alternative avenues of earning. In the western Border States, there has not been any improvement in access to education and health facilities. No efforts were made to ensure participation of the people in the programme in any state (BADP Report, 1999).

WHY AN EVALUATION STUDY OF BADP ?

The BADP has been in operation in the western sector since the Seventh Five Year Plan and in Eastern Sector bordering Bangladesh since 1993-94. However, there has not been any systematic evaluation of the scheme to assess its impact on the well-being of the people and the effectiveness of the implementation methods adopted by the implementing agencies. Nor do the monitoring mechanisms adopted by the implementing agencies and the Planning Commission throw up information that could provide even a rough assessment of the performance of the scheme. Also occasional media reports on illegal activities like smuggling, unaccounted trade, terrorist activities, etc., seem to indicate that BADP has not made the intended impact. Thus, at the threshold of 10^{th} Five Year Plan, it is pertinent to evaluate the impact of different government schemes under Border Area Development Programmes (BADP) on the socio-economic development of the border development blocks. The impact analysis of different programs and schemes is necessary to get the feed back to decide the future course of action and direction of

the development in the new millennium. The proposed study is be an attempt to analyze the impact of different activities implemented/being implemented under the BADP, on the total development of the border development block Ganganagar (Rajasthan) and border development block Habibpur (West Bengal). The study emphasis on identification of the existing levels of development, existing gaps in infrastructure, employment opportunities and status of government schemes in operation under BADP.

OBJECTIVES OF THE STUDY

Following are the major objectives of the present study:

(i) To evaluate the impact of different activities implemented/being implemented under Border Area Development Programme on the dynamics of socio-economic change and occupational mobility among the local people of the selected border development blocks.

(ii) To assess the existing status of development infrastructure, problems of its maintenance and the level of critical gap in the physical and social infrastructure requirement of the blocks for sustainable development.

(iii) To assess the impact, performance and effectiveness of the scheme with special reference to create confidence and sense of security among the local people under BADP.

(iv) To evaluate the existing levels of development in the study region and identify the potential areas for intervention for future development as per the requirements of the people and scope of people's participation.

(v) To identify the problems and potentials for better utilization of the infrastructure created under BADP for the mobilization of local resources and skills for new avenues of employment and income generating activities.

(vi) To suggest an action plan for socio-economic development and occupational diversity for sustainable human and regional development with special reference to built confidence and sense of security among the local people.

THE STUDY AREA

The present study is a comparative study of two border development blocks having extreme geo-climatic conditions and socio-cultural identity in two extreme parts of the country. One border development block selected for the present study is Ganganagar of district Sri Ganganagar, Rajasthan. The block is located along the sensitive border of Pakistan along the Punjab Border.

The another block selected is Habibpur of district Malda, West Bengal. The block is surrounded on almost three sides by the international border with Bangladesh. Both blocks have their distinct problems faced by the people. The people in western border face the problems of terrorism and occasional fighting from across the border. While people in eastern border (along Bangladesh) faces the problems caused by the infiltration of the refugees. The demographic characteristics of the selected blocks show that there is a moderate population growth in development block Ganganagar (23.27%). But it is slightly less (19.37%) in the development block Habibpur. All schemes being implemented in the border district under BADP (in different border blocks of the district) will be covered under the study. If all activities are not being implemented in Ganganagar and Habibpur development blocks, than adjoining borders blocks of their respective districts will be undertaken for the study of remaining activities under BADP.

DATABASE AND METHODOLOGY

The study is based on secondary data as well as primary data collected from different sources by way of different techniques. Following are the details of the different sources of the data:-

Secondary Data

The secondary data pertaining to the different government schemes implemented under BADP in the study block, have been collected from District Rural Development Agencies, Block Development Offices and from different concerned departments of the District Administration. The data regarding the demographic characteristics have been collected from the Census records. The data pertaining to the land use, crops, crops production and area, irrigation, size of landholding, status of animal husbandry, industry, transport and other infrastructure have been collected from District Statistical Handbooks. The data about the soil types, natural vegetation, forest produce and climatic conditions have been collected from Agriculture Departments, Forest Departments and Meteorological Departments, respectively. The base maps of the blocks are based on of the Census records, and district records. However, the identification of the locations and data pertaining to the physiographic divisions, vegetation cover and types and geomorphic characteristics of the district have been collected from the topographical sheets of the Survey of India (Scale 1:50,000) by the grid technique. The historical background including the patterns of economic development in the region are based on district Gazetteer, other historical records, research studies and literature available.

Primary Data

The primary data are very important for in-depth study of impact analysis. The primary data have been collected by way of a pre-tested questionnaire through a multi-stage stratified sampling

design from district level to household level. The primary data explain the actual position of socio-economic profile of the inhabitants, levels of development, types of existing economic activities and potentials for and income generating activities, employment, status of women and family income and consumption patterns and impact of government programmes and schemes on the socio-economic development, occupational mobility and diversity etc. The impact of community development work and status have been adjudged by the group discussions with representatives of the community from all categories (senior citizen, youth, women, farmers, landless class, tribal and SCs and other educated and prominent people of the area). The PRA approach has been applied to assess the impact of different programmes under BADP on socio-economic development and building the confidence and sense of security among the local people.

SAMPLING PROCEDURE

A multi-stage stratified sampling procedure has been adopted for the present study. Five stage survey schedules were prepared for the study as follows:

i. The stage one sampling schedules were related to the district level officials. The district level survey schedule was designed for the collection of secondary information from the district officials regarding the infrastructure available in the border areas. The flow of funds under the programme and its scheme-wise allocation and expenditure, the physical achievements under BADP as well as reasons for deficient in utilisation of funds and meeting the physical targets, if any etc. And the problems faced by them in the implementation of the programme and their suggestions for the improvement of the programme.

ii. The Block level schedules were designed to get information regarding the number of villages under BADP in the Block, the area and population covered under the programme, the infrastructure facilities available to the people before and after the implementation of the programme, the scheme undertaken and the scheme-wise allocation as well as the physical achievements. It throws light on the manner of coordination of the activities and the monitoring agencies in the block, which provides useful information regarding the maintenance of assets in the village, the security problems encountered, the people's participation in the implementation of the programme and the involvement of the *Panchayat Raj* Institution etc. It also provides information on the problems faced by the implementing agencies and their suggestions for improvement, if any.

iii. The third level schedule was designed to collect primary and secondary information at the village level through discussions with the village functionaries. The schedule has been designed to collect the information regarding the number of households in the village, their main occupation, land under agriculture and irrigation, the main crops etc. The assessment of the impact of the scheme has to be made on the basis of infrastructure facilities available in the villages before and after the implementation of the programme and the accessibility of the villages to various facilities (including the supply of essential items at reasonable rates). The schedule also provides information regarding the involvement of the *Gram Panchayat* and the people in the planning and implementation of the various schemes taken up under the programme. This has helped to examine the process of implementation of the programme, the maintenance of the facilities thus created and the problems encountered in the village as well as the causes behind it. Further, more, it provides information pertaining to the improvement in the security perception of the people and the impact of the programme and the suggestions for its improvement.

iv. The Household/Beneficiary Schedule was designed to collect primary information regarding the households profile with detailed information regarding family size, literacy level, main occupation of the family, the total family income and its sources, the assets and liabilities of the beneficiaries and the investment pattern of the families. The schedule enabled to have dialogues with the beneficiaries regarding the impact of the programme in the villages through creation of infrastructure mitigation of the security threat to the villagers and improvement in the social and economic conditions. And the problems faced by them and their 'felt needs' regarding improvements in the programme.

v. The fifth survey schedule was designed to get opinion and impressionistic view of certain knowledgeable persons in the village/block/district regarding the overall impact of the programme. The information have been sought on the issues such as, whether the implementation is timely, the assets created and their maintenance, the facilities available in the village such as roads, training, education and health facilities, PDS and marketing facilities, the problems and suggestions for improvement of the programme.

Selection of the Study Village

Under the present study at least one village for each activity being implemented/implementing at any point of time in each block has been covered. Thus, 20 villages have been selected in each

development block. All activities implemented in the border blocks under BADP have been covered under the study. In total 40 villages have been covered under the study (Table-1.3, 1.4).

METHODS AND TECHNIQUES

Following methods/techniques/strategies have been adopted for the present study:

1. Group discussions (PRA approach) have been held in all beneficiary villages with all socio-economic groups (Senior citizen, youth, women, farmer, artisans, landless class, business community, tribal, SCs and other minorities, etc. along with other educated and prominent people of the village).

2. Since the people living in the border areas must have a direct opinion in the selection of the scheme, village level institutions, such as *Gram Panchayat* and *Gram Sabha* have to be involved. This is necessary to work out the appropriate modalities to ensure greater participation of the people of the border areas in the selection of schemes under the programme. Keeping this into consideration, group discussions have been held with the representatives of the *Panchayat Raj* institutions besides *Gram Sabha.*

3. The identification of the critical gap in the infrastructure and priority areas for the future intervention has been done on the basis of the assessment of the grass-root institutions such as *Panchayat Raj* Institution/Block Development Councils/Traditional Councils, etc.

4. To establish the socio-economic level of the people a household survey has been conducted in all villages under the study.

5. Group discussions have been organized with all concerned government officials to address the problems such as inadequacies related to the provisions of essential needs, strengthening of social infrastructure, filling up of critical gaps in the field of development infrastructure and status of utilization of BADP funds etc. Their suggestions have been invited for improvement.

General Survey with PRA Approach

A general survey with PRA (Participatory Research Appraisal) approach has been conducted among the general public of the block to record their impression of government schemes on socio-economic development and status of community development work through government efforts. Further more, requirements of infrastructure for development and opportunities of

Table-1.3: Classification of Respondents and Number of Survey Samples in each Village in Development Block Ganganagar, District Sri Ganganagar, Rajasthan

S. No	Name of village	No. of H-Hold	Classification of Respondents															
			Age			Sex		Caste			Economy					Education		
			0-30	30-60	> 60	M	F	SC	ST	Oth	Bis	Far	LLL	Art	Oth	Ill	B.M	A. M
1	7Z	20	10	8	2	13	7	10	0	10	1	7	10	1	1	12	7	1
2	13Z	20	9	10	1	12	8	5	0	15	1	5	12	1	1	13	6	1
3	19Z	20	9	8	3	13	7	11	0	9	1	6	11	1	1	12	7	1
4	27GG	21	10	10	1	13	8	11	0	10	1	6	12	1	1	14	6	1
5	Chunawad-30GG	27	11	12	4	18	9	7	1	19	2	8	13	2	2	13	12	2
6	11Q	21	10	9	2	14	7	6	0	15	1	5	13	1	1	12	8	1
7	Sangatpura-8H	21	9	11	1	13	8	8	0	13	1	6	10	2	2	13	6	2
8	Doulatpura-3Q	27	14	10	3	18	9	10	1	16	1	9	14	1	2	15	10	2
9	Mohanpura-9Y	20	8	10	2	13	7	8	0	12	1	5	11	1	2	12	6	2
10	Phatuhi-1F	20	9	8	3	12	8	2	0	18	1	5	12	1	1	12	7	1
11	Khatlabana-2F	27	13	10	4	18	9	5	0	22	1	10	14	1	1	13	13	1
12	Madera-7D	21	9	10	2	14	7	19	0	2	1	6	11	2	1	11	9	1
13	Rohirwali-2P	24	10	11	3	16	8	6	0	18	1	8	12	1	2	13	9	2
14	Koni-5P	28	12	12	4	19	9	10	0	18	1	7	18	1	1	14	13	1
15	4Z	21	11	9	1	13	8	9	0	12	1	7	11	1	1	11	9	1
16	Kotha-2B	20	10	8	2	13	7	1	0	19	4	6	7	2	1	10	9	1
17	Khhakhha-1A	21	9	10	2	13	8	3	0	18	1	5	13	1	1	12	8	1
18	4ML	21	9	9	3	14	7	3	0	18	1	4	13	1	2	10	9	2
19	Hindu Mal Kot-7B	25	11	10	4	15	10	7	1	17	3	8	10	2	2	10	10	5
20	Sri Ganga Nagar	30	11	14	5	18	12	7	5	18	3	6	12	4	5	9	11	10
	Total	**455**	**204**	**199**	**52**	**292**	**163**	**148**	**8**	**299**	**28**	**129**	**239**	**28**	**31**	**241**	**175**	**39**

SC= Scheduled Castes, ST= Scheduled Tribes, Oth= Others, Bis= Business Community, Far= Farmer, L.L.L.= Land Less Labourer, Art= Artisans, Ill= Illiterate, BM= Below Matric, AM= Above Matric.

Table-1.4: Classification of Respondents and Number of Survey Samples in each Village in Development Block Habibpur, District Malda, West Bengal.

S. No	Name of village	No. of H-holds	Classification of Respondents															
			Age			Sex		Caste			Economy					Education		
			0-30	30-60	> 60	M	F	SC	ST	Oth	Bis	Far	LLL	Art	Oth	Ill	B.M	A.M
1	Mongalpura	21	10	10	1	14	7	13	6	2	0	4	13	3	1	12	8	1
2	Binodpur	22	14	7	1	11	11	9	8	5	1	6	12	1	2	15	6	1
3	Palashdanga	20	9	10	1	10	10	9	3	8	1	6	11	1	1	12	7	1
4	Baidyapur	21	5	14	2	11	10	12	8	1	1	5	12	1	2	14	6	1
5	Chakli	26	8	14	4	12	14	24	1	1	1	5	18	1	1	17	8	1
6	Jagjibanpur	25	11	11	3	13	12	14	5	6	1	6	11	2	5	15	5	5
7	Bahadurpur	20	6	10	4	12	8	14	3	3	1	4	11	1	3	14	5	1
8	Begunbari	21	9	9	3	11	10	8	8	5	1	4	14	1	1	15	6	0
9	Habibpur	24	14	8	2	14	10	12	9	3	2	6	12	1	3	10	12	2
10	Agra	25	12	10	3	13	12	9	4	12	1	9	11	1	3	14	10	1
11	Manikora	21	12	7	2	14	7	12	6	3	1	5	12	1	2	11	8	2
12	Kanturka	22	10	10	2	12	10	12	5	5	1	6	12	1	2	16	4	2
13	Sibpur	20	6	11	3	14	6	2	17	1	1	4	13	2	0	15	4	1
14	Tilason	26	15	10	1	13	13	21	0	5	1	7	16	1	1	20	6	0
15	Mohonpur Inlish	22	11	9	2	12	10	10	6	6	1	4	15	1	1	14	7	1
16	Rishipur	25	10	12	3	16	9	5	1	19	0	6	10	2	7	12	9	4
17	Gouramari	28	12	13	3	15	13	14	0	14	1	10	14	1	2	17	10	1
18	Aiho	28	10	14	4	19	9	14	0	14	2	7	10	2	7	10	12	6
19	Srirampur	22	8	12	2	15	7	14	6	2	2	9	10	1	0	11	7	4
20	Dakshin Brindabanbati	27	10	15	2	19	8	16	6	5	4	8	13	1	1	16	6	5
	Total	**466**	**201**	**216**	**49**	**270**	**196**	**244**	**102**	**120**	**24**	**121**	**250**	**26**	**45**	**280**	**146**	**40**

SC= Scheduled Castes, ST= Scheduled Tribes, Oth= Others, Bis= Business Community, Far= Farmer, L.L.L.= Land Less Labourer, Art= Artisans, Ill= Illiterate, BM= Below Matric, AM= Above Matric.

employment and income generating activities have been discussed with the people to frame an action plan for sustainable development. The PRA technique follows the following techniques/strategies:-

i) Group interview including focus group interviewing.
ii) Interacting data gathering.
iii) Cross-checking.
iv) Use of pre-existing and secondary data source.
v) Methods of obtaining quantitative data in time.
vi) Sampling technique
vii) General principle.

Survey of the Households

Atleast 20 households from each beneficiary village under BADP have been surveyed on the basis of stratified sampling procedure for impact analysis and to assess the socio-economic profile of the block. Atleast 33% interviews have been conducted exclusively with the women to assess their evaluation, satisfaction and aspirations for future development under BADP. (Table 1.3 & 1.4).

Statistical Analysis and Cartographic Techniques

In order to study the spatial and temporal dimensions of different variables, different standard statistical methods and techniques have been applied as per requirement of the study and nature of the data. Cartographic techniques have been applied to present the data on maps and diagrams. This includes choropleth technique for distribution maps, pie and bar diagrams and pictograms as per requirement of the data for meaningful presentation.

REFERENCE PERIOD OF THE STUDY

The BADP was initiated in Ganganagar development block in year 1993-94. However, actual implementation of the programme was done in the year 1994-95. Contrary to it, in Habibpur development block, BADP was executed in the year 1994-95. The present study covers the period of 7 years for both development blocks (1994-95 to 2000-01).

CHAPTER-II

GEO-IDENTITY, DEMOGRAPHIC PROFILE AND RESOURCE BASE OF THE STUDY BLOCKS

LOCATION

The present study is a comparative study of two border development blocks, viz. Ganganagar development block in western sector along the Pakistan border in district Sri Ganganagar, Rajasthan and the development block Habibpur in eastern sector along the Bangladesh border in district Malda, West Bengal.

The development block Ganganagar is located in the north-western part of the district Sri Ganganagar in the Rajasthan state. Geographically, border development block Ganganagar extends between 29°46 N to 30°06 N latitudes and 73° 43 E to 73° 58 E longitudes encompassing an area of 965.67 sq. kms. The block alone covers 8.65% area of the entire district of Sri Ganganagar. The block is bounded by the international boundary with Pakistan on the north, inter-state boundary with Punjab and along with development block Sadulsahar of the same district on east, development block Padampur in south, and development block Karanpur of the same district in west. The block is stretching 56 kms north to south and 28 kms east to west, approximately. The international border of the Ganganagar development block is 32 kms.

The development block Ganganagar has 273 villages, out of which 241 (88.28%) are inhabited and rest 32 (11.72%) are uninhabited. The entire block has been divided into 46 *Gram Panchayats.* The city of Sri Ganganagar is located in the heart of the block (Fig 2.1).

Secondly, the border development block Habibpur along the Bangladesh border has been identified for the present study due to its unique location (surrounded by Bangladesh on three sides) in the eastern most part of the district Malda, West Bengal. Geographically, border development block Habibpur extends between 24° 52 N to 25° 09 N latitudes and 88° 14 E to 88° 28 E longitudes, encompassing an area of 397.10sq kms. The block alone covers 10.64% area of the entire Malda district. This block is bounded by the international boundary with Bangladesh on the east, south and south-west, development block Malda (old) in west, development block

Name of Villages of Development Block Ganganagar, District Sri Ganganagar, Rajasthan

S. No	Code No	Name of the Village	S. No	Code No	Name of the Village	S. No	Code No	Name of the Village
1	1	9 H	45	45	500 L N P	89	89	10 F
2	2	8 H	46	46	1 E	90	90	11 Q
*3	3	7 H	47	47	2 E	91	91	12 Q
4	4	6 H	48	48	4 E	92	92	14 Q
*5	5	1 Q	49	49	1 F	93	93	13 Q
6	6	5 H	50	50	2 F	94	94	16 F
7	7	4 H	51	51	1 G	95	95	13 F
8	8	2 H	*52	52	2 J	96	96	12 F
*9	9	8 D	53	53	1 J	97	97	11 AF
10	10	7 D	54	54	1 H	98	98	11 F
*11	11	8 C	55	55	3 H	99	99	1 K
*12	12	7 C II	56	56	2 P	100	100	2 K
13	13	7 C I	*57	57	3 P	*101	101	10Y
14	14	7 B	58	58	2 Q	102	102	8 Y
15	15	3 A	*59	59	4 Q	103	103	7 Y
16	16	4 A	60	60	3 Q	104	104	5 Y
17	17	1 A	61	61	8 Q	105	105	3 Y
18	18	2 A	62	62	10 Q	106	106	1 Y
*19	19	Sharkaj Nahar Khakho	*63	63	10 Q-A	107	107	1 d
*20	20	Sharkaj Nahar Kotha	64	64	9 Q	108	108	3 d
21	21	1 B	*65	65	7 Q	109	112	4 d
22	22	2 B	66	66	6 Q	110	113	2 d
23	23	8 B	*67	67	5 Q	111	114	2 Z
24	24	6 B	68	68	7 F	112	115	1 Z
25	25	5 B	69	69	4 P	113	116	4 Z
26	26	4 B	70	70	5 P	114	117	2 b
27	27	3 B	71	71	1 P	*115	118	4 b
28	28	Sharkaj Nahar Pakki	72	72	3 F	116	119	5 b
29	29	2 C	73	73	4 F	117	120	3 K
30	30	3 C	74	74	3 J	118	121	5 K
*31	31	5 C	75	75	4 J	119	122	4 K
*32	32	6 C	76	76	2 G	120	123	14 F
33	33	4 C	77	77	3 G	121	124	14 AF
34	34	1 C	78	78	4 G	122	125	15 FI
35	35	Sharkaj Nahar Baliwala	79	79	Amda Raqba Gumjal	123	126	15 FII
36	36	1 D	80	80	2 Y	124	127	17 F
37	37	4 D	81	81	4 Y	125	128	18 F
38	38	5 D	82	82	6 Y	126	129	3 L
39	39	6 D	83	83	9 Y	127	130	2 L
*40	40	3 E II	84	84	5 F	*128	131	1 L
*41	41	3 E I	85	85	6 F	129	132	4 C
42	42	3 D	86	86	11 Y	130	133	3 C
43	43	2 D	87	87	8 F	131	134	2 C
44	44	Sharkaj Nahar Orki	*88	88	9 F	132	135	11 Z

contd----

S. No	Code No	Name of the Village	S. No	Code No	Name of the Village	S. No	Code No	Name of the Village
133	136	3 b	180	186	7 e	227	233	2 HH I
134	137	9 Z	181	187	5 e	228	234	2 HH II
135	138	7 Z	182	188	2 ML	229	235	18 ML
136	139	1 b	183	189	3 ML	230	236	13 LNP II
137	140	6 Z	184	190	17 ML	231	237	14 LNP
138	141	5 Z	185	191	16 ML	232	238	501 LNP
139	142	3 Z	186	192	11 LNP	233	240	22 LNP
140	143	1 e	187	193	12 LNP	234	241	19 ML
141	146	8 LNP	188	194	Shyamsinghwala	235	242	1 HH
142	147	10 LNP	*189	195	Patti Kheeyan I	236	243	3 HH
143	148	9 LNP	190	196	Patti Kheeyan II	237	244	13 HH
144	149	7 LNP	*191	197	13 MLP I	238	254	2 LL
145	151	6 LNP	192	198	5 ML	239	246	1 LL
146	152	15 ML	193	199	2 f	240	247	21 GG
147	153	4 e	194	200	4f	241	248	22 GG
148	154	2 e	195	201	2 g I	242	249	23 GG
149	155	3 e	196	202	2 g II	243	250	24 GG
150	156	6 e	197	203	3g	244	251	25 GG
151	157	1 a	198	204	7 a II	245	252	26 GG
152	158	3 a	199	205	7 a I	246	253	27 GG
153	159	6 ZA	200	206	9 a	247	254	28 GG
154	160	8 Z	201	207	10 a	248	255	29 GG
155	161	10 Z	202	208	1 h	249	256	16 g
156	162	12 Z	203	209	3 h	250	257	15 g
157	163	13 Z	204	210	4 h	251	258	36 GG II
158	164	1 C	*205	211	5 h	252	259	36 GG I
159	165	16 Z	206	212	6 h	253	260	34 GG
160	166	18 Z	207	213	14 g	254	261	30 GG
161	167	5 C	208	214	13 g	255	262	10 LL
162	168	19 Z	209	215	12 g	256	263	32 GG
163	169	21 Z	210	216	11 g	257	264	31 GG
164	170	23 Z	211	217	10 g	*258	265	11 LL
165	171	24 Z	212	218	9 g	*259	266	12 LL
166	172	3 M	213	219	2 h II	260	267	8 LL
*167	173	25 Z	*214	220	2 h	261	268	9 LL
168	174	22 Z	215	221	8 g I	262	269	3 LL
169	175	20 Z	216	222	8 g II	263	270	5 LL
170	176	17 Z	217	223	7 g	264	271	7 LL
171	177	15 Z	218	224	6 g II	*265	272	6 LL
172	178	14 Z	219	225	6 g I	266	273	4 LL
173	179	8 a	220	226	5 g	267	274	7 HH
174	180	6 a	221	227	4 g	*268	275	5 HH
175	181	5 a	222	228	20 GG	269	276	6 HH
176	182	4 a	223	229	19 GG	270	277	4 HH
177	183	3 f	224	230	18 GG	271	278	7 ML
178	184	1 f	*225	231	17 GG	272	279	6 ML
179	185	4 ML	226	232	1 g	273	295	8 ML

**Un-inhabited village.*

Name of the Villages of Development Block Habibpur, District Malda, West Bengal

S. No	Code No	Name of the Village	S. No	Code No	Name of the Village	S. No	Code No	Name of the Village
1	1	Dolachhola	50	50	Bijail	*99	99	Walis Nagar
*2	2	Pathardighali	51	51	Pannapur	100	100	Gopalpur
*3	3	Pathar Chapri	52	52	Chakli	101	101	Kathal Banpur
4	4	Pathar Khairan	*53	53	Bilpan Bhenda	102	102	Haripur
5	5	Pathar Mandala	54	54	Dalla	103	103	Rampur
*6	6	Dolmari Dighali	*55	55	Pathardhardenda	104	104	Dhananjaya
*7	7	Pathar Basuli	56	56	Pathat Jugi	105	105	Jiakandar
*8	8	Pather Sishu Danga	57	57	Aragachhi	106	106	Hari Nathpur
9	9	Sisdanga	*58	58	Pathar Islampur	107	107	Jaydebpur
*10	10	Pathar Phul Bana	*59	59	Angarpota	108	108	Kotalpur
11	11	Nakail	*60	60	Telnai	*109	109	Madasi Danga
12	12	Sundarban	*61	61	Purba Basudebpur	*110	110	Kaighana
13	13	Mangal Pura	*62	62	Kadari Para	*111	111	Nayandob
14	14	Pindal	*63	63	Sital Kursi	*112	112	Bharila
15	15	Pasuli	*64	64	Poali	*113	113	Bhola Baona
16	16	Sarbadikpur	*65	65	Pathar Dojai	*114	114	Pathar Kandi
17	17	Rajdol	*66	66	Bali Simla	*115	115	Nan Chora
18	18	Rangamati	*67	67	Sasinda	*116	116	Kanchana
19	19	Khochakandar	*68	68	Pathar Nandagar	*117	117	Dighal Kandi
20	20	Kalna	*69	69	Pather Harischandrapur	118	118	Suchal Mahamadpur
21	21	Jamalpur	70	70	Kuchiamor	119	119	Adampur
22	22	Hogla	71	71	Pathar Nandagar	*120	120	Aliarpur
23	23	Champadighi	72	72	Pathar Sasuli	*121	121	Dabur
24	24	Jatarpur	73	73	Jagajiban pur	*122	122	Pathar Mirzabad
25	25	Karanja	74	74	Dharenda	123	123	Sundarpur
26	26	Hazipur	75	75	Bankail Bishnupur	124	124	Mirzabad
27	27	Rahutara	76	76	Bankail	*125	125	Pathar Chapar
28	28	Rajarampur	77	77	Tulshi Danga	126	126	Jotkabir
29	29	Chatra	78	78	Palas Danga	127	127	Chapardanga
30	30	Khujipur	79	79	Bahadurpur	128	128	Chandihar
31	31	Lalpur Bodra	80	80	Kismat Nang Bahara	129	129	Bade Chandihar
32	32	Kharibari	81	81	Nan Bahara	130	130	Kayara
33	33	Aihodanga	82	82	Basantapur	131	131	Khanpur
34	34	Kiol	83	83	Harischandrapur	*132	132	Pathar Subami
35	35	Baidyapur	84	84	Agra	133	133	Jot Balaram
36	36	Charaigola	85	85	Bhabanipur	134	134	Singa Bad
37	37	Paralia	86	86	Bhairabpur	*135	135	Pathar Tilasan
38	38	Kendudanga	87	87	Bishnupur	*136	136	Jot Jitan
*39	39	Kathra naopara	88	88	Uttar Brindaban Bati	*137	137	Pathar Kasinath pur
40	40	Jamir Pukur	89	89	Bhabuk	*138	138	Pathar Parlia
41	41	Narsingbati	*90	90	Jiapur	139	139	Parulia Buzruk
42	42	Perapur	91	91	Kismatdaupur	140	140	Rampukuria
43	43	Tapsahar	92	92	Daudpur	141	141	Binakali
44	44	Binodpur	93	93	Manikora	142	142	Dadpur
45	45	Kalmegha	94	94	Jaypur	143	143	Buzruk Khanpur
46	46	Jahanabad	95	95	Lonsa	144	144	Gazia Kandar
47	47	Nimnail	96	96	Chakusukur	145	145	Uttar Kharika Danga
48	48	Pirgachhi	97	97	Nimbari	146	146	Kadipur
49	49	Hiyatpur	98	98	Jajail	147	147	Neamatpur

Contd..

S. No	Code No	Name of the Village	S. No	Code No	Name of the Village	S. No	Code No	Name of the Village
148	148	Gandharbapur	196	196	Laibari	244	244	Chanchai Chandi
149	149	Aharali	197	197	Betpukuria	245	245	Upar Kendua
150	150	Kashipahara	198	198	Mistarpara	246	246	Baksi Nagar
151	151	Chhailimpur	199	199	Ranahat	247	247	Aiho
152	152	Barail	*200	200	Debandra Purendra	248	248	Jadab Nagar
153	153	Paschim Basudeb Pur	201	201	Saidpur	249	249	Rishi Pur
154	154	Jotalam	202	202	Pathar Amarpur	250	250	Gauramari
155	155	Kanturka	203	203	Amarpur	251	251	Dakshin Chandpur
156	156	Chhuchail	204	204	Khatia Kana	252	252	Anantapur
157	157	Harail	205	205	Sahapur	*253	253	Mahal Baldi
158	158	Murripur	206	206	Kasi Danga	254	254	Sri Krishna pur
159	159	Gobindapur	207	207	Mohanpur Inlis	*255	255	Pathar Srikrishanapur
160	160	Mirzapur	208	208	Dolmalpur	*256	256	Chamar Gol
161	161	Mandighi	209	209	Dahar Langi	257	257	Janak Bathi
162	162	Raghabpur Gujia	210	210	Sola Dana	*258	258	Pathar Niabati
163	163	Singra	211	211	Kachu Pukur	*259	259	Jagadispur
164	164	Sukni Kandar	212	212	Bul Bul Chandi	260	260	Jotmanirane
165	165	Lakshmipur	213	213	Kendua	261	261	Krishnapur
166	166	Sankail	214	214	Manoharpur	262	262	Sital Pur
167	167	Bodrail	215	215	Darajpur	*263	263	Pathar Bhikan
168	168	Hurabari	216	216	Tal Pukur	*264	264	Dahshin Kharikadanga
169	169	Nirail	217	217	Tali Pukur	265	265	Tilasan
170	170	Gopal Nagar	218	218	Dhala Kandar	*266	266	Pathar Mahadebbati
171	171	Begun Bari	219	219	Anali	267	267	Pathar Banpur
172	172	Nityanandapur	220	220	Hapania	268	268	Jotkandarparapur
173	173	Jor Danga Inlis	221	221	Lota Bhanga	*269	269	Pathar Domaichand
174	174	Gurila	222	222	Phul Ban	*270	270	Pattar Bhabsa
175	175	Chak Dagari	223	223	Akal Pur	271	271	Uttar Chandpur
176	176	Nakharia	224	224	Sada Pur	272	272	Banpur
177	177	Oltara	*225	225	Jot Gokul	273	273	Komar Pur
178	178	Pathar Oltara	226	226	Panch Pukuria	274	274	Nasratpur
179	179	Pathar Lai Bari	227	227	Santail	275	275	Sriampur
180	180	Banchhair	228	228	Fakira Kandar	276	276	Maanagar
181	181	Haito	229	229	Karanja Bari	277	277	Asraf Pur
*182	182	Pathar Haito	230	230	Sripur	278	278	Nij Hosenpur
183	183	Haito Inlis	231	231	Chakkatla Pukur	279	279	Nabaghar
184	184	Olatur	232	232	Tekura	280	280	Parulia Hossenpur
185	185	Tambutana	233	233	Pakuria	*281	281	Jot Sriari
186	186	Sakandara	234	234	Sibpur	282	282	Eklaspur
187	187	Lakshmi Tor	235	235	Pipratola	283	283	Pirozabad
188	188	Jodanga	236	236	Dhumpur	284	284	Jagannathpur
189	189	Tajpur Inlis	237	237	Guhi Nagar	285	285	Tegharia
190	190	Habibpur	238	238	Baijpur	286	286	Dakshin Brindabanbati
191	191	Hialapur	239	239	Sanko Para	287	287	Khasharipur
192	192	Chakma Mahabat	240	240	Nimatpur	288	288	Dhaka Pathar
193	193	Koka Bimi	241	241	Bakna	*289	289	Pathar Nachhratpur
194	194	Kalpechi	242	242	Horgao	*290	290	Masai Chak
195	195	Mastarpara	243	243	Damdama	*291	291	Ananda Pathar

**Un-Inhabited village.*

Gajole and Bamangola in the north. The block is stretching 24 kms north to south and 22 kms east to west, approximately (fig-2.2). Politically, development block Habibpur is a reserved assembly constituency for the scheduled tribes and a portion of the block is attached with Malda assembly constituency reserved for the scheduled castes. The international border of the Habibpur development block is 82 kms. The development block Habibpur has total 291 villages, out of which 233 (80.07%) are inhabited and rest 58 (19.93%) are uninhabited. The entire block has been divided into 11 *Gram Panchayats*. There are two rurban centers viz. Aiho and Bulbulchandi in the block.

HISTORICAL BACKGROUND

The Ganganagar is named after Maharaja Ganga Singh, the ruler of former Bikaner State, whose continuous efforts resulted in the advent of Gang Canal in this thirsty and arid land of the district. The region must have been inhabited by the ancient people of *Vedic* and Indus Valley civilization period. Prithvi Raj III (C-1178-92 A.D.), one of the most powerful rulers among the *Chauhanas* has ruled the region during the medieval period. He might had had included the territory of the erstwhile Bikanar State, where a few inscriptions of the 12th Century have been preserved slabs in some of the Cenotaphs. The territory now known as district Sri Ganganagar, used to be a part of the former Bikaner State. The erstwhile Bikaner State merged into the United States of Greater Rajasthan and the area of the Ganganagar Nizamat along with the other parts of the erstwhile Bikaner State become a part of the new State of Rajasthan.

Historically, development block Habibpur is a part of the Pundravardhana. It is difficult to trace the history of the block during the years intervening between the death of Sasanka and the rise of Gopala. The district of Malda itself came into existence under the British only in 1813, although the East India Company obtained the *Diwani* of the *Subah* of Bengal, Bihar and Orissa from Emperor Shah Alam in 1765. The district of Maldah as it exists today came into existence as a result of a notification issued by the Government in September, 1947. A slight modification was made in the award of Sir Radcliffe was made at one point by the Bagga Tribunal in 1950.

PHYSIOGRAPHY

Ganganagar development block falls under the north east division of the Rajasthan State beyond the Aravalli range. The absolute height of the block varies between 168 to 227 meters above mean sea level. Basically, area is plane without any significant mound of sand dunes. Though, the region one time formed a part of the Great Indian Desert of Thar, but thanks to the advent of the

Gang Canal and introduction of other irrigation facilities, most of the portion of the block has been reclaimed for intensive farming. Consequently, Ganganagar today bears the proud title of being the granary of Rajasthan. The slope of the block is from east to west and its drainage is provided in the bed of the old Ghaggar River now locally known as *Nali*. The region was under sea during the Jurassic, Cretaceous and Eocene age and began to get dried up gradually after the Pleistocene - the last glacial period. Occurrences of Jurassic rocks consisting of limestone and shale are found in the block. No perennial river exists in the block. However, there are small ponds scattered in the block, which get dried up in the winter and summer seasons.

Contrary to Ganganagar development block, the physiography of Habibpur development block is quite undulating. The area over which development block Habibpur lies is called *barind*. The characteristic feature of the *barind* is the relatively high land of the red clay soil of the old alluvium. There are no hills in the block, unless a few elevated tracts and sloppy terraces. Parts of these high lands have an elevation ranging from 15 to 31 meters above the level of the Ganges, and being frequently intersected by deep water channels, simulate the appearance of small hills. Apart from these undulations the country is a low-lying plain covered with a succession of village sites with their adjacent fields and swampy tracts. The block slopes generally from the north to south. The highest elevation of the district above mean sea-level is little over 38 meters. The slope is gradual as is proved by the meandering course taken by the river Tangan and Mahananda on its borders in west.

Though, there is no big river in the block, however, river Tangan makes the boundary of the block on western side between Habibpur and old Malda. A branch of it locally known as the Chuna Khali Khal, which takes off from the main river off the *mauza* of Pather Haito and after traversing a few kilometers through the old Malda, rejoins the main stream in development block Habibpur, a little above the Bulbulchandi ferry. Floods in this river are associated with the flood in the Mahananda. The southern and eastern parts of the block have low marshy lands, which get flooded during monsoon season.

The *barind* region is formed by the older alluvium (Pleistocene). The Pleistocene deposits can be readily distinguished from the recent alluvium. They generally stand above monsoonal floods and are drained by relatively few streams, which have developed distinctive meandering courses. They consist of well-oxidised massive argillaceous beds typically reddish brown or tan and mottled and sometimes weathering yellowish. Kankar and pisolitic ferruginous concretions are

plentifully distributed throughout this formation. The aquifer test conducted at Nityanandpur showed rather poor water yield in the block.

CLIMATE

Both the study blocks are located in the different climatic conditions. The climate of the development block Ganganagar is marked with large variations of temperature, extreme dryness and scanty rainfall, which are characteristic of a desert climate. The cold season from November to March is followed by summer from April to June. The period from July to mid-September constituted the south-west monsoon, while mid-September to October is the transitional post-monsoon period. The annual rainfall in the block is recorded 254 mm. Maximum rainfall is recorded in the month of October, which is 22.83% of the total annual rainfall. The maximum temperature is recorded 46.6°C in the month of May, 1999. The lowest temperature is observed 2.3°C in the month of January in the same year. (Fig. 2.3)

Contrary to development block Ganganagar, the climate of the development block Habibpur is characterized by a hot and oppressive summer season, plentiful rain and moisture in the air throughout the year. The year may be divided into four seasons. The cold season starts by about the middle of November and continues till the end of February. The period from March to May is the hot season.

Table-2.1: A Comparative Study of Climatic Conditions of the Ganganagar and Habibpur Development Blocks

Month	Development Block Ganga Nagar				Development Block Habibpur			
	Rainfall in cm.	Max. Temp. °C	Min. Temp. °C	Av. Temp. °C	Rain-fall in cm.	Max. Temp. °C	Min. Temp. °C	Av. Temp. °C
January	0.3	18	2.3	7.8	0	29	9	18.5
February	0	25	6	15.5	0	34	11	24
March	0	32	9	20.5	0	38	16	28.5
April	0	39	12	25.5	1.3	42	22	31.5
May	0	46.6	16.0	31.3	13.0	40	22	29.5
June	0.5	44	21	32.5	33.2	41	20	30.5
July	4.5	41	26	33.5	43.2	35	24	29.5
August	5.1	39	20	29.5	44.2	36	22	29
September	5.2	36	20	28	63.1	35	23	29
October	5.8	32	15	23.5	15.7	35	22	28.5
November	2.5	27	5	16	0.4	33	16	24.5
December	1.5	21	4	12.5	0	30	11	21.5
Total	**25.4**	**--**	**--**	**25.9**	**214.1**	**--**	**--**	**27.04**

Source: Meteorological Department (Govt. of India), Ganganagar & Malda.

The south-west monsoon season commences by about the first week of June and continues till the end of September. October and the first half of November constitutes the post-monsoon season. The annual rainfall in the block is recorded 2141 mm. Maximum rainfall is recorded in the month of September (631mm), which is 29.47% of the total annual rainfall. The maximum temperature is recorded 42°C in the month of April, 1999 and the lowest temperature is observed 9°C in the month of January in the same year (Table 2.1).

DEMOGRAPHIC PROFILE

According to the census of 1991, the total population of the Ganganagar block is 324766 (this includes the urban population of Sri Ganganagar city, which is 162371 persons), whereas total population of the Habibpur development block is 168538 persons.

Table-2.2: Demographic Characteristics of the Study Blocks

Characteristics	Ganganagar Block	Habibpur Block
Total Population	324766	168538
Density of Population (Per Hect)	3.79	4.29
Decadal Population Growth	45.62	29.67
Total Male	185441	85796
Total Female	139325	82599
Sex Ratio	858	965
Total S.C. Population	109966	78478
S.C. concentration (%)	33.86%	46.56
Total S.C. Male	61471	40234
Total S.C. Female	48495	38244
S.C. Sex Ratio	882	998
Total S.T. Population	344	52522
S.T. Concentration (%)	0.11	31.16
Total S.T. Male	173	25940
Total S.T. Female	171	26582
S.T. Sex Ratio	998	1012
Total (Rural) Population	162395	168535
Total Rural Male	87416	85796
Total Rural Female	74979	82599
Total Urban Population	162371	0
Total Male Urban	98025	0
Total Female Urban	64346	0

Source: Census 1991.

There is no urban population in the development block Habibpur. There is 45.62% decadal population growth in the Ganganagar block, while it is only 29.67% in the Habibpur development block. Fig 2.4 shows the village wise population concentration in both blocks. The reason of higher population growth in the Ganganagar block is inward migration due to better opportunities

of development, while in Habibpur development block, the opportunities of employment and development are limited and no inward migration has taken place. It is observed that 13 villages in the Ganganagar block and 27 villages in the Habibpur development block, fall under the category of villages having population more than 1000 people. Table-2.3 exhibits the comparative figure of population concentration of the study blocks.

Table-2.3: Population Concentration in the Study Blocks

Study Block	Number of the villages in each category of Population						
	Above-1000	750-1000	500-750	250-500	Below 250	Un-inhabited	Total
Ganganagar	13	6	15	41	166	32	273
Habibpur	27	8	67	104	28	58	292

The density of population is an indicator of showing pressure of population on land and value of the land return. The fig-2.5 exhibits a comparative picture of the population density in both blocks. There are 13 villages of the Ganganagar block and 27 villages of the Habibpur block have a population density more than 8 persons per hectare.

Table-2.4 depicts the comparative status of density in both study blocks. The average density of population is reported 3.97 persons per hectare in the development block Ganganagar, while it is higher (4.29 person per hectare) in the Habibpur development block.

Table-2.4: Regional Variations of the Population Density in the Study Blocks

Study Block	Number of villages in each category (density person/hect.)						
	Above-8	6-8	4-6	2-6	Below	un-Inhabited	Total
Ganganagar	13	6	15	41	166	32	273
Habibpur	27	8	67	104	28	58	292

The sex-ratio of the Ganganagar development block is far below the national sex ratio. This is reported 858 female per 1000 male in 1991. On the contrary, in the Ganganagar block, the sex-ratio is significantly higher in the Habibpur block as it is observed 965 female per 1000 male in the same year.

Development block Habibpur is a predominantly a tribal block, having scheduled tribe population 31.16%, mostly Santhal. Moreover, Habibpur block has also very high concentration of scheduled castes (46.56%) population. Contrary to this there is insignificant number of scheduled tribes population in the Ganganagar block. However, the concentration of scheduled castes population is very high (33.86%), being more than double of the national average. The sex ratio among the scheduled tribes of the Habibpur block is 1012 females per 1000 male, which is in

favour of female. This is because of equal status of male and female in the tribal society. The sex ratio among scheduled castes of the Habibpur block is 998 female per 1000 male, while it is only 882 female per 1000 male among the scheduled castes of the Ganganagar development block. Figure-2.6 shows the scheduled castes concentration in both study blocks. Number of villages in each concentration category is given in Table –2.5.

Table-2.5: Concentration Pattern of Scheduled Castes Population in the Study Blocks

Study Block	Number of villages in each category (% of S.C.)						
	Above 45	30-45	15-30	Below 15	No. SC	Un-inhabited	Total
Ganganagar	70	60	46	39	26	32	273
Habibpur	98	36	25	39	36	58	292

Further, figure-2.7 reflects the concentration pattern of scheduled tribes in both study blocks. Number of villages in each concentration category is given in table-2.6.

Table- 2.6: Concentration Pattern of Scheduled Tribes Population in the Study Blocks

Study Block	Number of villages in each category (%of S.T.)						
	Above 15	10-15	5-10	Below 5	No. ST	Un-inhabited	Total
Ganganagar	0	0	1	15	225	32	273
Habibpur	179	8	9	11	27	58	292

The literacy rate in the Ganganagar development block is reported 43.19%, whereas it is only 26.87% in the Habibpur block.

Table- 2.7: Literacy Status of the Study Blocks (1999-2000)

S. No.	Status of Literacy	Ganganagar Block	Habibpur Block
1.	Total Literacy	43.19	26.87
2.	Male Literacy	47.60	46.48
3.	Female Literacy	23.03	16.93
4.	S.C. Total Literacy	9.51	8.28
5.	S.C. Male Literacy	12.83	10.91
6.	S.C. Female Literacy	6.18	5.64
7.	S.T. Total Literacy	22.76	17.62
8.	S.T. Male Literacy	31.29	23.95
9.	S.T. Female Literacy	14.22	11.28
10.	Rural Total Literacy	35.92	26.87
11.	Rural Male Literacy	47.23	46.48
12.	Rural Female Literacy	22.73	16.93
13.	Urban Total Literacy	58.70	0
14.	Urban Literacy Male	66.06	0
15.	Urban Literacy Female	49.69	0

Source: *District Statistical Handbooks.*

The reason of this sharp difference is the poor female literacy in Habibpur block i.e. 16.93% only, while in the Ganganagar block it is 23.03%. The rate of literacy among scheduled castes in the Ganganagar block is observed 9.51%, whereas it is 8.27% in the Habibpur development block. In comparison of scheduled castes, literacy among scheduled tribes is better. The literacy rate of scheduled tribes in the Ganganagar block is 22.76%, while it is only 17.62% in Habibpur development block.

The general literacy profile of both study blocks is shown is figure 2.8. It is observed that 6.59% villages of the Ganganagar development block and 1.37 % villages of the Habibpur development block have more than 50% literacy. The other details about educational status are given in table 2.8.

Table-2.8: General Literacy Profile of the Village of the Study Blocks

Study Block	Number of villages in each category (Literacy %)						
	Above 50	40-50	30-40	20-30	Below 20	Un-inhabited	Total
Ganganagar	18	44	100	45	34	32	273
Habibpur	4	11	26	59	134	58	292

The status of work force of a region is main governing force behind the level of its development. Figure 2.9 shows the status of work force in different villages of the study blocks. The map reflects that the percentage of workforce is higher in the Habibpur development block (43.50%) in comparison to the Ganganagar development block (34.34%). Most of the workforce is engaged in primary sector in both blocks. Out of total workforce, 82.45% is engaged in primary sector, 7.16% in secondary sector and 10.39% in tertiary sector in the Habibpur development block. In the Ganganagar block, out of total workforce, 77.0% is engaged in primary sector, 7.01% in secondary sector and 15.99% in tertiary sector.

Table- 2.9: Status of the Work Force in the Study Blocks

Status of work force	Development block Ganganagar	Development block Habibpur
Total workforce	34.34%	43.50%
Total Number of worker	111525	73314
Primary Sector	85874 (77%)	60448 (82.45%)
Secondary Sector	7818 (7.01%)	5249 (7.16%)
Tertiary Sector	17833 (15.99%)	7617 (10.39%)
Male worker	60034 (53.83%)	53182 (72.54%)
Female worker	51491 (46.17%)	20132 (27.46%

Source: *Census 1991*

In total workforce 72.54% are males and rest 27.46% are females in the Habibpur block, whereas in the Ganganagar block it is 53.83% males and 46.17% females. The female workforce is higher

in the Ganganagar block. Table-2.10 gives a comparative picture of regional variation of workforce in the Ganganagar and Habibpur development blocks.

Table-2.10: Number of the Villages in Different Categories of the Work Force

Study Block	Number of villages in each category (% of workforce)						Total
	Above 60	50-60	40-50	30-40	Below 30	Un-inhabited	
Ganganagar	20	26	40	82	73	32	273
Habibpur	49	63	61	45	16	58	292

FOREST RESOURCE

Flora and fauna are the important resource base for over all development of any region. Since both blocks under study have distinct climatic conditions hence, distinct types of flora and fauna have been reported.

The Ganganagar development block is a part of northern most portion of Rajasthan having paucity of water here all the time, which has resulted in a very scanty vegetation. After the advent of the Gang Canal, most of the portion of the block beams with verdure and glistering fields but the natural vegetation is still scanty. No forest worth the name exists in Ganganagar development block. Appreciable increase in the number of trees and plantation, however, has taken place after the advent of Gang Canal in the block. Government made sustained efforts to develop nurseries in Ganganagar and several lakhs of *Shishan* (Dalbargia Sissoo) and *Siris* (Aebizzia) seedlings were raised and distributed to individuals for plantation on their lands. These plants have taken to the soil in due course of time and are flourishing. These trees have been mainly planted on the banks of Gang Canal and have since then multiplied considerably. Irrigation Department has also planted them in the compounds of the Government rest houses situated on the canal banks. Large scale plantation along canal banks and road sides, by the Forest Department, has started decaying and significant number of *Shisham* trees along the canals have died. There is an urgent need to remove them to make fresh plantation there after. Besides *Shishan,* other important trees commonly found in the block, are *Akra* (Colotropis procera), *Peepal, Neem,* (Azadirachta indica), *Babul* or *Kikar* (Acacia arabica), *Saresh* and *Thal* (Salvadora oleoides), *Kair* (Capparis aphyall), *Pala* (Zizyphus Jujuba and Z. Nummulasia), *Khejra* (Prosopis spicicgera) and *Rohira* (Tecomella undulata), etc.. Of bushes, the most common is the *Phog* (Calligonum polygonoides) and *Sajji* (Salrola griffithaii), etc. A large number of fodder grasses also grow in the area viz., *Bharut* (Cenchrus Catharticus), *Sawan* (Eleusine flage illifera), *Dhaman* (Pennis etem cenchraides), *Gamthet,* and *kiu* etc.

Contrary to Ganganagar block, Habibpur block has plenty of rainfall and moisture for the growth of natural vegetation. However, the percentage of forest in the block is only 1.39 percent. These, too, are not reserved forests. There are groves of palm trees, mangoes, and bamboo, etc. near each and every village to cater the daily needs of the villagers. However, groves of bamboo dot the landscape of the block. The major trees of the block are coconut, palm, willow palm, date palm, the burgut, the tamarisk, hyjal, the saul, the *sissoo*, the *sagoun* or teak, the *muhooa* and the *toon*, etc.

LAND RESOURCES

Both the Blocks under study vary in land resources. The land resources of Ganganagar development block are 58.92% more than the Habibpur development block. The total land resources of Gganganagar development block are 965.67 sq. kms. Out of this, more than 74.77% (722.04 sq. kms) is arable land, 15.53% (149.97 sq kms) fallow land, 7.22% (74.54 sq. kms) area not available for cultivation and rest1.98% (19.12 sq kms) land is cultivable waste (Table 2.11). The total land resources of the development block Habibpur are to the tune of 397.10 sq. kms, which are less than 50% of the Ganganagar block. Out of total land resource of Habibpur block, 84.75% (336.54 sq kms) area is arable land, 0.34% (1.35 sq. km) fallow land (due to very intensive rice cultivation and higher population density), 1.39% (5.52 sq kms) forest area, 12.04% (47.81 sq kms) area not available for cultivation and rest 1.48% (5.88 sq kms) land is cultivable waste. (Fig. 2.10)

Table-2.11: Land Resources of the Study Blocks

S. No	Landuse	Development Block Ganganagar		Development Block Habibpur	
		%	(Sq. Kms)	%	(Sq. Kms)
1	Arable Land	74.77	722.04	84.75	336.54
2	Cultivable Waste	1.98	19.12	1.48	5.88
3	Fallow Land	15.53	149.97	0.34	1.35
4	Forest	0.0	0.0	1.39	5.52
5	Area not available for cultivation	7.72	74.54	12.04	47.81
	Total	**100.00**	**965.67**	**100.00**	**397.10**

Source: Census, 1991.

SOIL

Soil is the most important land resource, which influences the whole agriculture system of any region. The Ganganagar development block has been endowed with fairly rich soil. It is generally sandy and sandy-loam and is deep and well drained with moisture retaining characteristics, which

have proved very salubrious for the production of food and cash-crops. The soil is sandy at the top of a depth of 15.2 to 22.8 cms with hard clay-underneath. It is alluvial in nature and congenial for crop production. It is highly retentive of moisture and varies in texture from sandy loam to loam and some times to clay loam. It is fairly rich in potash, while its phosphatic and nitrogenous contents are normal, but it is deficient in organic matter. This type of soil is most suited for the production of all food and non-food crops, except paddy.

Contrary to the Ganganagar development block, the soil of Habibpur development block is red soil of old alluvial formation, which is found in the neighboring district of Dinajpur and Malda. This soil is composed of stiff clay, containing iron and lime and becomes extremely hard in the cold weather. Even a heavy shower will not do more than make it slippery on the surface. It produces winter rice and a variety of *rabi* crops.

AGRICULTURE RESOURCES

Agricultural produces are the main resources of the blocks under study since both blocks are predominantly agro-based economy. Almost 77% people in the Ganganagar development block and more than 82% people in the Habibpur development block are engaged in agriculture sector for their livelihood. In Ganganagar development block, the agriculture extends over an area of 722.04 sq kms, which is 74.77% of the total geographical area of the block. The area under agriculture in the Habibpur development block is 336.54 sq. kms, which is 84.75% of the entire geographical area of the block. Fig- 2.10 reflects the land use as well as cropping pattern of the studied blocks. It is observed that 94.6% of the total arable land in Ganganagar block is single cropped, whereas it is 82.5% in Habibpur development block. This is due to their geo-hydrologic characteristics. The details of the cropping pattern in both development blocks are given in table –2.12.

Table-2.12: Status of Cropping Pattern in both Development Blocks

Cropping Pattern	Development Block Ganganagar		Development Block Habibpur	
	%	Area	%	Area
Single cropped	94.6	683.05	82.5	277.64
Double Cropped	5.1	36.83	11.3	38.03
Triple Cropped	0.3	2.16	6.2	20.87
Total	**100**	**722.04**	**100**	**336.54**

Source: District Statistical Handbooks, 2000.

The major agriculture produce of the Ganganagar block is wheat (total production 119001 tons in the year 1999-2000) having sown on 39742 hectares of land. While major produce of Habibpur development block is rice (total production 715581 tons in the year 1999-2000) having sown on

31800 hectares of lands. Oil seed and pulses are the second important crops in both blocks. The production of oilseeds in the Ganganagar block is 4537 tons in the year 1999-2000, while this is 1802 tons in the Habibpur block in the same year. The yield of oilseeds in the Ganganagar block is one ton per hectare, while it is only 0.90 ton in the Habibpur block. The pulses are important food items, which are necessary for protein intake in human being. The yield of pulses is higher (1 tone per hectare) in the Gangangar block followed by the Habibpur block (0.45 ton per hectare). Table 2.13 shows the comparative picture of the area and production of different crops in both development blocks since-1993-94.

Table-2.13: A Comparative Study of Area & Production of Major Crops in the Study Blocks

Major Crops	Study Block	Area (in Hect)			Production (in Tons)		
		1993-94	1996-97	1999-00	1993-94	1996-97	1999-00
1. Rice	Ganganagar	2	6	536	5	1	2027
	Habibpur	372	31951	31800	77383	77122	715581
2. Wheat	Ganganagar	37503	38007	39742	74163	102201	119001
	Habibpur	605	650	650	1305	1681	1582
3. Barley	Ganganagar	756	869	1167	1304	230	2304
	Habibpur	189	128	95	176	82	95
4. Bajra	Ganganagar	240	402	116	25	30	100
	Habibpur	0	0	0	0	0	0
5. Maize	Ganganagar	1	6	1	1.1	0.47	1
	Habibpur	23	33	15	20	126	31
6. Jwar	Ganganagar	0	3	0	0	0.26	0
	Habibpur	0	0	0	0	0	0
7. Oil seeds	Ganganagar	25993	32001	4125	18309	22567	4537
	Habibpur	1530	1981	2000	885	1594	1802
8. Pulses	Ganganagar	3064	3597	3522	1204	304	1688
	Habibpur	13850	13996	1215	733	1010	549
9. Cotton	Ganganagar	38630	42707	14534	15310+	39050+	7266+
	Habibpur	0	0	0	0+	0 +	0 +
10. Jute	Ganganagar	0	0	0	0+	0 +	0 +
	Habibpur	219	241	225	2204+	2560+	2255+
11. Sugarcane	Ganganagar	569	645	1408	19178	21290	46438
	Habibpur	37	101	100	2827	7637	7772
12. Other	Ganganagar	113	1960	1355	264	184	189
	Habibpur	173	235	256	8	20	21

+ *Bale=180 Kg.* *Source: Statistical Handbooks & Block Development Offices.*

The cash crops of the Ganganagar block are cotton and sugercane. The production of cotton in year 1999-2000 was 7266 bales. The total production of sugarcane was 46438 tons in the year 1999-2000. In Habibpur development block the major cash crops are sugarcane and Jute. The total production of sugarcane in the block was 7772 tons in the year 2000, while total production

of jute was 2255 bales in the same year. Following table-2.14 shows the change in crop productivity since 1994 to 2000.

Table-2.14: Change in the Yield of Major Crops in the Study Blocks (1994-2000)

Major crops	Development Block Ganganagar			Development Block Habibpur		
	1994	**1997**	**2000**	**1994**	**1997**	**2000**
1. Wheat	2562	2875	3000	2157	2584	2437
2. Rice	200	300	3782	2078	2414	2252
3. Cotton	402 +	395 +	300 +	0	0	0
4. Jute	0	0	0	10.1+	10.6+	10.0+
5. Maize	1000	1000	1000	814	3741	2076
6. Sugarcane	33000	33000	33000	76342	74802	77529
7. Bajra	645	645	1000	0	0	0
8. Pulses	525	550	1000	532	723	453
9. Oil Seeds	1200	1200	1000	559	803	900
10. Barely	1725	1725	2000	939	634	999
11. Other	0	0	0	0	0	0

+Bale=180Kg *Source: District Statistical Handbooks.*

ANIMAL HUSBANDRY

The bovine population and poultry are important and integral parts of the agro-based economy. Table-2.15 shows the status of major livestock and poultry population in both Ganganagar and Habibpur development blocks.

The table-2.15 reflects that total number of cows is more in the Ganganagar block, but there are only 61 cows per sq. km of area, while in Habibpur development block it is 108 cows per sq. kms of the area. The breed of buffaloes is superior in the Ganganagar development block and their density is 56 buffaloes per sq. km, while it is only 18 buffaloes per sq. km in Habibpur block. The population of goat is only 14 goats per sq. km, while in Habibpur this figure is as high as 107 goats per sq. km. There is very limited scope of piggery in the development block of Ganganagar because of very few families of a particular caste have pigs, while in Habibpur block other scheduled castes as well as scheduled tribes also have pigs. The poultry have special significance in the Habibpur development block since tribal people prefer to have poultry at their household level as backyard poultry. There are 113 birds in every sq. km area of the block, while this figure is as low as 12 birds per sq. kms of the area in the Ganganagar block.

However, there is no poultry farm operating on commercial basis in both the study blocks. Both development blocks offer good scope for organizing poultry on commercial scale as there is good demand for meet in their respective itself districts.

Table-2.15: Livestock and Poultry Population in the Study Blocks (1993-94 to 1999-2000)

Livestock	Development Block Ganganagar			Development Block Habibpur		
	1993-94	**1996-97**	**1999-2000**	**1993-94**	**1996-97**	**1999-2000**
Cow	55493	55493	58626	56142	57442	57544
(%)	30.12	30.12	34.77	52.47	25.79	25.74
Buffaloes	47899	47889	54362	4292	4210	4210
(%)	26.01	26.01	32.24	4.01	1.89	1.88
Goat	28396	28394	23087	29592	33438	33731
(%)	15.42	15.42	13.69	27.66	15.01	15.09
Sheep	25599	25599	15860	2642	2973	3086
(%)	13.90	13.90	9.41	2.46	1.33	1.38
Pig	1816	1816	1252	3226	3561	3699
(%)	0.99	0.99	0.74	3.02	1.59	1.65
Camel	2745	2745	1806	0	0	0
(%)	1.49	1.49	1.07	0	0	0
Horses & Other	2397	2397	2485	3743	3911	4051
(%)	1.30	1.30	1.47	3.49	1.75	1.81
Poultry	19835	19839	11157	7367	117270	117244
(%)	10.77	10.77	6.61	6.89	52.64	52.45
Total	**184180**	**184182**	**168635**	**107004**	**222805**	**223565**
(%)	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Source: District Statistical Handbooks, 2000.

Due to the availability of ponds, beels and marshy lands in Habibpur block, fishery is an important occupation. However, due to reclamation of beels and marshy land for agriculture, the water surface is gradually decreasing. The Fishery Department has taken up schemes for the improvement of partially derelict tanks. There is no scope for fishery in the Ganganagar development block because of non-availability of perennial water bodies.

CHAPTER-III

BADP: ITS STATUS AND IMPACT ON SENSE OF SECURITY AND SOCIO-ECONOMIC DEVELOPMENT

PART-A: BADP AND ITS STATUS

The Border Area Development Programme was introduced in 1993-94 in the development block Ganganagar, Rajasthan. However, the first project under BADP was launched in the block in 19994-95. After a review of the programme in 1993-94, the programme was extended to cover the border blocks of the States having international border with Bangladesh. Thus, the first project under BADP was launched in 1994-95 in the development block Habibpur. Fig.3.1 shows the centres of activities and fund flow during reference period (1994-95 to 2000-01) under BADP in both the study blocks.

ACTIVITIES AND FUNDS: 1994-95

The development block Ganganagar (Rajasthan) was covered under BADP in 1993-94, while development block Habibpur (West Bengal) was covered under the scheme in 1994-95. However, no scheme was launched in Ganganagar block in the initial year of 1993-94, due to delay in the arrival of the funds. In the initial year of 1994-95 an amount of the Rs 107.45 lakh was released for the development of border block Ganganagar and an amount of Rs. 14.91 lakh was released for the development block Habibpur. Out of the funds released to both blocks, 28 projects were implemented in the Ganganagar block and 6 projects were completed in Habibpur block. Out of total 28 works completed in Ganganagar block, 35.71% work was related to security sector, followed by infrastructure (32.14%), health (17.86%), and rest (14.29%) in education sector. The Public Health and Engineering Department (PHED) executed all projects in security sector. Similarly, the *Panchayat Samiti* implemented all projects of education sector. Whereas, works in infrastructure and Health sectors were completed by the other line departments viz. *Awaas Vikas Sansthan,* Urban Improvement Trust, Municipal council and DRDA etc. While in Habibpur block out of total work 33.33% work was completed in education and security sector, each. Out of total work remaining 16.7% work was done in health sector and equal work in other social sectors. The Border Security Force (BSF) executed the work in

security sector. Whereas in health sector by PHED, in education sector by *Panchayat Samiti* and in infrastructure sector by other line departments (Fig. 3.2).

Table-3.1: Number of Activities, Actual Amount Allocated to Different Executive Agencies & Sectors Under BADP in 1994-95

Sector	Study Block		Agency wise Amount (Rs. Lakh) & Number of Works						
			G.P	Z.P	BSF	PHED	PWD	Others	Total
	Ganga	Number	4	0	0	0	0	0	4
Education	Nagar	Amount	6.55	0	0	0	0	0	6.55
	Habib	Number	2	0	0	0	0	0	2
	-pur	Amount	4.8	0	0	0	0	0	4.8
	Ganga	Number	0	0	0	0	0	5	5
Health	Nagar	Amount	0	0	0	0	0	45.4	45.4
	Habib	Number	0	0	0	1	0	0	1
	-pur	Amount	0	0	0	2.5	0	0	2.5
	Ganga	Number	0	0	0	0	0	9	9
Infrast-	Nagar	Amount	0	0	0	0	0	38.0	38.0
ructure	Habib	Number	0	0	0	0	0	1	1
	-pur	Amount	0	0	0	0	0	5.0	5.0
	Ganga	Number	0	0	0	10	0	0	10
Security	Nagar	Amount	0	0	0	17.5	0	0	17.5
	Habib	Number	0	0	2	0	0	0	2
	-pur	Amount	0	0	2.61	0	0	0	2.61
	Ganga	Number	0	0	0	0	0	0	0
Ag. &	Nagar	Amount	0	0	0	0	0	0	0
Allied	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	0	0	0	0	0	0	0
Other	Nagar	Amount	0	0	0	0	0	0	0
Social	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
Total	**Ganga**	**Number**	**4**	**0**	**0**	**10**	**0**	**14**	**28**
	Nagar	**Amount**	**6.55**	**0**	**0**	**17.5**	**0**	**83.4**	**107.45**
	Habib	**Number**	**2**	**0**	**2**	**1**	**0**	**1**	**6**
	-pur	**Amount**	**4.8**	**0**	**2.61**	**2.5**	**0**	**5.0**	**14.91**

Source: District Magistrate Offices.

The sector-wise allocation of funds in the Ganganagar block in 1994-95, shows that maximum amount (42.25%) has been incurred in health sector, followed by infrastructure (35.36%), security (16.29%), and rest 6.10% in education sector. While in Habibpur block, the maximum amount (33.53%) has been given to infrastructure sector, followed by education (32.19%), security (17.51%), and rest (16.77%) to health sector. The maximum allocation of funds in both development blocks has been made available for other line departments (77.62% in the Ganganagar block and 33.53% in Habibpur block). The other agencies, which got BADP funds in

the Ganganagar block in the same year, are PHED (16.29%) and *Panchayat Samiti* (6.09%). In Habibpur block the second major agency is *Panchayat Samiti,* which got 32.19% of annual allocation of the block, followed by BSF (17.51%) and PHED (16.77%).

Other line departments (mainly *Awaas Vikas Sansthan*), followed by PHED (35.71%) and rest (14.29%) by the *Panchayat Samiti,* have executed half of the work completed under BADP in 1994-95 in the Ganganagar block. Whereas, maximum work is implemented by *Panchayat Samiti* and BSF (33.33% each) in Habibpur block. The other agencies, which have worked under BADP in Habibpur block, are PHED and other line departments (16.67% each). Table 3.1 provides the details about the number of activities, actual amount allocated to different executive agencies and sectors in the year 1994-95.

ACTIVITIES AND FUNDS: 1995-96

In the year of 1995-96, the pattern of sector wise allocation of funds is slightly changed. The change was in favour of the agriculture and allied sector, which was nil in the initial year in both development blocks. The total allocation of fund to Ganganagar block in the year of 1995-96, was Rs 212.44 lakh, while it was only Rs 11.99 lakh to Habibpur block. In total 47 works were executed under BADP in the Ganganagar block, while only 3 activities were implemented in Habibpur development block.

Sector wise allocation of funds in Ganganagar block reflects that maximum amount is utilized for infrastructure sector (77.51%), followed by security (16.48%), education (3.16%), agriculture and allied sector (0.38%) and other social sectors (2.47%). The sector wise allocation of funds in Habibpur development block in the same year (1995-96), was maximum to education sector (45.87%), followed by infrastructure sector (32.44%) and rest (21.69%) to security sector.

The maximum works under BADP in the year of 1995-96 in Ganganagar block, has been done in the infrastructure sector (72.34%), followed by security sector (10.64%), education (8.51%), agriculture and allied sector (2.13%), and other social sectors (6.38%). However, in Habibpur block equal work distribution has been reported in education sector, infrastructure and security sectors in the same year. Total work completed in infrastructure sector in Ganganagar block has been done by various agencies viz. other line departments (47.05%), PHED (41.18%), *Panchayat Samiti* (8.82%) and PWD (2.95%). The work under education sector, security, agriculture and allied and other social sectors have been executed by *Panchayat Samiti,* other line departments, PHED and other government offices, respectively. Contrary to this, in Habibpur block the entire

work in education sector and infrastructure sector, has been implemented by the *Panchayat Samiti.* While the work in security sector has been executed by the BSF (Fig. 3.3).

Table-3.2: Number of Activities, Actual Amount Allocated to Different Executive Agencies & Sectors Under BADP in 1995-96

Sector	Study Block		Agency wise Amount (Rs. Lakh) & Number of Works						
			G.P	Z.P	BSF	PHED	PWD	Others	Total
	Ganga	Number	4	0	0	0	0	0	4
Education	Nagar	Amount	6.72	0	0	0	0	0	6.72
	Habib	Number	1	0	0	0	0	0	1
	-pur	Amount	5.5	0	0	0	0	0	5.5
	Ganga	Number	0	0	0	0	0	0	0
Health	Nagar	Amount	0	0	0	0	0	0	0
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	3	0	0	14	1	16	34
Infrast-	Nagar	Amount	0.95	0	0	55.17	1.80	106.75	164.67
ructure	Habib	Number	1	0	0	0	0	0	1
	-pur	Amount	3.89	0	0	0	0	0	3.89
	Ganga	Number	0	0	0	0	0	5	5
Security	Nagar	Amount	0	0	0	0	0	35.0	35.0
	Habib	Number	0	0	1	0	0	0	1
	-pur	Amount	0	0	2.6	0	0	0	2.6
	Ganga	Number	0	0	0	1	0	0	1
Ag. &	Nagar	Amount	0	0	0	0.8	0	0	0.8
Allied	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	0	0	0	0	0	3	3
Other	Nagar	Amount	0	0	0	0	0	5.25	5.25
Social	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	**Number**	**7**	**0**	**0**	**15**	**1**	**24**	**47**
Total	**Nagar**	**Amount**	**7.67**	**0**	**0**	**55.97**	**1.80**	**147.0**	**212.44**
	Habib	**Number**	**2**	**0**	**1**	**0**	**0**	**0**	**3**
	-pur	**Amount**	**9.39**	**0**	**2.6**	**0**	**0**	**0**	**11.99**

Source: District Magistrate Offices.

According to agency wise analysis of the work under BADP, it is observed that in 1995-96, one more agency-i.e. PWD gets entry in the execution of the work in Ganganagar development block. While two agencies viz. PHED and other line departments, dropped from the work in Habibpur block in the same year. The maximum work in Ganganagar block was done by the other line departments i.e. 51.07%, followed by PHED (31.92%), *Panchayat Samiti* (14.89%) and PWD (2.12%). Whereas in Habibpur block maximum work (66.67%) has been executed by the *Panchayat Samiti* and rest (33.33%) by the BSF.

Similarly, the allocation of funds to different agencies in Ganganagar block shows that other line departments have got the lion's share (69.19%) in the year of 1995-96. This is followed by the PHED (26.35%), *Panchayat Samiti* (3.62%) and PWD (0.84%). In the Habibpur block, maximum funds were utilized by the *Panchayat Samiti* (78.31%), and rest (21.69%) by the BSF. Table 3.2 provides the details about the number of activities and actual amount allocated to different agencies and sectors in the year 1995-96.

ACTIVITIES AND FUNDS: 1996-97

There is significant drop in the amount, number of work, number of agencies involved and number of sectors taken up in Ganganagar block in the year of 1996-97. The total numbers of activities taken up in the Ganganagar block in this year was only 20, while it was 5 in Habibpur block. The total allocation to Ganganagar block was Rs 96.92 lakhs, while the figure was only Rs. 8 lakh in case of Habibpur development block (Fig. 3.4).

The agency wise allocation of funds shows that more than half (53.62%) went to other line departments and rest (46.38%) to *Panchayat Samiti* in Ganganagar block. Whereas, in Habibpur development block all funds of BADP were utilized by the *Panchayat Samiti.* The agency wise work done reflects that maximum number of projects have been completed by the *Panchayat Samiti* (55%) and rest (45%) by other line departments. Contrary to this, entire work in Habibpur development block was executed by the *Panchayat Samiti.*

The sector wise allocation of funds shows that maximum funds in Ganganagar block were utilized in infrastructure sector i.e. 84.57% and rest 15.43% in Health sector. Whereas, in Habibpur development block all funds were utilized in education sector. Further, the sectoral distribution of work shows that maximum work (90%) is done in infrastructure sector and rest (10%) in Health sector in Ganganagar block. Contrary to this, Habibpur block has executed 100% work in education sector. In Ganganagar block, the *Panchayat Samiti* has executed 55.56% work in the infrastructure sector and rest 44.44% work, has been done by the other line departments. In Health Sector, *Panchayat Samiti* and other line departments have done equal work. While total work under BADP in Habibpur development block has been implemented by the *Panchayat Samiti* in the same year. Table 3.3 gives the details about the number of the activities, actual amount allocated to different agencies and sectors in the year 1996-97.

Table-3.3: Number of Activities, Actual Amount Allocated to Different Executive Agencies & Sectors Under BADP in 1996-97

Sector	Study Block		Agency wise Amount (Rs. Lakh) & Number of Works						
			G.P	Z.P	BSF	PHED	PWD	Others	Total
	Ganga	Number	0	0	0	0	0	0	0
Education	Nagar	Amount	0	0	0	0	0	0	0
	Habib	Number	5	0	0	0	0	0	5
	-pur	Amount	8.0	0	0	0	0	0	8.0
	Ganga	Number	1	0	0	0	0	1	2
Health	Nagar	Amount	4.95	0	0	0	0	10.0	14.95
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	10	0	0	0	0	8	18
Infrast-	Nagar	Amount	40.0	0	0	0	0	41.97	81.97
ructure	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	0	0	0	0	0	0	0
Security	Nagar	Amount	0	0	0	0	0	0	0
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	0	0	0	0	0	0	0
Ag. &	Nagar	Amount	0	0	0	0	0	0	0
Allied	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	0	0	0	0	0	0	0
Other	Nagar	Amount	0	0	0	0	0	0	0
Social	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	**Number**	**11**	**0**	**0**	**0**	**0**	**9**	**20**
Total	**Nagar**	**Amount**	**44.95**	**0**	**0**	**0**	**0**	**51.97**	**96.92**
	Habib	**Number**	**5**	**0**	**0**	**0**	**0**	**0**	**5**
	-pur	**Amount**	**8.0**	**0**	**0**	**0**	**0**	**0**	**8.0**

Source: District Magistrate Offices.

ACTIVITIES AND FUND: 1997-98

In the year of 1997-98, the number of projects executed in development block Ganganagar was 24 and it was only 5 in Habibpur block, respectively. The allocation of funds to Ganganagar block was Rs 198.45 lakhs and Rs 9.34 lakh to Habibpur block in the same year.

The sector wise distribution of work in the Ganganagar block reflects that maximum work is done in the education sector (41.67%), followed by infrastructure (25%), health (16.67%), security (8.33%), and other social sectors (8.33%). Whereas, in Habibpur block entire work has been done in education sector only. In Gangnagar block, entire work in different sectors except health, has been done by the different agencies. In health sector, PWD and other line departments

executed the work. Work in education, infrastructure, and security sectors have been implemented by the *Panchayat Samiti*. The other line departments have executed the work under other social sectors. Whereas all work in education sector has been executed by the *Panchayat Samiti* in Habibpur block (Fig. 3.5).

Further, the sector wise allocation of funds shows that maximum funds (41.35%) were utilized in infrastructure sector in Ganganagar block, followed by the security sector (19.65%), education sector (18.69%), health sector (17.89%), and other social sectors (2.42%). Contrary to it, total funds were allocated for the education sector only in the development block Habibpur.

Table-3.4: Number of Activities, Actual Amount Allocated to Different Executive Agencies & Sectors Under BADP in 1997-98

Sector	Study Block		Agency wise Amount (Rs. Lakh) & Number of Works						
			G.P	Z.P	BSF	PHED	PWD	Others	Total
Education	Ganga	Number	10	0	0	0	0	0	10
	Nagar	Amount	37.1	0	0	0	0	0	37.1
	Habib	Number	5	0	0	0	0	0	5
	-pur	Amount	9.34	0	0	0	0	0	9.34
Health	Ganga	Number	0	0	0	0	2	2	4
	Nagar	Amount	0	0	0	0	20.5	10.5	35.5
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
Infrast-	Ganga	Number	6	0	0	0	0	0	6
ructure	Nagar	Amount	82.05	0	0	0	0	0	82.05
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
Security	Ganga	Number	2	0	0	0	0	0	2
	Nagar	Amount	39.0	0	0	0	0	0	39.0
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
Ag. &	Ganga	Number	0	0	0	0	0	0	0
Allied	Nagar	Amount	0	0	0	0	0	0	0
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
Other	Ganga	Number	0	0	0	0	0	2	2
Social	Nagar	Amount	0	0	0	0	0	4.8	4.8
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
Total	**Ganga**	**Number**	**18**	**0**	**0**	**0**	**2**	**4**	**24**
	Nagar	**Amount**	**158.15**	**0**	**0**	**0**	**25.0**	**15.3**	**198.45**
	Habib	**Number**	**5**	**0**	**0**	**0**	**0**	**0**	**5**
	-pur	**Amount**	**9.34**	**0**	**0**	**0**	**0**	**0**	**9.34**

Source: District Magistrate Offices.

The agency wise distribution of work shows that 75% work was executed by the *Panchayat Samiti* in Ganganagar block in the year of 1997-98 and rest of the work was implemented by other line departments (16.67%) and PWD (8.33%). Whereas, in Habibpur block the entire work has been executed by the *Panchayat Samiti.* Similarly, the agency wise fund flow reveals that 79.69% of total fund in Ganganagar block was allocated to *Panchayat Samiti,* followed by PWD (12.60%), and other line departments (7.71%) in the same year. While in Habibpur block, total fund of BADP was utilized by the *Panchayat Samiti.* Table-3.4, gives the details of the numbers of activities, allocation of funds to different agencies and the sectors in the year 1997-98.

ACTIVITES AND FUNDS: 1998-99

In the year of 1998-99, it is observed that 74 activities have been executed in Ganganagar block, while only one work has been done in Habibpur block. The total allocation of funds to Ganganagar block was Rs 299.67 lakhs, while it was only Rs 8.2 lakh to Habibpur block.

The sectoral distribution of work under BADP in Ganganagar block shows that maximum (63.52%) work has been implemented in the infrastructure sector, followed by education (33.78%), health sector (1.35%) and other social sectors (1.35%). Whereas only one work has been done in Habibpur block in infrastructure sector, which was implemented by the *Zila Parishad*. In Ganganagar block the *Panchayat Samiti* and other line departments completed the total work completed under education and health sectors, respectively. In infrastructure sector, the *Panchayat Samiti* has executed 53.19% work, other line departments 36.17% and PWD rest 10.64% work.

The sectoral distribution of funds in the Ganganagar block shows that maximum (73.75%) funds have been utilized in the infrastructure sector, followed by education (17.08%), health sector (8.0%) and rest (1.17%) in other social sectors. Whereas in Habibpur block, total funds have been utilized in infrastructure sector only (Fig3.6).

Further, the agency wise distribution of projects in Ganganagar block shows that the *Panchayat Samiti* has executed maximum work (68.92%), followed by other line departments (24.32%), and the PWD (6.76%). The *Zila Parishad* has done cent percent work in Habibpur. The allocation of funds to different agencies in the Ganganagar block in the year of 1998-99 reveals that 48.89% amount is utilized by the PWD, followed by the *Panchayat Samiti* (39.73%), and other line departments (11.38%). While in Habibpur block cent percent fund was utilized by the *Zila Parishad*-the only BADP implementing agency in the year of 1998-99. Table-3.5 provides the

details about the number of projects, amount allocated to different agencies and sectors in the year 1998-99.

Table-3.5: Number of Activities, Actual Amount Allocated to Different Executive Agencies & Sectors Under BADP in 1998-99

Sector	Study Block		Agency wise Amount (Rs. Lakh) & Number of Works						
			G.P	Z.P	BSF	PHED	PWD	Others	Total
	Ganga	Number	25	0	0	0	0	0	25
Education	Nagar	Amount	51.2	0	0	0	0	0	51.2
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	1	0	0	0	0	0	1
Health	Nagar	Amount	24.0	0	0	0	0	0	24.0
	Habib	Number	0	0	0	0	3	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	25	0	0	0	5	17	47
Infrast-	Nagar	Amount	43.87	0	0	0	146.5	30.6	220.97
ructure	Habib	Number	0	1	0	0	0	0	1
	-pur	Amount	0	8.2	0	0	0	0	8.2
	Ganga	Number	0	0	0	0	0	0	0
Security	Nagar	Amount	0	0	0	0	0	0	0
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	0	0	0	0	0	0	0
Ag. &	Nagar	Amount	0	0	0	0	0	0	0
Allied	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	0	0	0	0	0	1	1
Other	Nagar	Amount	0	0	0	0	0	3.5	3.5
Social	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	**Number**	**51**	**0**	**0**	**0**	**5**	**18**	**74**
Total	**Nagar**	**Amount**	**119.07**	**0**	**0**	**0**	**146.5**	**34.1**	**299.67**
	Habib	**Number**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
	-pur	**Amount**	**0**	**8.2**	**0**	**0**	**0**	**0**	**8.2**

Source: District Magistrate Offices.

ACTIVITIES AND FUNDS: 1999-2000

In the year of 1999-2000, total 18 projects were executed in Ganganagar block and 21 projects were executed in Habibpur block. The total allocation of funds to the Ganganagar block was Rs. 273.07 lakh while allocation of funds to the Habibpur block was Rs 34.71 lakh in the same year. The sectoral distribution of work in the Ganganagar block reveals that maximum (94.44%) work has been done in infrastructure sector, followed by security sector (5.56%). Whereas in Habibpur block, maximum work (33.33%) has been done in infrastructure sector, followed by health sector (28.57%), security sector (23.81%) and (14.29%) education sector. Three agencies viz. PHED

(41.18%), other line departments (35.29%) and *Panchayat Samiti* (23.53%) have executed the work under infrastructure sector in the Ganganagar block. Whereas, the work under security sector has been completed by the other line departments. In Habibpur development block, the *Panchayat Samiti* has implemented work in all sectors. Besides *Panchayat Samiti*, the work in health sector is implemented by other line departments, too (16.67%).

Table-3.6: Number of Activities, Actual Amount Allocated to Different Executive Agencies & Sectors Under BADP in 1999-2000

Sector	Study Block		Agency wise Amount (Rs. Lakh) & Number of Works						
			G.P	Z.P	BSF	PHED	PWD	Others	Total
	Ganga	Number	0	0	0	0	0	0	0
Education	Nagar	Amount	0	0	0	0	0	0	0
	Habib	Number	3	0	0	0	0	0	3
	-pur	Amount	12.45	0	0	0	0	0	12.45
	Ganga	Number	0	0	0	0	0	0	0
Health	Nagar	Amount	0	0	0	0	0	0	0
	Habib	Number	5	0	0	0	0	1	6
	-pur	Amount	0.67	0	0	0	0	3.69	4.36
	Ganga	Number	4	0	0	7	0	6	17
Infrastructure	Nagar	Amount	7.18	0	0	37.77	0	208.12	253.07
	Habib	Number	7	0	0	0	0	0	7
	-pur	Amount	15.90	0	0	0	0	0	15.90
	Ganga	Number	0	0	0	0	0	1	1
Security	Nagar	Amount	0	0	0	0	0	20.	20.0
	Habib	Number	5	0	0	0	0	0	5
	-pur	Amount	2.0	0	0	0	0	0	2.0
	Ganga	Number	0	0	0	0	0	0	0
Ag. & Allied	Nagar	Amount	0	0	0	0	0	0	0
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	0	0	0	0	0	0	0
Other Social	Nagar	Amount	0	0	0	0	0	0	0
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	**Number**	**4**	**0**	**0**	**7**	**0**	**7**	**18**
Total	**Nagar**	**Amount**	**7.18**	**0**	**0**	**37.77**	**0**	**228.12**	**273.07**
	Habib	**Number**	**20**	**0**	**0**	**0**	**0**	**1**	**21**
	-pur	**Amount**	**31.02**	**0**	**0**	**0**	**0**	**3.69**	**34.71**

Source: District Magistrate Offices.

The sectoral allocation of funds in the Ganganangar block shows that 92.68% of total funds utilized in infrastructure sector and rest 7.32% is security sector. Whereas 45.81% of the total funds has been utilized in the infrastructure sector, followed by in (35.87%) the education sector, health sector (12.56%) and in the (5.76%) security sector (Fig.3.7).

Further, the agency wise work done in Ganganagar implies that maximum work has been executed by the PHED and other line departments (38.89% each), followed by the *Panchayat Samiti* (22.22%). Whereas, in Habibpur block, the *Panchayat Samiti* has executed the maximum work (95.24%), followed by other line departments (4.76%).

The agency wise funds flow shows that 83.54% of the total funds in the Ganganagar block utilized by the other line departments, followed by PHED (13.83%) and *Panchayat Samiti* (2.63%) in the year 1999-2000. In the same year, the agency wise fund flow in Habibpur development block reflects that 89.37% funds were utilized by the *Panchayat Samiti* and rest 10.63% by the other line departments. Table-3.6 gives the details about the number of activities, amount allocated to different agencies and sectors in the year 1999-2000.

ACTIVITIES AND FUNDS: 2000-2001

In the year 2000-2001, the total allocation of funds to Ganganagar block was Rs 143.32 lakh, while it was only Rs 29.77 lakh for Habibpur block. The total number of the work implemented in Ganganagar block was 35, while only 6 works were executed in Habibpur block.

The sector wise allocation of funds shows that maximum amount (39.88%) in the Ganganagar block was utilized in infrastructure sector, followed by education sector (30.16%), security sector (20.54%) and health sector (9.42%). Whereas in Habibpur block, maximum funds (77.09%) were allocated to infrastructure sector, followed by education sector (17.64%) and security sector (5.27%). The sectorwise work analysis reflects that in Ganganagar block 48.58% of the total work, was executed in security sector, followed by infrastructure sector (37.14%), health sector (8.57%) and education sector (5.71%). Out of total work done in security sector, the *Panchayat Samiti* has done 76.47% work and rest 23.53% by the PHED. In infrastructure sector, 38.46% work is implemented by other line departments, followed by PHED (30.77%), *Panchayat Samiti* (23.08%) and PWD (7.69%). In health sector, the *Panchayat Samiti* has done 66.67% ofthe total work and 33.33% by the other line departments. In education sector, has been executed all projects the *Panchayat Samiti* (Fig.3.8).

In Habibpur development block, equal number of projects has been executed in education, security and infrastructure sectors. In education sector, the *Panchayat Samiti* executed all projects, while in security sector all work was implemented by the BSF. In infrastructure sector, *Panchayat Samiti* as well as *Zila Parishad* have executed the equal number of project (one each, respectively).

The agency wise allocation of funds shows that in Ganganagar block in the year of 2000-2001, 58.52% of the total funds has been allocated to *Panchayat Samiti*, followed by other line departments (27.5%), PWD (10.46%) and PHED (3.52%). In Habibpur development block, the *Zila Parishad*, has utilized maximum funds (67.18%) followed by *Panchayat Samiti* (27.54%), and BSF (5.28%).

Table-3.7: Number of Activities, Actual Amount Allocated to Different Executive Agencies & Sectors Under BADP in 2000-2001

Sector	Study Block		Agency wise Amount (Rs. Lakh) & Number of Works						
			G.P	Z.P	BSF	PHED	PWD	Others	Total
	Ganga	Number	2	0	0	0	0	0	2
Education	Nagar	Amount	43.23	0	0	0	0	0	43.23
	Habib	Number	2	0	0	0	0	0	2
	-pur	Amount	5.25	0	0	0	0	0	5.25
	Ganga	Number	2	0	0	0	0	1	3
Health	Nagar	Amount	8.5	0	0	0	0	4.99	13.49
	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	00	0	0	0	0
	Ganga	Number	3	0	0	4	1	5	13
Infrast-	Nagar	Amount	4.40	0	0	3.34	15.0	34.42	57.16
ructure	Habib	Number	1	1	0	0	0	0	2
	-pur	Amount	2.95	20.0	0	0	0	0	22.95
	Ganga	Number	13	0	0	4	0	0	17
Security	Nagar	Amount	27.74	0	0	1.70	0	0	29.44
	Habib	Number	0	0	2	0	0	0	2
	-pur	Amount	0	0	1.57	0	0	0	1.57
	Ganga	Number	0	0	0	0	0	0	0
Ag. &	Nagar	Amount	0	0	0	0	0	0	0
Allied	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	0	0	0	0	0	0	0
Other	Nagar	Amount	0	0	0	0	0	0	0
Social	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	**Number**	**20**	**0**	**0**	**8**	**1**	**6**	**35**
Total	**Nagar**	**Amount**	**83.87**	**0**	**0**	**5.04**	**15.0**	**39.41**	**143.32**
	Habib	**Number**	**3**	**1**	**2**	**0**	**0**	**0**	**6**
	-pur	**Amount**	**8.20**	**20.0**	**1.57**	**0**	**0**	**0**	**29.77**

Source: District Magistrate Offices.

The agency wise work done in Ganganagar block, shows that 57.14% of the entire work has been executed by the *Panchayat Samiti,* followed by PHED (22.86%), other line departments (17.14%) and PWD (2.86%). Contrary to it, in Habibpur block 50% of the total work has been executed by the *Panchayat Samiti,* followed by the BSF (33.33%) and *Zila Parishad* (16.67%).

Table-3.7 provides the details about the number of activities, and funds allocated to different agencies and sectors in the year 2000-2001.

TOTAL ACTIVITIES AND FUND UTILISATION

The number of the work done under BADP in Ganganagar development block in the reference period of the study (i.e. year 1994-95 to 2000-01) was 246, whereas, only 47 projects were implemented in the Habibpur development block in the same period. The total funds allocated to Ganganagar block in this period was to the tune of Rs 1331.32 lakhs, while total fund allocated to Habibpur block was only to the tune of Rs 116.92 lakhs during entire reference period of the present study.

The main executive agencies involved in the execution of BADP in Ganganagar development block, were *Panchayat Samiti,* Public Health and Engineering Department, Public Work Department, other line departments of the district viz. Collectorate, DRDP, Municipal Council, *Aawas Vikas Sansthan*, Urban Improvement Trust, Superintendent of Police office, Jodhpur Vidut Vikas Nigam, and RSBCC, etc.. In Habibpur development block, major implementing agencies were *Panchayat Samiti, Zila Parishad,* BSF, PWD, PHED, Collectorate and DRDA etc.

Out of total works completed in Ganganagar development block, 46.75%, were executed by the *Panchayate Samiti,* followed by other line departments (33.33%), PHED (16.26%), and PWD (3.66%). Whereas in Habibpur development block 78.72% work is done by the *Panchayat Samiti,* followed by BSF (10.63%), other line departments (4.26%), *Zila Parishad* (4.26%), and PHED (2.13%). Unlike Ganganagar block, BSF is an executive agency for the projects pertaining to the security sector in Habibpur Development Block.

The agency wise total allocation of funds in the reference period in Ganganagar block reveals that maximum funds (45.01%) were utilized by the other line departments, followed by the *Panchayat Samiti* (32.12%), PWD (14.14%), and PHED (8.73%). In Habibpur block, maximum funds (60.51%) were given to *Panchayat Samiti,* followed by *Zila Parisad* (24.12%), other line departments (7.43%), BSF (5.80%), and PHED (2.14%).

The sectoral distribution of the total work done in the Ganganagar development block, shows that 58.54% of the total work has been done in infrastructure sector, followed by the education (18.29%), security (14.22%), health (6.10%), agriculture and allied sector (0.4%) and other social sectors (2.45%). In infrastructure sector most of the work (42.36%) has been executed by the other line departments, followed by *Panchayat Samiti* (35.42%), PHED (17.36%) and rest

(4.86%) by the PWD. In education sector, the total work is executed by the single agency -the *Panchayat Samiti.* The *Panchayat Samiti* has done maximum work in the security sector (42.86%), followed by the PHED (40%), and other line departments (17.14%). The activities of the health sector have been implemented by other line departments (60%), *Panchayat Samiti* (26.66%) and PWD (13.34%). In agriculture and allied sector, only single agency-PHED has done the single work completed in this sector.

Table-3.8: Number of Activities, Actual Amount Allocated to Different Executive Agencies & Sectors Under BADP in Reference period (1994-95 to 2000-01)

Sector	Study Block		Agency wise Amount (Rs. Lakh) & Number of Works						
			G.P	Z.P	BSF	PHED	PWD	Others	Total
	Ganga	Number	45	0	0	0	0	0	45
Education	Nagar	Amount	144.8	0	0	0	0	0	144.8
	Habib	Number	18	0	0	0	0	0	18
	-pur	Amount	45.34	0	0	0	0	0	45.34
	Ganga	Number	4	0	0	0	2	9	15
Health	Nagar	Amount	37.45	0	0	0	25.0	70.89	133.34
	Habib	Number	5	0	0	1	0	1	7
	-pur	Amount	0.67	0	0	2.5	0	3.69	6.86
	Ganga	Number	51	0	0	25	7	61	144
Infrast-	Nagar	Amount	178.45	0	0	96.28	163.3	459.86	897.89
ructure	Habib	Number	9	2	0	0	0	1	12
	-pur	Amount	22.74	28.2	0	0	0	5.0	55.94
	Ganga	Number	15	0	0	14	0	6	35
Security	Nagar	Amount	66.74	0	0	19.2	0	55.0	140.94
	Habib	Number	5	0	5	0	0	0	10
	-pur	Amount	2.0	0	6.78	0	0	0	8.78
	Ganga	Number	0	0	0	1	0	0	1
Ag. &	Nagar	Amount	0	0	0	0.8	0	0	0.8
Allied	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	Number	0	0	0	0	0	6	6
Other	Nagar	Amount	0	0	0	0	0	13.55	1355
Social	Habib	Number	0	0	0	0	0	0	0
	-pur	Amount	0	0	0	0	0	0	0
	Ganga	**Number**	**115**	**0**	**0**	**40**	**9**	**82**	**246**
Total	**Nagar**	**Amount**	**427.44**	**0**	**0**	**116.28**	**188.3**	**599.30**	**1331.32**
	Habib	**Number**	**37**	**2**	**5**	**1**	**0**	**2**	**47**
	-pur	**Amount**	**70.75**	**28.2**	**6.78**	**2.5**	**0**	**8.69**	**116.92**

Source: District Magistrate Offices.

Out of total 47 works completed under BADP in the Habibpur block (during 1994-95 to 2000-01), 38.30% works were executed in education sector, followed by the infrastructure (25.53%), security (21.28%), and health sector (14.89%). No work in agriculture and allied sector and other social sectors, has been taken up in the block. The *Panchayat Samiti* and BSF have implemented

the work equally. In infrastructure sector maximum work (75.00%) have been executive by the *Panchayat Samiti,* followed by *Zila Parishad* (16.67%) and other line departments (8.33%). The entire work completed is education sector in done by the *Panchayat Samiti.* In health sector 71.42% work have been done by the *Panchayat Samiti* and 14.29% by PWD and other line departments, each (Fig.3.9).

The details about total projects implemented under BADP in reference period (1994-95 to 2000-01), and amount allocated to different agencies and sectors are given in table-3.8. The sector wise utilization of the total funds of the reference period in the Ganganagar block shows that 67.44% amount is utilized in infrastructure sector, followed by education (10.88%), security (10.59%), health (10.02%), agriculture and allied sector (0.06%) and other social sectors (1.01%). Whereas, in the Habibpur development block, 47.84% of the total funds has been utilized in infrastructure sector, 38.78% in education, 7.51% is security sector and rest 5.87% in health sector in the same period.

Table-3.9 shows the year wise expenditure incurred on security and infrastructure sectors for both study blocks. The sector wise expenditure pattern of both study blocks shows no definite pattern. No block has followed the criteria of 7.5% expenditure on security sector and 60% on infrastructure on yearly basis. In fact, the amount allocated on yearly basis is so small that it is very difficult for the block authorities to follow the policy guidelines on expenditure pattern.

Table-3.9: Yearwise Percentage of total Expenditure Incurred on Security & Infrastructure Sectors

	Security Sector		Infrastructure Sector	
Year	**Ganganagar**	**Habibpur**	**Ganganagar**	**Habibpur**
1994-95	16.29	17.51	35.36	33.53
1995-96	16.48	21.69	77.51	32.44
1996-97	0	0	84.57	0
1997-98	19.65	0	41.35	0
1998-99	0	0	73.75	100
1999-2000	7.32	5.76	92.68	45.81
2000-2001	20.54	5.27	39.88	77.09
Total	**10.59**	**7.51**	**67.44**	**47.84**

Source: District Magistrate Office.

Any activity, which has to be initiated in a particular year should to be completed in the same year. It is neither advisable nor viable to complete one activity in more than one year. Hence, allocation to different activities in both blocks has been done according to the priority of the work, which may not fallow the guidelines of expenditure pattern. The guidelines on expenditure

pattern do not seem to be viable at block level. The average funding pattern of the study period for both blocks is given in Fig. 3.10.

OPTIMISATION OF ACCESS BADP

The information were collected about the satisfaction level of the beneficiaries about the BADP projects implemented in their villages. Table 3.10 & 3.11 reflect that 72% people and 78% *Panchayat* personals & knowledgeable persons are satisfied with the projects implemented in the Ganganagar block. While in Habibpur development block, the percentage of satisfied people is 65% and 70% for *Panchayat* representatives and knowledgeable persons, respectively.

Table-3.10: Levels of Satisfaction of the People with Implemented BADP at Ganganagar Development Block

S. No	Name of village	General Public		Panchayat Representatives & knowledgeable persons		Reasons & suggestions in case not satisfied
		Satisfied	Not Satisfied	Satisfied	Not satisfied	
1	7Z	13	7	2	0	1.Their priorities are
2	13Z	13	7	1	1	Different
3	19Z	16	4	4	0	
4	27GG	16	5	2	0	
5	Chunawad-30GG	20	7	1	0	2. People's
6	11Q	16	5	2	0	Participation is not
7	Sangatpura-8H	16	5	2	0	ensured in planning
8	Doulatpura-3Q	20	7	2	0	Stage
9	Mohanpura-9Y	13	7	1	1	
10	Phatuhi-1F	15	5	3	0	
11	Khatlabana-2F	18	9	2	2	3. Felt needs of people
12	Madera-7D	16	5	3	0	are not considered
13	Rohirwali-2P	18	6	3	0	
14	Koni-5P	20	8	1	1	
15	4Z	16	5	3	0	4. The work is not up
16	Kotha-2B	13	7	2	2	to desired level.
17	Khhakhha-1A	14	7	0	1	
18	4ML	16	5	1	1	
19	Hindu Mal Kot-7B	18	7	1	1	5. There is no
20	Sri Ganga Nagar	21	9	5	2	Monitoring committee
	Total	**328 (72%)**	**127 (28%)**	**41 (78%)**	**12 (22%)**	

Source: Field Survey 2001-2002.

Table-3.11: Levels of Satisfaction of the People with Implemented BADP at Habibpur Development Block

S. No	Name of village	People's Opinion		Panchayat Representatives & knowledgeable persons		Reasons & suggestions in case not satisfied
		Satisfied	Not Satisfied	Satisfied	Not satisfied	
1	Mongalpura	14	7	1	0	
2	Binodpur	14	8	0	1	1. Their priority are different
3	Palashdanga	13	7	1	0	
4	Baidyapur	16	5	1	1	
5	Chakli	15	11	1	0	
6	Jagjibanpur	16	9	1	0	2. People's participate is Not ensured in Planning
7	Bahadurpur	15	5	1	0	
8	Begunbari	12	9	1	0	
9	Habibpur	20	4	7	10	
10	Agra	12	13	1	0	3. Felt needs of the people are not considered
11	Manikora	14	7	1	0	
12	Kanturka	15	7	1	0	
13	Sibpur	12	8	1	0	
14	Tilason	17	9	1	0	
15	Mohonpur Inlish	14	8	1	0	4. The work is not up to desired level
16	Rishipur	19	6	1	0	
17	Gouramari	16	12	1	0	
18	Aiho	20	8	1	0	
19	Srirampur	14	8	1	0	
20	Dakshin Brindabanbati	15	12	1	0	
	Total	**303 (65%)**	**163 (35%)**	**28 (35%)**	**12 (30%)**	

Source: Field Survey2001-02.

PART-B: BADP AND SENSE OF SECURITY

The pace of development can not to set until people of the area are at the peace of mind with full sense of security about their lives and property. People should have confidence that they are free and secure to pursue the activities and objectives of their choice for socio-economic development. The peace and sense of security among the people allow them to apply their human capabilities to the fullest.

Thus, the sense of security among the people set their mental horizon to explore the opportunities in their region to improve the quality of life. For this an enabling and conducive environment, which provides health for all, free flow of knowledge, participation and inclusion of all sections of the society, equal opportunities to all with out favour or fear, absence of crime and violence, induced internally or by some external force through smuggling, infiltration and subversion. The country not only wishes for peace but also is virtually prepared to enforce peace, as the agencies responsible for maintaining law and order, peace and sense of security are always vigilant. However, poor and inadequate economic development, socio-cultural integrity and lack of social justice are the factors, leads to a situation, which contains the potentials for protest, which can be exploited by hostile elements. Such areas become haven for internal subversion, overt military intervention, insurgency, terrorism, and infiltration smuggling of drugs and weapons trafficking. As a result of these activities, the internal environment of the border areas becomes insecure causing a sense of insecurity among the people. This sense of insecurity causes a fear psychosis among the inhabitants leading to distrust about the safety of their lives and property. This situation is not conducive for the over all development of the remote and inaccessible border areas. Therefore, the primary obligations of any Government are to eliminate or minimize all actual and potential threats to security of the nation and instill a sense of security among the citizens. The Border Area Development Programme is a selective intervention strategy to acquire the status of sustainable development of the remote and inaccessible areas along the border so that a sense of security prevails among the inhabitants of the border areas (BADP Report, 1999) .

SECURITY PERSPECTIVE

Does national security lead to a sense of security among the people? Before their correlation is discussed, it is necessary to understand their meaning. The former stands for protection of sovereignty and territorial integrity of a country, whereas the latter signifies protection of life and property of an individual. In the history of political economy, it can be traced that the power

elite's of the United States of America introduced a new paradigm of national security after the Second World War. This was a reversal of earlier paradigm of 'isolationism' and was based on 'global military containment' of 'Soviet expansionism', as it perceived 'external threat' and led to the cold war in Europe. Such a paradigm has an in-built component of promoting economic growth, since it was sponsored by economic compulsions, which also became the main driving force through the cold war. There is complementarily between national security and economic growth. Against this, Nehruvian paradigm of national security was based on democratic politics, foreign policy of non-alignment, economic policy of socialism and secular social policy. Here the prioritization is altered with economic development, social transformation and national integration getting precedence over military build up. There are situations in the history of many countries when the people of a country were feeling sense of security whereas the week political regimes ruling the country perceived 'external threats' in conformity with the mainstream cold war. The sense of security and to a great extent, the national security also are affected by 'internal threats', which are many, like population, economic degradation, inflation, devaluation, the sanctions, employment, judicial apathy, police misdirection, political inaction, corruption, communalism, casteism and sectorianism and lack of bureaucratic accountability and responsiveness. But a sense of security is prompted when there is political stability, balanced economic development, social justice, institutionalized integration and security strengthening.

CRIME AND SENSE OF SECURITY

The people's perception about sense of security is related to two major issues i.e. first cross border terrorism and secondly crime situation due to proximity of the border line. In Ganganagar development block, in general people have no sense of insecurity in any respect. People have full confidence and participating in their economic activities as people of any other part of the country. However, 13.5% respondents have reported the threat of cross-border crime pertaining to smuggling and terrorism. At the same time people have admitted that the border fencing and construction of BOPs and OPs have reduced their apprehension of cross-border threats to the insignificant level. Whereas, in Habibpur development block, 25% respondents have sense of insecurity. About 90% respondents have reported that the cattle are the most favoured targets of hordes of invading decoits from Bangladesh, who have turned cross border crime into a major industry turning the lives of local into an endless nightmare. The people have reported that hundreds of cattle are herded and driven towards the border on every *hat* (market) day, cattle, particularly cows and oxen are in great demand in Bangladesh for milk, ploughing as well as for supply of beef and hides to gulf countries. Hundreds of cattle are taken out from India to

Bangladesh through the check posts daily. Not only cattle are taken by breaking open cowsheds of local villages, but they are also bought from the cattle markets flourishing on the border. Further, people told that cattle lifting is the most profitable crime in the area. The local people mostly, scheduled castes and tribes are poor and simple people, who are being threatened and looted (cattle lifting mainly) by the Bangladeshi gangs most of cows lifters. This has caused a great concern among the local people. The people have reported the cases of cattle lifting to police and BSF but the problem is persisting on higher scale. Persisting meetings between the BSF and Bangladesh Rifles have not been able to check the growing menace of smuggling, cattle lifting and illegal infiltration of Bangladeshies into India. In spite of all these problems in the Habibpur block people by and large perceive no sense of insecurity.

PATTERNS OF INVESTMENT AND SENSE OF SECURITY

The pattern of investment is an important indicator, which reflects the mental status of the people and their sense of security in any region. The study of hypothetical investment pattern in Ganganagar development block shows that 80.22% respondents are interested in purchase of agriculture land in their respective villages. In Habibpur block, 78.97% respondents gave their preference to the purchase of land for agriculture. This clearly reflects that people are interested in immovable property hence, have no fear or sense of insecurity due to border area. The other percentage distribution of prior preferences of investments in study blocks is given in table 3.12.

Table-3.12: Percentage Distribution of Preferences of Investment in Study Blocks

S. No	Preferences	Ganganagar Block		Habibpur Block	
		No. of respondents	%	No. of respondents	%
1	Purchase of agriculture land in the village	365	80.22	368	78.97
2	Purchase of Live Stock	40	8.79	37	7.49
3	Marriage of children	14	3.08	21	4.51
4	Improvement of house & Household Assets	16	3.52	12	2.57
5	Vehicles & Agriculture Implements	2	0.43	2	0.43
6	Business	9	1.98	7	1.50
7	Other self employment (like fishery)	9	1.98	19	4.08
8	Investment out side block or District	0	0	0	0
	Total	**455**	**100**	**466**	**100**

Source: Field study 2001-2002.

LOAN AND SENSE OF SECURITY

The loan requirement, purpose and source are another important indicators to assess the sense of security among the general public. Credit markets do not operate in an environment of insecurity and uncertainty. When people are taking loan for purchase of immovable assets, it reflects their sense of security. In Ganganagar development block, 44.61% respondents have taken loan for productive purposes, whereas in Habibpur development block, 46.14% respondents have taken loan for the same purpose. The majority of respondents have negotiated loan for agriculture purposes. In Ganganagar block 95.07% respondents have got loan for agriculture requirements. Followed by livestock (2.46%), business (1.98%) and social ceremony like marriage of their children (0.49%) etc. In Habibpur block, 74.88% respondents have taken loan for agriculture, followed by fishing net (9.32%), marriage of children (7.90%), livestock (4.18%), business (2.79%) and other social ceremonies (0.93%).

The another aspect of the loan and sense of security is related to the source of loan. The private money lenders do not give loans until they satisfied to themselves that the *Asami* (pawn) will not run away after taking loan. In case of the Ganganagar development block, 21.19% respondents have taken loan from the private moneylenders. In Habibpur development block, 25.12% respondents have taken loan from the private sources. This shows that there is no fear psychosis or sense of insecurity in the mind of the private moneylenders. Table 3.13 shows the percentage distribution of households on the basis of loan taken and sources of loan.

Table-3.13: Distribution of Households on the Basis of Loan Taken and Sources of Loan

		Ganganagar Block		Habibpur Block	
		No.	**%**	**No.**	**%**
	Number of Respondents taken Loan	203	44.61	215	46.14
Purpose of Loan	Agriculture	193	95.07	14	74.88
	Business	4	1.89	6	2.79
	Marriage of Children	1	0.49	17	7.90
	Fishing Net	0	0	20	9.32
	Live stocks	5	2.46	9	4.18
	Others	0	0	2	0.93
Source of loan	Commercial, Co-operative and Rural Banks	160	78.81	161	74.88
	Co-operative society	4	1.97	7	1.40
	Private Moneylenders	18	8.87	26	12.09
	Relatives	20	9.85	22	10.23
	Finances campany and other Private Banks	1	0.50	5	1.40

Source: Field Survey 2001-02.

POSSESSION OF ASSETS AND SENSE OF SECURITY

The possession of assets by the households is also an indicator to assess the prevailing sense of security among the people. Majority of the respondents possesses own houses, livestock, agriculture land and agriculture implements in both study bocks. In Ganganagar development block, cent per cent respondents have their own houses, whereas 93.62% have live stocks, followed by agriculture implements (65.27%), agriculture land (45.93%), shops (12.96%), and small enterprises (3.07%). In Habibpur development block, cent percent respondents have their own houses, whereas 81.97% have livestock, followed by agriculture implements (72.96%), agriculture land (37.37%), shops (10.30%), and small enterprises (1.07%). Table-3.14 exhibits the percentage distribution of households by possession of the assets in both blocks.

Table-3.14 Percentage Distribution of Households by Possession of Assets

Types of Assets Possessed	Ganganagar Block		Habibpur Block	
	No.	%	No.	%
Total Household surveyed	455	100	466	100
Agricultural Land	209	45.93	176	37.37
House	455	100	466	100
Shop	59	12.96	48	10.30
Factory/small entrepreneurs	14	3.07	5	1.07
Live stocks	426	93.62	382	81.97
Agricultural Implement	297	65.27	340	72.96

Source: Field Survey 2001-2002.

The availability of household goods in the houses of the respondents of both blocks show the economic status of the people. In Ganga nagar block, 82.88% respondents have radio/tape recorders, followed by grass cutters 45.05%, bicycles (42.47%), fans (30.51%), coolers (23.71%), bullock carts (20.21%), T.V. (17.52%) and tractors (6.81%). In Habibpur block, figures are slightly lower, here 59.65% respondents have radio/ tape recorders, followed by grass-cutters (38.41%), bicycles (23.17%), fans (22.53%), bullock carts (21.01%), and tractors/tempos (1.07%).

This analysis reveals that Ganganagar block is fairly better off in comparison to Habibpur development block. Table-3.15 shows the percentage of Household goods in possession of the respondents in both study blocks.

Table-3.15 Percentage Distribution of Households having Modern Household Goods

Household Goods	Ganganagar Block		Habibpur Block	
	No.	%	No.	%
Cycle	206	45.27	108	23.17

Scooter/Motor cycle	57	12.52	20	4.29
Tractor/Tempo	31	6.81	5	1.07
Bullock Cart/Buggi	92	20.21	56	12.01
T.V.	96	21.09	67	14.37
Radio/Tape	402	88.35	278	59.65
Fan	148	32.52	105	22.53
Cooler	115	25.27	2	0.42
Grass cutter	205	45.05	179	38.41

Source: Field Survey 2001-02.

SENSE OF SECURITY-THE PEOPLE'S PERCEPTION

On the basis of general discussion with knowledgeable persons, Government Officials, *Panchayat* representatives and general public, it may be concluded that there is no fear or sense of insecurity among the people of the study blocks. Moreover, no case of outward migration due to fear or insecurity has been reported from both the blocks. However, people migrate to different parts of the country in search of employment from Habibpur block every year. These people go to different cities after sowing the crops and return for harvesting. While in Ganganagar block, only those families, which have been allotted *pattas* in Hanumangarh district by the Rajasthan Government have migrated.

Contrary to it, there are good examples when people from the interior parts of the country have come to these blocks and got settled here on permanent basis. For instance, Mr. Kamta Prasad Singh, Head Master of Government Middle School at village 4Z in Ganganagar block, made an statement that "there is no problem of security due to nearness of the border. I myself settled here, while basically I hail from district Jaunpur, Uttar Pradesh".

Similarly, Arun Kumar Mishra, an original inhabitant of Uttaranchal has been settled in village Chandpur (Rishipur), block Habibpur. One Mr. Dinesh Chandra Tiwari, Medical Practitioner, from Gorakhpur, Uttar Pradesh, has been settled in Aiho, Habibpur. Both persons see no threat to their security. Mr. Tiwari told that "cost of land is equal to the cost of land in my ancestral district Gorakhpur. There is no sense of insecurity and profession wise I am doing very well".

Mr. Ram Chandra Sharma, retired Collector (irrigation), settled in village 4Z said that "people are assured here from the security point of view, no sense of insecurity prevails among the people". In Ganganagar block as well as in Habibpur block, people are not willing to leave their land along the zero line and between zero line and fencing. Rather, they want to allow them day and night to work in their fields along the zero line in both blocks.

However, there are certain suggestions from the people to improve the existing sense of security in these blocks. In Ganganagar block people, of border villages are of the opinion that there should be an observation post (OP) in front of each gate in fencing. Secondly, people are of the opinion that funds allocated for security sector should be enhanced from 7.5% to 15%. All most 25% people in the border villages in both blocks demanded gun licenses and training in arms. In Habibpur block due to menace of cattle lifting and infiltration, fencing along the borderline is demanded. But, the type of fencing, which is being created along Habibpur border will not be of much help, it should be multi barbed wire fencing instead of single barbed wire fencing.

PART-C: IMPACT ON SOCIO-ECONOMIC DEVELOPMENT

Since, the development of an area is an interplay of several factors and programmes being implemented by various agencies in total, it is very difficult to single out the impact of a particular scheme on the total development of any area. However, the work completed under different sectors executed by different implementing agencies under BADP, has brought a limited but significant impact on the socio-economic development of the study blocks. The main work in Ganganagar block has been done in infrastructure sector to create infrastructure for meeting the challenges of the problem of drinking water. The first step of the work was the construction diggies to store the water for drinking purpose of human being as well as for cattle. The diggies have been constructed in villages, viz. village Khakha, 7 C-II, Kanchanpur, 3 FC, 1A, 4Z, 9a, 7e, 4/5G. The problem of maintenance and adequate supply of water made the diggies less effective. Hence, in the second phase water tanks were constructed for the supply of safe water. The water tanks have been constructed in the villages, viz. 5Y, 27GG, 2LL, 21GG, 38 LNP, 15a 3Q, 2B, 3P, 52GG, 5LL, 4L, 11Q, 19Z, 1C, 1H, 12Q, 7Z, 20Z. Besides these, water tanks have been constructed in the BOPs at village Khakha, Kotha, Hindu Mal Kot. Few water tanks have been constructed in urban areas of Sri Ganganagar City. These water tanks have been connected with pipe lines for water supply to 40F, 12 FF, 5EE(a), 10F, 12F, 501 LNP, Kharala, 59 FB, 34 LNP and 39 LNP. The construction of water tanks has brought a remarkable relief to the people for proper and safe water supply, which have quenched the thirst of the people.

The BADP has played a limited but significant role in developing the infrastructure for health services for human being, as well as for cattle. The health related infrastructure has been created in various areas of the block under health programme. One homeopathy dispensary in Sri Ganganagar, *Ayurvedic* hospitals at 4c, Daulatpura, Mahiyawali and Gareeb basti in Sri Ganganagar have been constructed under BADP. Sub-centers have been constructed at 4Z, and a government hospital Sri Ganganagar. The improvement in Health infrastructure has created a significant impact on the availability of health services in the block. Now, doctors and nurses are available in the hospitals and health centers all the time. The veterinary hospitals have been constructed at Hindu Mal Kot, Daulatpura, Rohirawali, 11 LNP, and Mohanpura. The district animal husbandry building is also constructed under BADP funds in Sri Ganganagar city. The veterinary hospitals have brought a remarkable change in the health of bovine population of the block. Moreover, this infrastructure is ready to initiate the process for cattle breeding for improved variety of cattle suitable to the conditions of the area.

The construction of roads and bridges, which are the life lines of the socio-economic development of any area, have brought a significant impact on the mobility of general public as well as of BSF. The major roads, which have been constructed under BADP are Mirzewala to Jodhewala, Kotha to Khakha, 39 PS to 32 PS, 39 Ps to 43 PS, 5 KK to Sulemani head, Sabuki mod to 34 LNP, Jaloki to 43RB, Daulat singhpura to Sri Ganganagar. Apart from these rural roads, some roads have been constructed in Urban areas of Sri Ganganagar city viz. Aryan chowk to Dhringawali, Mera chowk to SSB chowk, the main roads of Ward No. 34,35, and 36, and approach road to DRDA office. Two bridges, one box bridge at Z minor and one fly over near income tax office at wadha chowk, Sri Ganganagar, have also been constructed under BADP.

The construction of additional rooms in primary as well as in middle schools has created a significant impact on the education development of the area. This has increased the total enrolment in the schools as well as more number of girls has been enrolled. This has developed the overall educational level of the area by increasing number of students. It has created awareness among the people about the education particularly the education of girls. Under this scheme, 3 rooms, one brandah and one latrine and urinal have been constructed in each primary school at Jodhewala, 20Z. Thakarawali, 3D, 2F-II, 10LL, 3LL, Bhakthwali, 5e, 10 LNP, 6Y, 2Y, Hindu Mal Kot, Kotha, 3g, 501 LNP, Rohirawali, Pakki, 13Z, 4D, 2LL, 5H, Garuki Dhani, and Harijan basti Sri Ganganagar. Besides above mentioned primary schools, similar construction has been added to the middle schools at village 11Z, 27GG, 7LNP, 4Z, 2LL, Khakha, Phatuhi, Daulatpur, Sangatpura, Mahiawali, Kotha, 19Z, 22Z, 4LL, 4ML, Madera, Sagarwala, 18GG, 6a, Sahibwala, Mohanpura, 6LNP, and Chunawad. Few middle schools have been provided with similar infrastructure in Sri Ganganagar city. These are middle schools No-8, No.-10 (HB Nagar), No.2 (F-Block), sugar factory middle school and upper primary school in Sri Ganganangar. Apart from educational infrastructure, cultural and community infrastructure also has been built under BADP funds. Under this scheme a few auditoriums and community halls have been constructed at village Jodhewala, Netewala, Khyaliwala, Mohiawali, Chunawad, Mirzawala, 19Z, Kotha, 6g, Sadhuwali, Sawawala, and Hindu Mal Kot. This infrastructure has provided platform for cultural activities as well as ready infrastructure to organize several social ceremonies and activities. This has brought a significant impact on the socio-cultural milieu of the community in the border region of Ganganagar block. The funds have also been utilized for the construction of *Panchayat Ghar* as well as *Patwar Ghars* in different villages of the development block Ganganagar.

The construction of *Panchayat Ghars* has given opportunity to all members of the *Panchayat* to attend regular meetings for better and decision making without interference. It has ensured and strengthened the people's participation in the deliberation of the problems of their villages. The *Panchayat Ghars* have been constructed at Daulatpura, Khatalwana, 4Z, Orki, Mohanpura, Koni, 3c, Sangathpura, 11Q, Rohirawali, Hiranwali, 6LNP, 4LL, 5LL, 15Z, 18Z, Sadhuwali, 9Z and 3h. Similarly, *Patwari Ghars* have also brought significant impact on sorting the day to day land related problems of the villages, as *Patwaries* are always available at the *Patwar Ghar*. The *Patwar Ghars* have been constructed at village Madera. Kalra, Kotha, Mirzawala, Daulatpura, 18Z, Sangatpura, Matilirathan, Bhagtowali, Koni, Katalwana and Sahuwala.

Security is an important aspect of the entire BADP. Under security, internal and external both aspects have been touched upon. To strengthen the internal security, residential quarters, Police /Stations and equipments have been provided to the police. The construction of wireless office at Police Line Sri Ganganagar, Police Stations at Hindu Mal Kot, JCT Mill and Jawahar Nagar, Police Barracks at Matilirathan, Police Line Sri Ganga Nagar and barrack for Mahila police and meeting room at Sri Ganga Nagar. The residential quarters of SP (SSB) and SP (operation) have been constructed. One Jeep (4X4) has been purchased by DRDA for the use of police. For external security, *Naka*-cum-OP *Machans* at 280/4, 283/4, 281/1, 280/1, 279/4, 277/1, 276/2, 276/M, 278/2, 274/4, 285/2, 286/2, 283/3, 283/5 and barracks for BSF have been constructed at Q Head, Hindu Mal Kot, and Mirzewala. Bunkers have been constructed at Hindu Mal Kot DCB at Khakha, Kotha, Renuka, Madera, 7H, Sunderpura and 3FC. SSF for BOP's at 27 S, 24 O, 1O, Mukan, 17FF, 40HB, and Khakha. The construction of the mentioned infrastructure has made the job of BSF easy and creates a sense of confidence about security among the local people.

To make the work of administration more efficient, the administrative buildings have been constructed from the BADP funds. Mini Secretariat building, 16 rooms in CID court campus, new storeroom in judiciary court, and renovation of the building and shed of DRDA, have been constructed in Sri Ganganagar. The residential quarters for doctors at Phatuhi, and Mirzawala and class 3 staff quarters at collectorate (10), police line (9) Hindu Mal Kot (5), and Sadar thana (4) have been constructed under BADP. Similarly, quarters for 4th grade staff (9) have also been constructed in Sri Ganganagar city.

Besides above-mentioned work in major sectors, a few miscellaneous works have also been done under BADP. These works include, construction of *Nala* in police line, Suratgarh road, and roads in different wards in Sriganganagar city. Two gutters for wastewater drainage have been

constructed in police line and in Sri Ganganagar city. Construction of Badminton Hall, social-welfare hostel for boys, prison, watch tower, electrification at 2D, 3FF, 4FF and 19Z, Multi Gym Hall-cum-stadium have been constructed in Sri Ganganagar city under BADP funds. Some equipment, like two computers (DRDA) and one Gypsy and one car (DRDA) have been purchased by the DRDA from the BADP funds. These activities have their direct and indirect impacts on the socio-economic development of the Ganganagar block. One opium camp was organized by the police to create awareness about the negative impacts of the opium. Photo-Identify cards were prepared from BADP funds in the initial year. Only a small work i.e. construction of a water channel has been done at village Mukan in agricultural and allied sector. This work has added in the facility of irrigation in the village.

In Habibpur development block, main work, which has brought a significant impact on the educational development of the block is construction of additional rooms (3 rooms, varandah, one latrine and urinal) in primary schools. This work has been done at Baidyapur, Srirampur, Agra (Dabopara), Mohanpur Inlish, and Palasdanga. Similar construction has been added to middle schools at Monikara, Jagjibanpur, Samu Hambrum and government high schools both at Habibpur. This additional infrastructure has accommodated more number of students and provided opportunities to the girls of SC and ST communities of the block.

Apart from educational activities, health infrastructure has created maximum impact on the socio-economic development of the block. Under health infrastructure, PHC has been constructed at village Gouramari, Dakshin Brindabanbati, Agra, Chakli, Shibpur, and Palasdanga. Further, hospitals have been repaired from BADP funds at village Bahadurpur, Habibpur, and Chandpur (Rishipur). This infrastructure is ready to serve the people. It is very well understood that better health facilities have their impact on the socio-economic development of any region.

Mobility of the people and forces is necessary for socio-economic development, as well as for strengthening the security perspective in a border region. Three roads and one box-bridge have been constructed under BADP funds in Habibpur block. These roads are i) Gouramari school to *Gram Panchayat* office Rishipur, ii) Roads of village Habibpur-the block headquarter and iii) Singhabad-Kalaibadi road via Sri Rampur having box bridge constructed at village Doltahanspukr.

To strengthen the security of the border area repairs of BOPs, purchase of wireless sets (2), Generator sets (6) and construction of sanitary latrines at different BOPs and PS have been done.

For socio-cultural activities, one community hall at Tilasan and 6 *Angan badies* at Aiho, Habibpur, Kanturka, Hapami, Rishipur, and Begunbari have been constructed. This facility is for providing service to the children of SCs and STs of the Habibpur Block.

IMPACT OF BADP-PEOPLE'S ASSESSMENT

The long term and regular observations of the people who themselves are the inhabitants of the blocks, are important to gauge the magnitude of the impact of different activities on socio-economic development. In fact, the people are a true witness of the change that has occurred in these border blocks due to BADP in last 7 years. Therefore, the observations and perception of the people regarding the BADP and socio-economic change were recorded to assess the impact of the scheme.

"The work done under BADP is satisfactory but there is no proper monitoring of the work. In fact, there is no monitoring committee. All concerned departments, including BSF, should be the member of the monitoring committee and each member should have the right to monitor the work of all agencies", states Ms. Sarita Bishnoi, Pramukh (Chairperson), *Zila Panchayat*, district Sri Ganganagar. "There is a very good impact of the programme on the socio-economic development of the people of Habibpur development block" observes Ms. Shaifali Khatun, *Sabhadhipati* (Chariperson), *Zila Panchayat*, district Malda.

However, Mr. Nakshator Singh, Ex-Director, *Zila Panchayt*, Sri Ganganagar, observes that "felt needs of the people are not being supported rather forced upon by the administration".

The Pramukh of the development block Habibpur, Ms. Shanti Roy, stated that, "Good work has been done under BADP by the *Gram Panchayats* in the block, which has made a good impact on the socio-economic change in the block. However, BADP is a least known programme here."

According to Mr. Pream Prakash, Ex-Sarpanch, village-Maderna, Ganganagar, "BADP is a well known government scheme in the block and enough money is being given. We are enjoying life very well and nothing, like, sense of insecurity prevails among the people here." Further he suggested that "since there is scarcity of water for irrigation, and 'paid tube wells' should definitely be constructed under BADP".

However, Mr. Ramesh Chandra Roy, Principal, Monikara High School, Monikara, Habibpur, stated that, "there is a very good impact of educational development programme, which has made a significant impact on the area. It has given a boost to the educational and cultural development

of the surrounding area". People at village Khakha, Ganganagar, are of the opinion that the construction of diggies for water supply is of no use and no money should be sanctioned for diggies in future.

There is one common demand in the near border areas of both the blocks that, "Government wheat procurement centre in Ganganagar and rice procurement centre in Habibpur should be set-up within 5 kilometers of the border line and infrastructure for these centers may be created out of BADP funds".

In Habibpur block, the main problem emerged during the meeting organized at block Headquarter with block officials and village heads, was health. The Medical Officer of R.N. Roy Rural Hospital, Bulbulchandi, Dr. Raman Ray is of the opinion that "there is very poor health status of the people in the block because of certain factors, including poverty and poor health services". Further more he elaborated that the major health problems of the block are "skin diseases, respiratory diseases, diorehaea and tuberculosis. There is immediate requirement of PHC and sub-centres for health development. PHC infrastructure is not sufficient to cater the needs of the people. Hence, in case of Habibpur priority should be setup for educational development followed by health sector.

Public meeting held at village Dakshin Brindabanbati, has brought to the notice a serious problem related to infiltration. People are of the opinion here that Bangladeshi infiltrators have become majority (95%). They have entered in the local politics and taking advantage of the government schemes. They have purchased the land in the area and out numbered the bonafide Indian citizens.

CHAPTER-IV

STATUS OF EXISTING INFRASTRUCTURE, CRITICAL GAP AND THE LEVELS OF DEVELOPMENT

A treatise of the existing levels of infrastructure in a planning unite is prerequisite to frame a future policy and plan for sustainable development. A detailed study of the existing infrastructure created by different agencies under different programmes in both study blocks, has been done to gauge the levels of development and to find out the critical gap for future development.

EDUCATIONAL INFRASTRUCTURE

In educational infrastructure, particularly primary education as base of the educational development, has been given priority under different schemes of central as well as state governments. There were only 51 primary schools in the initial year (1993-94) of the BADP implementation in the Ganganagar development block. In the year of 1996-97, the number of primary schools raised upto 62, registering a growth of 21.56% in a period of three years. In the year of 1999-2000, there were 79 primary schools with a growth rate of 27.41% in next three years. The number of students in these years has come up to total 9009 in 1993-94 to 15236 in 1996-97 and 32512 in 1999-2000. This shows that the growth rate of student enrolment, which is reported 69.11% in 1996-97 and 113.36% in 1999-2000, is much faster than the growth rate of educational infrastructure in the Ganganagar development block. Contrary to it, Habibpur development had 147 primary schools in 1993-94, and no new school has been added in the block, since 1993-94 to 1999-2000. However, the number of student enrolment has increased significantly in these years. A growth of 17.14% was reported in the initial 3 years of BADP implementation (1993-94 to 1996-97) and comparatively low growth rate (6.47%) of student enrolment has been registered in the year of 1999-2000.

The number of middle schools in the Ganganagar development block was 45 in the initial year of 1993-94, which registered a growth of 4.44% in next 3 years, and increased up to 47 in the year of 1996-97. Again, it observed a growth of 44.68% in next 3 years and total number of middle schools increased up to 68. The total enrolment in middle schools in Ganganagar block was 4409 in the year of 1993-94, which registered a growth of 12.92% in next 3 years and it became 4979 in the year of 1996-97. Further, it registered a steep growth of 37.97% in next 3 years, and total

number of students became 6870 in the year of 1999-2000. Whereas, in Habibpur development block, the number of middle schools was only 2 in 1993-94 and most surprisingly it remain same upto 1999-2000. However, the number of students has increased significantly in the same period. There were only 314 students in the initial year of 1993-94, which increased by 14.64% in the next 3 years and became 360 in the year of 1996-97. Further, there was a steep growth of 44.72% in another 3 years and number of students in middle schools increased up to 521.

The level of secondary education development in the Ganganagar block has registered a very significant growth. There were only 14 secondary schools in the initial year of 1993-94. In the next 3 years only one secondary school was added in the Ganganagar block, and thus the total number became 15. But in next 3 years, the block has witnessed a steep rise in the secondary educational infrastructure with a growth rate of 73.33% in 1999-2000. The total number of secondary schools was 26 in this year. The total number of student enrolment at secondary level was 6783 students in the initial year of 1993-94, which observed a steep growth of 50.19% in the next 3 years. Thus total enrolment in secondary education was 10,188 in 1996-97. In next 3 years (1996-97 to 1999-2000), the student enrolment observed a very steep growth rate of 96.04%, and thus, the number of students became 19973 in 1999-2000.

Contrary to it, Habibpur development block has registered a very poor growth rate (9.09%) in the secondary educational infrastructure in the entire period of present study (1993-94 to 1999-2000). There were only 11 secondary schools in Habibpur development block in the initial year of 1993-94. Only one secondary school was added in 1999-2000. The number of students in secondary section was 11320 in the initial year 1993-94, which registered a negative growth of - 13.07% in the year of 1996-97, having total 9840 students. Again in next 3 years, it registered a dip of -13.49% having only 8512 students in 1999-2000. Thus, there is a set back of –24.80% in the student enrolment in the 7 years of the present study (1993-94 to 1999-2000).

LEVELS OF STUDENT TEACHER RATIO

The level of student-teacher ratio, which was very poor (80.43 students per teacher) in 1993-94, has improved in initial 3 years of BADP implementation (1993-94 to 1996-97) in the development block Ganganagar. During this period, it registered a high figure of 55.80 students per teacher, which again improved significantly in next 3 years (1996-97 to 1999-2000) and reported an ideal ratio of 38.24 students per teacher. Ironically, just opposite development of the educational infrastructure has been reported in Habibpur development block. The student-teacher

ratio, which was 42.63 in the initial year of 1993-94, registered a negative trend in next 3 years and it reported 54.37 in the year of 1996-97. Again in the next 3 years (1996-97), ratio has reported a more negative trend by having 60.13 students per teacher.

The student-teacher ratio in the middle level education in the development block Ganganagar, was reported 20.41 in the initial year of 1993-94. This ratio was improved to a very high level having 17.59 students per teacher in the year of 1996-97. However, this ratio came down significantly in the next 3 years and there were 68.70 students per teacher in the year of 1999-2000. In the development block Habibpur, the initial student-teacher ratio in 1993-94 was observed 26.16, which gone down very adversely in next 3 years. There were 60 students per teacher in the year of 1996-97. But it improved significantly in the next 3 years, and this became 43.41 in the year of 1999-2000.

Table-4.1: Status of the Educational Infrastructure in the Study Blocks

Infrastructure	Ganganagar Block			Habibpur Block		
	1993-1994	1996-1997	1999-2000	1993-1994	1996-1997	1999-2000
No of Primary schools	519	62	79	147	147	147
No of students in Primary schools	9009	15236	32512	16200	18978	20207
No of Teachers in Primary schools	112	273	850	380	349	336
No of students per teacher in Primary schools	80.43	55.80	38.24	42.63	54.37	30.03
No of Middle schools	45	47	68	2	2	2
No of students in Middle schools	4409	4979	6870	314	360	521
No of teachers in Middle schools	216	283	100	12	6	12
No of students per teacher in Middle schools	20.41	17.59	68.70	26.16	60.0	43.41
No of Sec./High Sc. Schools	14	15	26	11	11	12
No of students in Sec./High Sc. Schools	6783	10188	19973	11320	9840	8512
No of teachers in Sec./High Sc. Schools	140	146	760	169	143	183
No of students per teacher in Sec./High Sc. Schools	48.45	69.78	26.83	66.98	68.81	46.51

Source: District Statistical Hand Books.

At the secondary level, the student-teacher ratio in both development blocks, has been observed a fluctuating trend during the study period. The student-teacher ratio was 48.45 in the initial year of 1993-94 in Ganganagar block, which was decreased to the level of 69.78 students per teacher in next 3 years (1993-94 to 1996-97). But, it improved remarkable to the level of 26.28 students per teachers in next 3 years (1996-97 to 1999-2000). The reason of decrease in student-teacher ratio in Ganganagar block, is the increase of the students in initial 3 years (1993-94 to 1996-97), but it improved significantly due to increase in the number of teachers in next 3 years (1996-97-1999-2000). Contrary to it, the decrease in student-teacher ratio at secondary level in Habibpur

development block in initial 3 years (1993-94 to 1996-97) was due to decrease in the number of the teachers. The improvement shown in the next three years (1996-97 to 1999-2000) is not mainly due to increase in the number of teachers but due to sharp fall in the number of students at secondary level in these years. The table 4.1 shows the comparative picture of existing educational infrastructure in both study blocks.

ROLE OF BADP

The BADP has played a very significant role in the development of educational infrastructure in both study blocks. Under BADP, the construction of additional rooms (2-3 rooms, verandah, one latrine and urinal) was the priority area by having 9.24% funds of the allocation for this purpose in the Ganganagar development block. This scheme has benefited total 41 schools in the Ganganagar block. Similarly, in Habibpur development block, 38.78% funds of BADP have been utilized for construction of addition educational infrastructure in the existing schools. In total, 18 schools have got the benefits of the BADP. Table 4.2 shows the year wise work done and allocation of BADP funds for educational infrastructure.

Table-4.2: Yearwise Number of Projects and BADP Expenditure Incurred on School Buildings (*Amount Rs. Lakh)*

Years	Ganganagar Block			Habibpur Block		
	Total No. of works	Amount in Lakh	% of Total Allocation	Total No. of works	Amount in Lakh	% of Total Allocation
1994-95	0	0	0	2	4.8	32.19
1995-96	4	6.21	2.92	1	5.5	45.87
1996-97	0	0	0	5	8.0	100.00
1997-98	10	33.94	17.10	5	9.34	100.00
1998-99	25	50.91	16.99	0	0	0
1999-2000	0	0	0	3	12.45	35.87
2000-2001	2	31.95	22.29	2	5.25	17.63
Total	**41**	**123.01**	**9.24**	**18**	**45.34**	**38.78**

Source: District Magistrate Offices.

CRITICAL GAP IN EDUCATIONAL INFRASTRUCTURE

A wide gap is observed in the existing educational infrastructure and requirement of the blocks. There are 48 villages in the Ganganagar development block and 35 villages in the Habibpur development block, which require schools (Fig-4.1). The requirement of primary schools is felt in village 4H, 7 C-I, 2A, Sarkaj Nahar Pakki, 1D, 4D, Orki, 1G, 1J, 3H, 4F, 3J, 4G, Gunjal, 4Y, 9Y, 16 F, 11F, 7Y, 3d, 1Z, 3b, 14AF, 15F-II, 3L, 1L, 5Z, 3Z, 1e, 8LNP, 10 LNP, 9 LNP, 16Z, 5C, 6a, 4a, 2ML, 13 ML-I, 4f, 7a-II, 7a-I, 9a, 4h, 4g, 18 ML, 21 GG, 24GG, and 5 LL in the Ganganagar development block. In Habibpur development bock, the requirement of school is identified at

village Rangamati, Dolmalpur, Sripur, Guhinagar, Betpukur, Ramnahat, Pathar Harishchandrapur, Uttar Brindabanbati, Dalachhala, Adampur, Mastapara, Prozabad, Bankail Bishnpur, Mizapur, Pather Dighali, Khatiakana, Baksinagar, Bampur, Kalpechi, Hazipur, Aragachhi, Pather Hato, Sunderpur, Lakshmipur, Khochakandar, Basantapur, Telipukur, Betpukuria, Mangolpura, Pather Nibati, Anail, and Niamatpur (Fig. 4.1).

In addition to school buildings, several other things like play grounds, hostel/dormitory, library, dresses, books and journals also needs to be focussed upon in the existing and required schools in both development blocks. A significant gap is also observed in the area human resource development. Providing vocational and technical education in both blocks, can bridge this gap.

AGRICULTURE AND ALLIED INFRASTRUCTURE

The main agriculture and allied sector infrastructure in both blocks, are the fertilizer depots and seed stores. The numbers of both fertilizer depots and seed stores are increasing in both blocks. Though, the trend of growth is slow. There were 121 fertilizer depots and 3 seed stores in the development block Ganganagar in the initial year of 1993-94. In the next 3 years, the number of fertilizer depots and seed stores increased 124 and 4, respectively in 1996-97. Further more, after 3 years in 1999-2000, the number of fertilizer depots and seed stores grew up to 127 and 5, respectively. In the development block Habibpur, there were 111 fertilizer depots and only 1 seed store in the year 1993-94. After 3 years in 1996-97, the number of both increased by one and became 112 fertilizer depots and 2 seed stores. In 1999-2000, the number of fertilizer depots became 114, but the numbers of seed stores remain constant at 2.

The number of tanks in Ganganagar block is more compare to Habibpur. But the area of tanks, depth and water contain are more in Habibpur development block. There were 131 tanks in the development block Ganganagar in 1993-94, covering an area of 2.59 hectares. While number of tanks in Habibpur development block, was 72 with a surface coverage of 348 hectares in the same year. However, the number and area of the tanks in both blocks is constant till 1999-2000. The bigger size, depth and much water contains in the tanks of Habibpur development block, provided an opportunity to the people for pisciculture development. In addition to the tanks, there are a number of natural ponds and swampy lands, which inundated during rainy season, covering an area of 710 hectares. This provides an opportunity to 6500 people in the Habibpur development block to get employment in fish cultivation. There is fish production to the tune of 5061 quintals annual in this block

The number of veterinary institutions in the development block Ganganagar was 15 in 1993-94 and in Habibpur block this number was only 5 in the same year. The number increased up to 23 in 1996-97 in Gangana gar bock, while increased only up to 7 in the Habibpur block in the same period. Further more, the growth of veterinary institutions in Ganganagar block went up to 25 in the year of 1999-2000 but it remains constant in Habibpur development.

Table-4.3: Status of Agriculture and Allied Infrastructure in the Study Blocks

Infrastructure	Ganganagar Block			Habibpur Block		
	1993-1994	1996-1997	1999-2000	1993-1994	1996-1997	1999-2000
No of fertilizer Deports	121	124	127	111	112	114
No. of seed stores	3	4	5	1	2	2
No. of Tanks	131	131	131	72	72	72
Total Tanks Area (Hec)	2.59	2.59	2.59	348	348	348
No. of Veterinary Instit.	15	23	25	5	7	7
No. of co-operative societies	166	172	188	68	39	44
Working capital (Rs '000)	113052	121199	168998	82.02	2744.0	1871.3
Member of co-operative societies	75200	98368	113052	2386100	1371200	3465600

Source: District Statistical Handbooks.

The number of cooperative societies in Ganganagar development block, is increasing consistently. There were 166 cooperative societies in 1993-94, 172 in 1996-97 and 188 in 1999-2000, with a working capital of Rs 11.30 crores in 1993-94, Rs 12.12 crore in 1996-97 and Rs. 16.90 crore in 1999-2000. Contrary to it, the number of cooperative societies in Habibpur development block was only 68 in 1993-94, which reduced to 39 in next 3 years and further increased to 44 in 1999-2000, with a working capital of Rs 0.82 lakh in 1993-94, Rs 27.44 lakhs in 1996-97 and it reduced to Rs 18.91 lakh in 1999-2000. There were 75200 members in cooperative societies in 1993-94 in Ganganagar block, which has increased consistently upto 113052 in 1999-2000. The number of members of cooperative societies is very large in Habiibpur block, but shows the fluctuating trend. Table-4.3 shows the existing status of agriculture and allied infrastructure in both study blocks.

ROLE OF BADP

Both blocks are agriculture dominating areas, but ironically under BADP, almost no work has been done in this sector in both development blocks. Only one channel was constructed in village Mukan (development block Ganganagar) in 1995-96, with an amount of Rs 0.80 lakh. Which is insignificant (0.37%) compare to the total allocation of the year. Virtually, no work has been

done in this sector in Habibpur development block. This is the neglected sector, which needs attention for BADP implementation.

CRITICAL GAP IN AGRICULTURE AND ALLIED SECTOR

There is very wide critical gap in agriculture and allied sector, which needs to be covered under BADP. There is urgent need for minor irrigation facilities, quality seeds and adequate supply of fertilizers in time, effective pesticides, and agricultural training in new techniques and technologies in both development blocks. Further more, there is significant gap in the field of animal husbandry in both the blocks. The quality of livestock is poor particularly in Habibpur block. There is a need of veterinary aid centers, artificial insemination and breeding centres in both study blocks. There is a gap in the field of pisciculture, sericulture, horticulture and social forestry in Habibpur block. While in Ganganagar block, plantation along canal and roads has to be given priority for forestry development. De-siltation of ponds in Ganganagar block as well as in Habibpur block is the major work gap, which needs this sector. If this work taken up under BADP, it may play an important role to cater the need of water for cattle in Ganganagar block and for pisciculture development in Habibpur to some extent. This has to be supported by water conservation programmes like watershed management particularly in Habibpur block. This will increase the sub-soil water moisture necessary for winter crops. This will add one more crop in winter season in Habibpur block. At the same time, it will increase the vegetation cover in Habibpur development block.

HEALTH INFRASTRUCTURE

The study of existing health infrastructure of both development blocks, shows that there is consistent growth in PHCs. There were 3 PHCs in 1993-94 in Ganganagar block, which increased to 33 in 1996-97 and increased to 42 in next 3 years (1998-99 to 1999-2000). In Habibpur development block, the number of PHCs was only 2 in the initial year 1993-94. In the next 3 years this number grew up to 42 in 1996-97. However, the number remains constant in the next 3 years upto 1999-2000. The number of Hospitals, and sub-health centres/hospitals was one and 8 in 1993-94 in Ganganagar development block, remains constant upto 1999-2000. In Habibpur development block, the number of hospital was 1 and number of sub-health centres was 2, which had no changes till date. The number of beds in Hospitals, which was 305 in 1993-94, has increased upto 327 in 1999-2000 in development block Ganganagar. Whereas in Habibpur block, the number of beds decreased from 41 in 1993-94 to 39 in 1996-97 and it was the same in number till 1999-2000. There is no significant change in the number of doctors in hospital and

PHCs in both blocks. However, the numbers of patients have increased from 92880 in 1993-94 to 153840 in 1996-97 and 2,04,719 in 1999-2000 in Ganganagar block. The scenario in Habibpur development block is just reverse. The number of patients has gone down from 90569 in 1996-97 to 18826 in 1999-2000. Table-4.4 gives the details of existing health infrastructure in both blocks.

Table- 4.4: Status of Health Infrastructure in the Study Blocks

Infrastructure	Ganganagar Block			Habibpur Block		
	1993-94	1996-97	1999-2000	1993-94	1996-97	1999-2000
PHCs	3	33	42	2	42	42
Hospitals	1	1	1	1	1	1
Sub-Health Centre/Hospitals	8	8	8	2	2	2
No. of Beds	305	327	327	41	39	39
No. of Doctors	25	23	30	4	4	5
Patients treated	92880	153840	20,4719	27204	90569	18826
Other Dispensaries	1	2	2	1	2	2
No. of Ambulance	0	0	0	1	1	1

Source: District Statistical Handbooks.

ROLE OF BADP

Under BADP, 15 health related activities in Ganganagar block and 7 in Habibpur block have been completed. An amount of Rs. 133.34 lakh has been incurred on health sector, which is 10.02% of the total BADP allocation to Ganganagar block since 1993-94 to 1999-2000. In Habibpur block, Rs. 6.86 lakhs has been incurred on health related activities. This amount is 5.87% of the total allocation to Habibpur development block during the same period. Table-4.5 provides the year wise details of work done and amount incurred on health sector.

Table-4.5: Yearwise Number of Projects and Expenditure Incurred in Health Sector under BADP

(Amount in Rs. Lakh)

Years	Ganganagar Block			Habibpur Block		
	Total No. of works	Amount Rs. Lakh	% of Total Allocation	Total No. of works	Amount Rs. Lakh	% of Total Allocation
1994-95	5	45.4	42.25	1	2.5	16.77
1995-96	0	0	0	0	0	00
1996-97	2	14.95	15.42	0	0	0
1997-98	4	35.5	17.89	0	0	0
1998-99	1	24.0	8.01	0	0	0
1999-2000	0	0	0	6	4.36	12.56
2000-2001	3	13.49	9.41	0	0	0
Total	**15**	**133.34**	**10.02**	**7**	**6.86**	**5.87**

Source: District Statistical Handbooks.

CRITICAL GAP IN HEALTH INFRASTRUCTURE

There is a significant gap in the existing health infrastructure and requirement of the blocks. Special attention has to be given under BADP for the development of Health related infrastructure in both development blocks particularly in Habibpur block. There is no blood bank in the rural areas, no x-ray and ECG machine, and laboratory in any sub-hospital of both study blocks. There should be a PHC in each village, having more than 2000 population. Adopting this criteria, 16 sites in Ganganagar block and 19 sites in Habibpur block, have been identified for the PHCs. The locations in Ganganagar block are 7B, 4B, 4C, 5D, 2F, 3Q, 5P, 3G, 2Z, 15 F-I, 3Z, 5Z, 3e, 2HH-I, 31GG, and 4 HH. While in Habibpur block locations identified are Bakna, Balisimla, Begunbari, Mongalpura, Charaigola, Chanchaichandi, Dighal Kanadi, Gopalnagar, Nityanandpur, Singra, Pathar Chapri, Pathar Digholi, Pathar Dojot, Pathar Domaichand, Ramkupuria, Rampur, Raja Rampur, Rajdol and Tulsidanga. Besides mentioned proposed PHCs, there should be provisions for dental clinic, eye camps, mother and child care programme, advance first aid kits for midwives and health awareness programes are also needed in both the block. These areas are untouched so far in both blocks (Fig. 4.2).

SECURITY INFRASTRUCTRUE AND BADP

Development of sense of security is one of the basic objectives of the BADP. In security sector, a lot of infrastructure has been created under BADP. The data pertaining to the work done for strengthening the security under different other schemes is not available. An amount of Rs 140.94 lakh has been incurred on security arrangements in last 7 years (1994-95 to 2000-2001), which is 10.56% of the total allocation of Ganganagar block in this period. In Habibpur block, an amount of Rs 8.78 lakh, (7.5% of the total block allocation) has been incurred on security arrangements in the same period. Under BADP *Naka*-cum-OP *Machan*, barracks for Jawan, DCB at BOPs, WSS at BOPs, Diggies and *banker nirman* has been done in Ganganagar block. In Habibpur development block, repair of BOPs and purchase of wireless sets have been done under BADP. In Ganganagar block, police station, police lines and quarters for police personnels have been constructed.

CRITICAL GAP IN SECURITY SECTOR

On the basis of discussion held with BSF personals, civil officers, representatives of *Gram Panchayats* and knowledgeable persons, certain gaps have been identified to cover under BADP. In Ganganagar block, a *pucca* road along the border fencing connecting border villages, 28 *Naka-Cum*-OP *Machan*, drinking water in all BOPs and barracks at Shakti, Rakshak (5S), QH, 7H,

Kanchanpur, Kotha and Khakha. Further, cook houses near 5S and QH, generator structure in Renuka, and connecting roads to Madera, Kotha, Khakh, 5S, QH, Kanchanpura, 7C, Renuka, Sunderpura, 1S, &7H, Shakti, and Rakshak etc. It is further recommended that all BOPs, except QH should be linked with metalled roads on priority basis. A bridge near QH is required. Pucca fencing along rest of the borderline of the block, a *pucca* road in Hindu Mal Kot and toilet facilities at 13 posts are needed. Purchase of modern subversilence equipments should also be permitted under BADP. One JCB machine is also required to cut the long weeds between fencing and zero line and shifting of canal from QH is also recommended under BADP.

In Haibpur development blocks connectivity of all BOPs/OPs with *pucca* roads, repair of culverts and construction of barracks is needed. Further more, generator sets for BSF base camp, facilities for gymnasium in BOPs, solar lights in BOPs, and tubewells in BOPs are required.

ROAD INFRASTRUCTURE AND BADP

The length of metalled and unmatalled roads is increasing in both blocks. However, more roads and maintenance of existing roads is necessary. The BADP has played a vital role in the development of road net work particularly in Ganganagar block. 16.73% of the total allocation of Ganganagar block has been incurred on the construction of roads, while 27.93% of the total BADP funds has been utilized for this purpose in Habibpur block (Table-4.6).

Table-4.6 Year wise Expenditure Incurred on Roads Constructed Under BADP in Study Blocks

(Amount in Rs. Lakh)

Years	Ganganagar Block		Habibpur Block	
	Amount (Rs lakhs)	% of Allocation	Amount (Rs lakhs)	% of Allocation
1994-95	0	0	5.0	33.53
1995-96	0	0	3.89	32.44
1996-97	0	0	0	0
1997-98	31.72	15.98	0	0
1998-99	32.22	10.75	8.2	100
1999-2000	102.20	37.43	2.00	5.76
2000-2001	56.64	39.52	13.57	45.58
Total(1994-01)	**222.78**	**16.73**	**32.66**	**27.93**

Source: District Statistical Handbooks.

The major roads, which have been constructed under BADP in Ganganagar block, are Mirzewala to Jodhewala, Kotha to Khakha, 39 PS to 43 PS, 5 KK to Sulemani head, Sabuki head to 34 LNP, Jaloki to 43 RB, Doulatsinghpura to Sri Ganganagar. Apart from these rural roads, some roads viz. Aryan chowk to Dhringawali, Mera chowk to SSB chowk, the main roads of ward no 34,35

and 36 and approach road to DRDA office, have been constructed in urban area of Sri Ganganagar city. Two bridges, one box bridge at Z minor and one fly over near Income Tax officer at Wadha Chawk, Sri Ganganagar, have also been constructed under BADP. In Habibpur block, three roads and one boxbridge have been constructed under BADP. These roads are Gouramari school to *Gram Panchayat* office Rishipur, Roads of village Habibpur- the block headquarter and Singhabad-Kaliachak road via Srirampur having a box bridge constructed at village Doltahanspukur.

CRITICAL GAP IN ROAD INFRASTRUCTURE

There is a requirement of roads connecting all inhabited villages along the border fencing and links roads to all BOPs in Ganganagar block. Apart from these roads other requirement is to connection 3 D to Orki via 2 D, Phatuhi to 1 H, 8LL to Tatarsa, 18 GG to 19 GG and 7F to 5F. In Habibpur block, there is requirement of roads to connect all BOPs with *pucca* roads. This includes village Mohanpur to Akalpur, Mohanpur to Lota Bhanga, Solardanga to Khatiakana, Khatiakana to Pathar Kandi via Pather Basuli, Pather Chaper to Pather Dharenda, Anai to Mohanpur, Jajail to Kotalpur BSF camp, Dhananjaya to Adampur Camp, Kotalpur to Haripur, Baidyapur to Harishchandrapur, Baidyapur to Dharenda, Anantpur to Asrafpur (Fig-4.3).

OTHER EXISTING INFRASTRUCTURE

There is a lot of other infrastructure exited, which is instrumental in leading the socio-economic development in both study blocks. There is continuous increase in numbers of post offices, public libraries, fair price shops, number of commercial and *Gramin* banks and their savings and number of electrified villages in both development blocks.

Table- 4.7: Other Existing Infrastructure in the Study Blocks

Infrastructure	Ganganagar Block			Habibpur Block		
	1993-94	1996-97	1999-2000	1993-1994	1996-1997	1999-2000
No. of post offices	105	111	113	18	119	19
No. of public Libraries	1	1	1	5	96	7
No. of GPs with telephone	27	37	43	5	8	11
No. of fair price shops	54	70	78	45	48	50
No of villages having electricity	71	113	215	238	241	242
No. of commercial banks	16	18	19	5	5	5
No. of gramin banks	21	21	21	5	5	5
Net saving collection (Rs. Lakh)	1604.93	1693.01	3636.90	49.71	81.01	212.59

Source: District Statistical Handbooks.

There are 113 post offices in Ganganagar block and only 19 in Habibpur block. The number of public library in Ganganagar block is only 1, while this figure is 7 in Habibpur development block. The fair price shops in Ganganagar block are 78, while there are 50 shops in Habibpur block. Out of 273 villages in Gangangar block, 215 are electrified, while is Habibpur block, out of 292 villages 242 have electricity. There are 19 commercial banks and 21 *Gramin* Banks in Ganganagar block, while there are only 5 commercial banks and 5 *Gramin* Banks in Habibpur development block. Out of total 46 *Gram Panchayats* in Ganganagar block, 43 have telephone facility. In Habibpur block, all 11 *Gram Panchayats* have telephone connections. Table -4.7 gives the details of other existing infrastructure in the blocks.

OTHER INFRASTRUCTURE AND BADP

All most half of the total allocation (48.52%) to Ganganagar Development block during 1994-95 to 2000-2001, has been utilized for the construction of administrative buildings, whereas in Habibpur development block only one fourth (25.39%) has been incurred for this purpose in the same period.

Table-4.8: Year wise Expenditure Incurred on Administrative Buildings in the Study Blocks

(Amount in Rs. Lakh)

Years	Ganganagar Block		Habibpur Block	
	Amount (Rs. lakh)	% of Allocation	Amount (Rs. lakh)	% of Allocation
1994-95	74.06	68.92	0	0
1995-96	120.51	56.73	0	0
1996-97	71.78	74.06	0	0
1997-98	67.78	34.15	0	0
1998-99	124.32	41.49	0	0
1999-2000	99.70	36.51	19.69	56.73
2000-2001	87.80	61.26	10.0	33.59
Total(1994-01)	**645.95**	**48.52**	**29.69**	**25.39**

Source: District Statistical Handbooks.

The buildings constructed under BADP funds in Ganganagar development block, include the office of DRDA, doctors quarters (8), police stations (3), third grade staff quarters (47), fourth grade staff quarters (27), residence of SDM (7), SDO court and Tehsil office, residence of SP (SSB) and SP (operation), CID court campus (16 rooms), DM office (5 rooms), store room in court campus, Mini Secretariat and Tehsildar quarters. In Habibpur development block, building constructed under BADP are staff quarters at block head-office, doctors and other health staff quarters in hospitals of the block. Table-4.8 gives the details of year wise expenditure incurred on administrative buildings constructed under BADP in both blocks.

CRITICAL GAP IN OTHER INFRASTRUCTURE

There are certain areas where intervention of BADP is sought. These areas are public libraries, communication facilities, dish antenna with TV in *Gram Panchayats* and construction of common worksheds and bus stops etc.. However, a check has to be kept on the construction of administrative buildings, particularly in Ganganagar development block.

LEVELS OF SOCIO-ECONOMIC DEVELOPMENT

The income level of households is the most important criteria to judge the level of socio-economic development in any region. The study of households in Ganganagar development block and Habibpur block reflects that the economic level of the Ganganagar development block is better than Habibpur development block.

LEVELS OF INCOME

According to the household survey it is observed that 63.6% respondents have income level less than Rs 1000/- per month in Ganganagar block. In Habibpur development block, the percentage of households under this income level is 79.3%. It is observed that 15.1% households have their income level between Rs 1000-2000/- per month in Ganganagar block. This is followed by 10.4% households having income level between Rs 2000-3000/-per month, 6.7% households having income level Rs 3000-4000/- per month and rest 4.2% households having their income level above Rs 4000/- per month (Fig. 4.4).

In Habibpur development block, 10% households have their income level Rs 1000-2000/- per month, followed by 5.9% households in income level of Rs 2000-3000/- per month, 3.3% having income level of Rs 3000-4000/- per month and rest 1.5% households have their income level above Rs 4000/- per month. Table 4.9 gives the details of income level in both blocks.

Table-4.9 Distribution of Earning Pattern in the Surveyed Villages of Both Study Blocks

Monthly Income (Rs)	**Ganganagar Block**		**Habibpur Block**	
	No	%	No	%
Below 1000	289	63.6	370	79.3
1000-2000	69	15.1	47	10.0
2000-3000	47	10.4	27	5.9
3000-4000	31	6.7	15	3.3
Above 4000	19	4.2	7	1.5
Total	**455**	**100**	**466**	**100**

Source: Field Survey 2001-02.

EXPENDITURE PATTERN

The study of expenditure pattern of both blocks shows that percentage of saving is better in Ganganagar development block (5.2%), than Habibpur block (2.1%). Table-4.10 shows the comparative picture of expenditure pattern in the study blocks.

Table-4.10: Percentage Distribution of Households by Pattern of Expenditure in Surveyed Villages of both Study Blocks

Items	Ganganagar Block	Habibpur Block
Food	50.3	56.2
Clothes	4.4	3.9
House & Household Goods	11.3	8.6
Medical	2.5	1.6
Education	2.1	2.1
Drinking & Smoking	18.7	20.2
Others	5.5	5.3
Saving	5.2	2.1
Total	**100**	**100**

Source: Field Survey 2001-2002.

In development block Ganganagar 50.3% of the total income is spent on food items, followed by drinking and smoking (18.7%), house and household goods (11.3%), clothes (4.4%), medical facilities (2.5%), education (2.1%) and social and other ceremonial activities (5.5%).

Table 4.11: Distribution of Principal Earners by Occupation in Gangangar Block

Villages	Cultivator	Agri. Labour	Busi./indu.	Artisan	Others	Total
7Z	7 (35%)	10(50%)	1(5%)	1(5%)	1(5%)	20(100%)
13Z	5(25%)	12(60%)	1(5%)	1(5%)	1(5%)	20(100%)
19Z	6(30%)	11(55%)	1(5%)	1(5%)	1(5%)	20(100%)
27GG	6(28.58%)	12(57.14%)	1(4.76%)	1(4.76%)	1(4.76%)	21(100%)
Chunawad-30GG	8(29.63%)	13(48.14%)	2(7.41%)	2(7.41%)	2(7.41%)	27(100%)
11Q	5(23.81%)	13(61.91%)	1(4.76%)	1(4.76%)	1(4.76%)	21(100%)
Sangatpura-8H	6(28.57%)	10(47.61%)	1(4.76%)	2(9.53%)	2(9.53%)	21(100%)
Doulatpura-3Q	9(33.33%)	14(51.85%)	1(3.71%)	1(3.7%)	2(7.40%)	27(100%)
Mohanpura-9Y	5(25%)	11(55%)	1(5%)	1(5%)	2(10%)	20(100%)
Phatuhi-1F	5(25%)	12(60%)	1(5%)	1(5%)	1(5%)	20(100%)
Khatlabana-2F	10(37.04%)	14(51.86%)	1(3.70%)	1(3.70%)	1(3.70%)	27(100%)
Madera-7D	6(28.57%)	11(52.39%)	1(4.76%)	2(9.052%)	1(4.76%)	21(100%)
Rohirwali-2P	8(33.33%)	12(50%)	1(4.17%)	1(4.17%)	2(8.33%)	24(100%)
Koni-5P	7(25%)	18(64.29%)	1(3.57%)	1(3.57%)	1(3.57%)	28(100%)
4Z	7(33.33%)	11(52.39%)	1(4.76%)	1(4.76%)	1(4.76%)	21(100%)
Kotha-2B	6(30%)	7(35%)	4(20%)	2(10%)	1(5%)	20(100%)
Khhakhha-1A	5(23.8%)	13(61.91%)	1(4.76%)	1(4.76%)	1(4.76%)	21(100%)
4ML	4(19.04%)	13(61.90%)	1(4.77%)	1(4.76%)	2(9.52%)	21(100%)
H.Mal Kot-7B	8(32%)	10(40%)	3(12%)	2(8%)	2(8%)	25(100%)
Sri Ganganagar	6(21%)	12(41%)	3(10%)	4(13.34%)	5(16.67%)	30(100%)
Total	**129(28.35%)**	**239(52.52%)**	**28(6.16%)**	**28(6.16%)**	**31(6.81%)**	**455(100%)**

Source: Field Survey 2001-02.

Whereas in Habibpur development block 56.2% of the total income is spent on food items, followed by drinking and smoking (20.2%), house and household goods (8.6%), clothes (3.9%), education (2.1%), medical facilities (1.6%), and social and other (5.3%) ceremonial activities (Fig. 4.4).

The discussed levels of income and expenditure patterns are the reflection of the principal earners in the surveyed households. The distribution of occupational classification of principal earners shows that 52.52% respondents are agriculture labourers, followed by cultivator (28.35%) businessman (6.16%), artisans (6.16%), and service and other tertiary sector (6.81%) in the Ganganagar block. In Habibpur, the classification of principal earners shows that 53.65% respondents were agriculture workers, followed by cultivators (25.97%), businessmen (5.15%) artisans (5.58%), and rest service and other tertiary sector (9.65%). Table-4.11 and 4.12 give the village wise details of principal earners by occupational classification.

Table-4.12: Distribution of Principal Earners by Occupation in Habibpur Development Block

Village	Cultivator	Agri. Labour	Busi./indu.	Artisan	Others	Total
Mongalpura	4 (19.04%)	13 (61.91%)	0 (0)	3 (14.21%)	1(4.76%)	21 (100%)
Binodpur	6 (27.27%)	12(54.54%)	1 (4.55%)	1(4.55%)	2(9.09%)	22 (100%)
Palashdanga	6(30.0%)	11(55.0%)	1 (5.0%)	1 (5.0%)	1(5.0%)	20 (100%)
Baidyapur	5(23.81%)	12 (57.15%)	1(4.76%)	1(4.76%)	2(9.52%)	21 (100%)
Chakli	5(19.24%)	18 (69.24%)	1(3.84%)	1(3.84%)	1(3.84%)	26 (100%)
Jagjibanpur	6 (24.0%)	11 (44.0%)	1(4.0%)	2(8.0%)	5(20.0%)	25 (100%)
Bahadurpur	4(20.0)	11 (55.0%)	1 (5.0%)	1(5.0%)	3(15.0%)	20 (100%)
Begunbari	4 (19.05%)	14 (66.67%)	1(4.76%)	1(%4.76)	1(4.76%)	21 (100%)
Habibpur	6 (25.0%)	12 (50.1%)	2(8.35%)	1(4.16%)	3(12.50%)	24 (100%)
Agra	9 (36.0%)	11 (44.0%)	1 (4.0%)	1(4.0%)	3(12.0%)	25 (100%)
Manikora	5 (23.81%)	12 (57.15%)	1 (4.76%)	1(4.765)	2(9.52%)	21 (100%)
Kanturka	6 (27.27%)	12 (54.54%)	1(4.55%)	1(4.55%)	2(9.09%)	22 (100%)
Sibpur	4 (20.0%)	13 (65.0%)	1(5.0%)	2(10.0%)	0(0%)	20 (100%)
Tilason	7 (26.92%)	16 (61.53%)	1(3.85%)	1(3.85%)	1(3.85%)	26 (100%)
Mohonpur Inlish	4 (18.19%)	15 (68.19%)	1(4.54%)	1(4.54%)	1(4.54%)	22 (100%)
Rishipur	6 (24.0%)	10 (40.0%)	0 (0)	2(8.0%)	7 (28.0%)	25 (100%)
Gouramari	10 (35.71%)	14 (50.1%)	1 (3.57%)	1(3.57%)	2 (4.14%)	28 (100%)
Aiho	7 (25.0%)	10 (35.72%)	2 (7.14%)	2(7.14%)	7(25.0%)	28 (100%)
Srirampur	9 (40.91%)	10 (45.45%)	2 (9.09%)	1(4.54%)	0(0)	22 (100%)
Dakshin Brindaban-bati	8 (29.63%)	13(48.15%)	4 (14.82%)	1(3.70%)	1(3.70%)	27 (100%)
Total	**121**	**250 (53.65%)**	**24 (5.15%)**	**26(5.58%)**	**45 (9.65%)**	**466(100%)**

Source: Field Survey 2001-2002.

OCCUPATIONAL DIVERSITY

The levels of socio-economic development are associated with the occupational diversity of the region. It is observed in development block Ganganagar that 46.01% of the total workers are cultivators, followed by agricultural labourer (29.85%), other service sector (7.19%), trade and commerce (6.39%), industrial worker (3.39%), household manfuacture (2.77%), transport, storage and communication (2.39%), construction (0.84%), livestock (0.78%), mining and querrying (0.22%), and hunting, plantation, orchards and allied activities (0.1%). In Habibpur development block, 37.74% of the total workers is cultivators, followed by agricultural labour (33.66%), fishing (9.95%), other service sector (5%), trade and commerce (4.04%), industrial worker (3.76%), household manufacturers (3.08%), transport, storage and communication (1.33%), livestock (0.94%), construction (0.3%), mining and quarrying (0.01%), and rest (0.12%) hunting, plantation, orchards and allied activities. Table-4.13 shows the status of occupational diversity in the study blocks.

Table- 4.13 Status of Occupational Diversity in the Study Blocks

Classification	Ganganagar Block	Habibpur Block
Primary sector	**85874**	**60448**
Cultivator	51320	27672
Agricultural Labourers	33298	24681
Live stock	879	692
Fishing	6	7300
Mining	252	11
Hunting Plantation, Orchards & Allied	119	92
Secondary Sector	**7818**	**5249**
Manufacturing (H.H)	3095	2259
Other Industrial worker	3786	2763
Construction	937	227
Tertiary	**17833**	**7617**
Trade & commerce	7135	2966
Transport, Storage & communication	2617	981
Other service sector	8027	3670

Source: Census 1991.

CHAPTER-V

PEOPLE'S PARTICIPATION IN BADP, FELT NEEDS AND POTENTIALS FOR NEW AVENUES OF EMPLOYMENT

The people's participation in the process of development provides them opportunities to fulfill their felt needs and creates a sense of responsibility for the proper utilization and maintenance of the community assets created by themselves. Thus, their partnership in the development enhance their level of confidence leading to sense of security and sustainable development. The BADP emphasizes on the selection of the projects/schemes based on the felt needs of the people or special problems of the area, with ensured participation of the people from planing level to implementation level and even there after for utilization and maintenance of the assets created. For such a need assessment, there are many participating methods, such as Participatory Rural Appraisal (PRA approach), which enable the local people to share, enhance and analyse their knowledge of life and condition to plan and act. People fully involve themselves with the development agencies in decision-making process, prioritization process and pro-actively carry out them as partners through their contribution of ideas, interest, material, money, labour and time.

PEOPLE'S PARTICIPATION IN BADP

The results of the study summarized in table-5.1 reveal that people's participation has been ensured in the implementation of different activities under BADP. In Ganganagar Development block, 46.74% of the total activities executed during 1994-95 to 2000-2001, has been implemented through people's participation. In Habibpur development block, people's participation has implemented 82.97% of the total activities completed during the same period. Out of total numbers of activities (246) completed in Ganganagar block, 115 activities have people's involvement in the implementation. In Habibpur block, people's participation has been observed in 39 activities out of total 47 activities executed in the block under BADP during the mentioned period of 7 years.

Table-5.1: Yearwise % Distribution of People's Participation in BADP in the Study Blocks

Year	Ganganagar Block				Habibpur Block			
	Activities		Allocation		Activities		Allocation	
	Amount (Rs. lakh)	% of total work done in the year	Amount (Rs. lakh)	% of total allocation of the year	Amount (Rs. lakh)	% of total work done the year	Amount (Rs. lakh)	% of total allocati-on of the year
1994-95	4	14.28	6.55	6.09	2	33.33	4.8	32.19
1995-96	7	14.89	7.67	3.61	2	66.66	9.39	78.31
1996-97	11	55.00	44.95	46.37	5	100	8.0	100
1997-98	18	62.50	158.15	79.69	5	100	9.34	100
1998-99	51	68.91	119.07	39.73	1	100	8.2	100
1999-2000	4	22.22	7.18	2.62	20	95.23	31.02	89.36
2000-2001	20	57.14	83.87	58.51	3	66.66	28.20	94.72
Total	**115**	**46.74**	**427.44**	**32.10**	**39**	**82.97**	**98.95**	**84.63**

Source: District Magistrate Offices.

The fund wise analysis of the study blocks, reveals that 32.10% (Rs. 427.44 lakh) of the total allocation in Ganganagar block and 84.63% (Rs. 94.95 lakh) in Haibpur block, has been sanctioned for the people's participation during 1994-95 to 2000-2001. This shows that there is greater people's participation in the Habibpur development block than the Ganganagar block, both in terms of activities as well as funds.

The year wise analysis of people's participation in the Ganganagar block reveals that 14.28% of the total activities in the year 1994-95, has been completed through people's participation. Though, only 6.09% funds were allocated for those activities in the same year. Contrary to this, in Habibpur development block, 33.33% of the total work has been completed through people's participation. For this 32.19% of the total funds allocated to the block, was sanctioned for people's involvement in the same year. In the year of 1995-96, 14.89% of the total work was completed under people's participation for which 3.61% of the total allocation was made available to the people in Ganganagar block. In Habibpur development block, 66.66%, of the total work was completed through people's participation for which 78.31% of the total allocation was made available to people in the same period.Morover, in Habibpur development block, all activities of BADP were implemented through people's participation and total allocation of the block in the year 1996 -97 was made available to the people. This trend of people's participation was continued for three consecutive years (1996-97 to 1998-99).

In the year of 1996-97, the share of people's participation grew upto 55.0% in terms of activities and 46.37% in terms of fund. In next year (1997-98) the share of people's participation grew upto 62.50% in terms of activities and 79.69% in terms of fund allocation in the Ganganagar block.

Again in the year of 1998-99, the activity wise share of people's participation rose upto 68.91%. But the total allocation for people's involvement came down to 39.73%. In the year 1999-2000, it is observed that the share of people's participation in BADP work decreased and only 22.22% of total activities was completed though people's participation in Ganganagar block. And the allocation for these activities was only 28.20% of the total allocation of the block. Whereas in Habibpur block 95.23% of total BADP work was completed through people's participation for which 89.36% of the total allocation was sanctioned.

The trend of people's participation in Ganganagar development block changed significantly in the year of 2000-2001. In the year 83.87% of the total work was completed through people's participation for which 58.51% of total sanction was made available. In the similar year at Habibpur Development Block chunk of the work (66.66%) was completed through people's participation and 84.63% of total funds was allocated for the same.

PEOPLE'S PARTICIPATION IN EDUCATION SECTOR

It is observed that in both study blocks, there has been cent percent people's participation in the implementation of educational activities during the reference period of the study (1994-95 to 2000-2001). Out of total work (45) completed in education sector through people's participation in Ganganagar development block, 8.89% was completed in 1994-95, 8.89% in 1995-96, 22.22% in 1997-98, 55.56% in 1998-99 and rest 4.44% in the year 2000-2001. There was no activity in the education sector under BADP in the year of 1996-97 and 1999-2000. Out of total allocation made for educational development in Ganganagar, 4.52% was allocated in 1994-95, 4.64% in 1995-96, 25.62% in 1997-98, 35.36% in 1998-99, and rest 29.86% in the year 2000-2001.

In Habibpur development block, out of total work completed (18) during reference period of the study, 11.11% was completed in 1994-95, 5.5% in 1995-96, 27.78% in 1996-97, 27.78% in 1997-98, 16.67% in 1999-2000 and rest11.11% in the year 2000-2001. No work in education sector under BADP was executed in year of 1998-99 in Habibpur development block. The year wise distribution of funds for educational development through people's participation in Habibpur block shows that 10.59%, of the total allocation was sanctioned in 1994-95, 12.13% in 1995-96, 17.64% in 1996-97, 20.60% in 1997-98, 27.46% in 1999-2000 and rest 11.58% in 2000-2001.

Table-5.2 shows the year wise distribution of people's participation in educational sector in both study blocks.

Table-5.2: Distribution of People Participation in Education Sector under BADP

Year	Development Block Ganganagar				Development Block Habibpur			
	Activities		Allocated		Activities		Allocated	
	Amount (Rs lakh)	% of total work done in the year	Amount (Rs lakh)	% of total work done in the year	Amount (Rs lakh)	% of total work done in the year	Amount (Rs lakh)	% of total work done in the year
1994-95	4	8.89	6.55	4.52	2	11.11	4.8	10.59
1995-96	4	8.89	6.72	4.64	1	5.55	5.5	12.13
1996-97	0	0	0	0	5	27.78	8.0	17.64
1997-98	10	22.22	37.1	25.62	5	27.78	9.34	20.60
1998-99	25	55.56	51.2	35.36	0	0	0	0
1999-2000	0	0	0	0	3	16.67	12.45	27.46
2000-2001	2	4.44	43.23	29.86	2	11.11	5.25	11.58
Total	**45**	**100**	**144.80**	**100**	**18**	**100**	**45.34**	**100.00**

Source: District Magistrate Office.

PEOPLE'S PARTICIPATION IN INFRASTRUCTURE SECTOR

The study observes that people's participation in the infrastructure sector under BADP in Ganganagar development block, is poorer whereas, it is remarkable in Habibpur development block. Out of total work in infrastructure sector completed (144) in Ganganagar block during the reference period 35.41% (51) work is completed through people's participation. Whereas, in Habibpur development block out of total work (12) completed in infrastructure sector 91.66% (11) is completed through people's involvement. The total allocation for people's participation in infrastructure sector was 19.87% Ganganagar development block in and 91.06% in Habibpur development block.

Out of total work completed in infrastructure sector through people's participation in Ganganagar development block, 5.88% was done in 1995-96, 19.61% in 1996-97, 11.76% in 1997-98, 49.02% in 1998-99, 7.85% in 1999-2000 and rest 5.88% in 2000-2001. No work in infrastructure sector was done in 1994-95. The total allocation of funds for infrastructure sector in the development block Ganganagar was to the tune of Rs 897.89 lakh. Out of this Rs 178.45 lakh (19.87%) was utilized through people's participation. Out of total funds utilized through people's participation, 0.53% in 1995-96, 22.42% in 1996-97, 45.98% in 1997-98, 24.58% in 1998-99, 4.02% in 1999-2000 and rest 2.47% was utilized in 2000-2001.

In Habibpur development block out of total work done in infrastructure sector during the reference period 9.09% was completed in 1995-96, 9.09% in 1998-99, 63.64% in 1999-2000 and rest 18.18% in 2000-2001. No work was done in infrastructure sector under BADP in the years of 1994-95, 1996-97 and 1997-98. Out of total allocation sanctioned for people's participation in infrastructure sector, 7.64% was utilized in year 1995-96, 16.10% in 1998-99, 31.21% in 1999-2000 and rest 45.05% in the year 2000-2001. Table-5.3, shows the distribution of people's participation in infrastructure sector in both blocks.

Table-5.3: Distribution of People's Participation in Infrastructure Sector under BADP

Year	Development Block Ganganagar				Development Block Habibpur			
	Activities		Allocated		Activities		Allocated	
	No	% of total work done in the year	No	% of total work done in the year	No	% of total work done in the year	No	% of total work done in the year
1994-95	0	0	0	0	0	0	0	0
1995-96	3	5.88	0.95	0.53	1	9.09	3.89	7.64
1996-97	10	19.61	40.0	22.42	0	0	0	0
1997-98	6	11.76	82.05	45.98	0	0	0	0
1998-99	25	49.02	43.87	24.58	1	9.09	8.2	16.10
1999-2000	4	7.85	7.18	4.02	7	63.64	15.90	31.21
2000-2001	3	5.88	4.40	2.47	2	18.18	2.95	45.05
Total	**51**	**35.41**	**178.45**	**19.87**	**11**	**91.66**	**50.94**	**91.06**

Source: District Magistrate Office.

PEOPLE'S PARTICIPATION IN HEALTH SECTOR

The people's participation in the health sector is comparatively lesser in both development blocks. Out of total work completed in health sector during the reference period of the study (1994-95 to 2000-2001) in Ganganagar development block, 26.66% has been done through people's participation. While allocation of funds for people's participation was 28.08% for the same period in the block. Contrary to it, 71.42% work in health sector under BADP has been done through people's participation in Habibpur block during the referred period. For which only 9.76% of total allocation of health sector was made available to the people.

In Ganganagar development block, total 15 projects were completed in health sector, out of this only 4 were completed through people's participation. Out of total work done through people 's participation in health sector, 25% work was completed in year 1996-97, 25% in 1998-99 and rest 50% in the year of 2000-2001. Out of total allocation of funds for health sector (Rs 33.34 lakh) an amount of Rs 37.45 lakh was utilized through people's participation. Out of total allocation for

people's participation in health sector in Ganganagar block, 13.22% was utilized in the year 1996-97, 64.08% in 1998-99 rest 22.70% in 2000-2001.

Contrary to it, total work done in health sector under BADP in Habibpur development block, through people's participation was completed in the year of 1999-2000, and the entire amount utilized through people's participation was exhausted in the same year. Table-5.4 shows the distribution of people's participation in the health sector in both study blocks.

Table-5.4 Distribution of People's Participation in Health Sector under BADP

Year	Development Block Ganganagar				Development Block Habibpur			
	Activities		Allocated		Activities		Allocated	
	Amount (Rs Lakh)	% of total work done in the year	Amount (in Lacks)	% of total work done in the year	Amount (Rs Lakh)	% of total work done in the year	Amount (Rs Lakh)	% of total work done in the year
1994-95	0	0	0	0	0	0	0	0
1995-96	0	0	0	0	0	0	0	0
1996-97	1	25	4.95	13.22	0	0	0	0
1997-98	0	0	0	0	0	0	0	0
1998-99	1	25	24.0	64.08	0	0	0	0
1999-2000	0	0	0	0	5	100	0.67	100
2000-2001	2	50	8.5	22.70	0	0	0	0
Total	**4**	**26.66**	**37.45**	**28.08**	**5**	**71.42**	**0.67**	**9.76**

Source: District Magistrate Office.

PEOPLE'S PARTICIPATION IN SECURITY SECTOR

In the security sector, the people's participation in Ganganagar development block is much better than the Habibpur block. Out of total work done in security sector under BADP, 42.85% has been done through people's participation, whereas it is 50% in Habibpur development block. Out of total funds allocated for security sector, 47.35% has been utilized through people's participation in Ganganagar block. Here total 15 works have been completed through people's participation. Out of the total work completed 13.13% was completed in 1997-98, and rest 86.77% in 2000-2001.

Similarly, 58.44% of total allocation for people's participation in security sector, was utilized in 1997-98 and rest 41.56% in the year 2000-2001. Contrary to it, in Habibipur development block entire work (5) in security sector was completed through people's participation in the year 1999-2000. Table 5.5 shows the distribution of people's participation in security sector in both development blocks.

Table-5.5 Distribution of People's Participation in the Security Sector Under BADP

Year	Development Block Ganganagar				Development Block Habibpur			
	Activities		Allocated		Activities		Allocated	
	No	% of total work done in the year	No	% of total work done in the year	No	% of total work done in the year	No	% of total work done in the year
1994-95	0	0	0	0	0	0	0	0
1995-96	0	0	0	0	0	0	0	0
1996-97	0	0	0	0	0	0	0	0
1997-98	2	13.13	39.0	58.44	0	0	0	0
1998-99	0	0	0	0	0	0	0	0
1999-2000	0	0	0	0	5	100	2.00	100
2000-2001	13	86.67	27.74	41.56	0	0	0	0
Total	**15**	**42.85**	**66.747**	**47.35**	**5**	**50**	**2.00**	**22.77**

Source: District Magistrate Office.

PROBLEM IDENTIFIED

On the basis of household survey conducted in 40 villages (20 villages in each block) major problems of both study blocks, have been identified. Identification of problems is necessary to understand the felt needs of the people for future action plan for sustainable development. Table-5.6 the major problems identified by the people in both the Ganganagar development block and Habibpur block have been summarized (fig.5.1).

Table-5.6: Problems Faced by the Peoples of the Study Blocks

Percentage of Respondents	Development Block Ganganagar	Development Block Habibpur
More than 80%	Irrigation facilities (91.0%)	Poverty (91.5%)
	Drinking water (87.5%)	Cross border crimes (90.5%)
	Border land dispute (85.5%)	Good roads (89.5%)
	Good roads (82.0%)	Border land dispute (86.5%)
		Employment (81.0%)
		Drinking water (80.5%)
60-80%	Employment (79.5%)	Health centre (77.5%)
	Health centre (75.5%)	Irrigation facilities (76.0%)
	Poverty (75.0%)	Electricity (69.5%)
	Electricity/electrification (65.5%)	Price rise (62.5%)
	Price rise (60.5%)	

	Veterinary hospital (56.5%)	Inadequate co-operation of government staff (56.0%)
	Middle/high school (54.5%)	Veterinary hospital (53.5%)
	Inadequate co-operation of government staff (51.5%)	Middle/high school (52.5%)
40%-60%	Separate schools for girls (47.5%)	
	Land fragmentation (30%)	Others social service (28.5%)
	Community hall (25.0%)	
20%-40%	Public Library (25.0%)	Inadequate supply of kerosene (24.5%)
	Inadequate supply of kerosene (23.5%)	Community hall & library (20.5.%)
	Others social problems (21.5%)	
	No Bus service (19.5%)	No Bus service (18.5%)
	Primary school (15.0%)	Primary school (18.5%)
Less than 20%	Cross border Crimes (13.5%)	Separate school for girls (10.0%)
	Flood and soil erosion (5.0%)	Flood & soil erosion (2.5%)

Source: Field Survey 2001-2002.

FELT NEEDS OF THE PEOPLE

Since, the BADP is a sort of selective intervention and the targets are the special needs or problems of the people living in the border area, hence, identification of felt needs of the people is necessary prior to frame the policy and plans for future intervention. After assessment, interventions in the form of schemes are to be devised, which may cover inadequacies relating to provisions of basic needs, strengthening of social infrastructure and bridging of critical gap in the infrastructure and road network etc. leading to sense of security and sustainable development.

Table-5.7: Distribution of Villages by Methods of Identification of felt Needs of the People and the Extent of their Redressal Development Block Ganganagar

S. No	Study Village	Method of identification of felt needs of the people			Representatives of agency involves	Main problems of the area/village	Extent of their redressal		
		Demand of people	Discussion with G.P representat-ives and knowledge persons	Deptt. Wise proposals			Fully	To some extent	No relevant
1	7Z	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	Lack of drinking water, Lack of good roads, Lack of health centre, lack of irrigation facility, Lack of primary school, Other social problems	Yes	No	No
2	13Z	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	Lack of drinking water, Lack of communication facilities, No separate school for girls, No bus service	Yes	No	No
3	19Z	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch) Ex. Block Pradhan	Lack of employment, Lack of drinking water, Lack of irrigation facilities, No separate school for girls, Inadequate supply of kerosene, No bus service,	No	Yes	No
4	27GG	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	Lack of electricity/electrification, Lack of drinking water, lack of employment, Lack of good road, Lack of veterinary hospital, No bus service, Inadequate supply of kerosene, Flood and soil erosion problem	Yes	No	No
5	Chunawad-30GG	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	Lack of drinking water, Poverty, Lack of employment, Inadequate co-operation of government staff, Lack of technical skills, Inadequate medicines in hospital, Problem of land fragmentation, Lack of community hall and public library	No	Y	N
6	11Q	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	Lack of drinking water, Lack of electricity/electrification, Lack of good road, Inadequate co-operation of government staff, Lack of middle/high school,	Yes	No	N
7	Sangatpura-8H	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	Lack of drinking water, lack of electricity/electrification, Lack of veterinary hospital, No separate school for girls,Border land dispute	Yes	No	N
8	Doulatpura-3Q	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	Lack of employment, electricity/electrification, No separate school for girls, lack of veterinary hospital, Lack of drinking water, lack of good road	Yes	No	No
9	Mohanpura-9Y	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	Lack of drinking water, Lack of employment, Lack of communication, Lack of primary school, Inadequate supply of kerosene	No	Yes	No
10	Phatuhi-1F	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch) B.A.O.	Lack of primary school, Inadequate medicines in hospital, Lack of electricity/electrification, lack of health centre, lack of drinking water	Yes	No	No

11	Khatlabana-2F	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch) Ex. Principal	Lack of employment, lack of middle/high school, lack of drinking water, lack of electricity/electrification, No separate school for girls	Yes	No	No
12	Madera-7D	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	Lack of drinking water, lack of employment, poverty, price rise, cross border crimes, border land dispute	No	Yes	No
13	Rohirwali-2P	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch) Doctor	Lack of employment, lack of drinking water, lack of irrigation facility, Lack of middle/high school, Border land dispute	No	Yes	No
14	Koni-5P	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	Lack of primary school, lack of good roads, Lack of electricity/electrification, lack of employment	Yes	No	No
15	4Z	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch) Principal Rtd. Collector (irri)	Employment, Loan, water, Road, electricity, land-Inadequate supply of kerosene.	Yes	No	No
16	Kotha-2B	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch) Ex. Member *Zila Parisad*	Lack of electricity/electrification, lack of veterinary hospital, lack of employment, lack of technical skills, border land dispute	Yes	No	No
17	Khhakhha-1A	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	House, Loan, Land, Hospital, Employment, Lack of electricity/ electrification, lack of veterinary hospital,	Yes	No	No
18	4ML	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	Lack of drinking water, lack of veterinary hospital, lack of good roads, Inadequate co-operation of government staff, lack of technical skill, other social problems	Yes	No	No
19	Hindu Mal Kot-7B	Yes	Yes	Yes	*Gram Panchayat* (Sarpanch)	Lack of veterinary hospital, lack of good roads, lack of electricity/ electrification, lack of irrigation facilities, inadequate co-operation of government staff, lack of technical skills, inadequate medicines in hospitals, problem of land fragmentation, inadequate education facilities and teaching staff, lack of community hall and public library, cross border crimes, border land dispute, other social problmes.	Yes	No	No
20	Sri Ganganagar	Yes	Yes	Yes	*Zila Pramukh* DM, ADM, B.D.O, CO (BSF), Chairman, Municipality	Inadequate co-operation of government staff, lack of technical skills, Inadequate medicines in hospital, Inadequate education facilities, lack of community hall and public library, Other social problems	No	Yes	No

Table-5.8: Distribution of Villages by Methods of Identification of felt Needs of the People and the Extent of their Redressal (Development Block Habibpur)

S. No	Study Village	Method of identification of felt needs of the people			Representatives of agency involves	Main problems of the area/village	Extent of their redressal		
		Demand of people	Discussion with G.P representa-tives and knowledge persons	Deptt. wise proposals	G.P. Pradhan		Fully	To some extent	No relevant
1	Mongal-pura	Yes	Yes	No	*Gram Panchayat* Pradhan	Lack of good roads, Poverty, Lack of employment, Lack of drinking water, No bus service, Cross border crimes, Border land dispute, Lack of electricity /electrification, Price rise, Lack of veterinary hospital, Lack of communication facilities, Lack of technical skills Lack of primary school, Inadequate supply of kerosene	Yes	No	No
2	Binodpur	Yes	Yes	No	*Gram Panchaya*t	No bus service, Cross border crimes, Border land dispute, Poverty, Lack of drinking water, lack of health centre, Lack of employment, Lack of electricity/ electrification, Price rise, Lack of veterinary hospital, Lack of middle/high school, Lack of communication facilities, Lack of technical skills, Inadequate supply of Kerosene	Yes	No	No
3	Palash-danga	Yes	Yes	No	*Gram Panchayat* Pradhan	Cross border crimes, Border land dispute, Poverty, lack of drinking water, Lack of employment, Lack of health centre, Lack of irrigation facilities, Price rise	No	Yes	No
4	Baidyapur	Yes	Yes	No	Sabhapati	Cross border crimes, Border land dispute, Poverty, lack of drinking water, Lack of employment, Lack of health centre, Lack of irrigation facilities, lack of primary school	No	Yes	No
5	Chakli	Yes	Yes	No	*Gram Panchayat* Pradhan	Cross border crimes, Border land dispute, Poverty, lack of drinking water, Lack of employment, Poverty, Price rise, Lack of veterinary hospital, Lack of middle/high schools, Lack of communication facilities	No	Y	N

6	Jagjibanpur	Yes	Yes	No	*Gram Panchayat* Pradhan	Inadequate education facilities and teaching staff, Cross border crimes, Border land dispute, Poverty,Lack of drinking water, lack of employent, Lack of Health centre, Price rise, Lack of veterinary hospital, Inadequate co-operation of govt. staff, Lack of communication facilities, Inadequate supply of kerosene	No	Y	N
7	Bahadurpur	Yes	Yes	No	*Gram Panchayat* Pradhan	Inadequate supply of kerosene, Cross border crimes, Border land dispute, Poverty, Lack of drinking water, lack of employment, Lack of irrigation facilities, Price rise, Inadequate medicines in hospitals.	No	Yes	No
8	Begunbari	Yes	Yes	No	*Gram Panchayat* Pradhan	Inadequate supply of kerosene, Problem of land fragmentation, Cross border crimes, Border land dispute, Poverty, Lack of drinking water, Lack of good road, Lack of employment, Lack of health centre, Lack of irrigation facilities, Price rise, Lack of veterinary hospital, Lack of middle/high school, Lack of communication facilities	No	Yes	No
9	Habibpur	Yes	Yes	Yes	*Gram Panchayat* Pradhan of Jajol, Rishi Pur, (Bulbul chandi) BDO, BMO, BVO, BFO Principal	Cross border crimes, Border land dispute, poverty, Lack of drinking water, lack of employment, lack of irrigation facilities, Lack of community hall and pubic library, Inadequate co-operation of Govt. staff, Lack of technical skills, Inadequate medicines in hospitals, Problem of land fragmentation, inadequate education facilities	Yes	Yes	No
10	Agra	Yes	Yes	Yes	*Gram Panchayat* Pradhan	Inadequate supply of kerosene, Cross border crimes, Border land dispute, poverty, Lack of drinking water, Lack of good road, Lack of employment, Lack of health centre, Lack of electricity/ electrification, Price rise, Lack of middle/high school	No	Yes	No
11	Manikora	Yes	Yes	Yes	*Gram Panchayat* Pradhan Principal	Cross border crimes, Border land dispute, Poverty, Lack of drinking water, Lack of good roads, Lack of employment, Lack of health/centre, Lack of technical skills, Problem of land fragmentation, Inadequate education facilities and teaching staff	No	Yes	No
12	Kanturka	Yes	Yes	Yes	*Gram Panchayat* Pradhan & ANM	Cross border crimes, Border land dispute, Poverty, Lack of drinking water, Lack of employment, Lack of health/centre, Lack of irrigation facilities, Lack of technical skills, Problem of land fragmentation, Inadequate education facilities and teaching staff	No	Yes	No
13	Sibpur	Yes	Yes	Yes	*Gram Panchayat* Pradhan	Cross border crimes, Border land dispute, Poverty, Lack of drinking water, Lack of good roads, Lack of employment, Lack of health/centre, Lack of Irrigation facilities, Lack of electricity/ electrification, Price rise, Lack of middle/high school, Lack of technical skills, Inadequate supply of kerosene	Yes	No	No

14	Tilason	Yes	Yes	Yes	*Gram Panchayat* Pradhan	Cross border crimes, Border land dispute, Poverty, Lack of drinking water, Lack of good road, Lack of employment, Lack of health centre, Lack of electricity/ electrification, lack of veterinary hospital, Lack of technical skills, Problem of land fragmentation, inadequate supply of kerosene, No bus service.	Yes	No	No
15	Mohonpur Inlish	Yes	Yes	Yes	*Gram Panchayat* Pradhan	Cross border crimes, Border land dispute, Poverty, Lack of drinking water, Lack of good road, Lack of employment, Lack of health centre, Lack of irrigation facilities, Price rise lack of communication facilities, Problem of land fragmentation, Inadequate supply of kerosene, No bus service	Yes	No	No
16	Rishipur	Yes	Yes	Yes	*Gram Panchayat* Pradhan , A.N.M,	Cross border crimes, Border land dispute, Poverty, Lack of employment, Inadequate co-operation of government staff, Lack of technical skills, Inadequate medicines in hospitals, Problem of land fragmentation, Inadequate education facilities and teaching staff	No	Ye	No
17	Gouramari	Yes	Yes	Yes	*Gram Panchayat* Pradhan	Cross border crimes, Border land dispute, Poverty, Lack of drinking water, Lack of employment, lack of Health centre, Price rise, Lack of communication facilities, Problems of land fragmentation, Inadequate supply of kerosene	No	Yes	No
18	Aiho	Yes	Yes	Yes	*Gram Panchayat* Pradhan	Border land dispute, Poverty, Lack of employment, lack of Health centre, Inadequate co-operation of government staff, Lack of technical staff, No separate school for girls, Problem of land fragmentation, Lack of community hall and public library, Flood and soil erosion problem	Yes	No	No
19	Srirampur	Yes	Yes	Yes	*Gram Panchayat* Pradhan	Cross border crimes, Border land dispute, Poverty, Lack of drinking water, Lack of employment, Lack of Health centre, Price rise, Lack of communication facilities, Lack of Primary school, Problems of land fragmentation	No	Yes	No
20	Dakshin Brindaban-bati	Yes	Yes	Yes	*Gram Panchayat* Pradhan	Cross border crimes, Border land dispute, Poverty, Lack of drinking water, Lack of employment, lack of Health centre, Lack of electricity/ electrification Price rise, Lack of veterinary hospital, Lack of middle/high school, Inadequate co-operation of govt staff, Lack of community facilities, Lack of technical skills, Problem of land fragmentation, Inadequate supply of kerosene	Yes	No	No

Source: Field Survey 2001-2002.

On the basis of several rounds of discussions held with government officials, representatives of the *Panchayat Raj* institutions and knowledgeable persons of the area, felt needs of the people of both study blocks have been identified. The identified felt needs of both development blocks have been summarized below:-

FELT NEEDS OF THE PEOPLE OF DEVELOPMENT BLOCK GANGANAGARA And Habibpur Development Block

S. No	Ganganagar Development Block	Habibpur Development Block
1	**EDUCATION SECTOR** • Shortage of Rooms in schools. • Up-gradation of Primary schools. • Additional Rooms in Middle schools. • Water facility in schools. • Separate Girls Schools at Middle level. • Single teacher school in the area. • Books/Journal in Veterinary/Health Centres. • TV relay centre.	**EDUCATION SECTOR** • Additional rooms in all primary schools. • Additional rooms in all middle schools. • Regularity of teaching staff needed. • Atleast one middle school in all Gram Panchayats. • TV and Dish Antenna for each village. • Mass education Programme. • Separate middle schools for girls. • Technical education in agro-sector. • Shishu Shiksha Kandra should be cover under BADP.
2	**HEALTH SECTOR** • Medial Institute. • Dispensary. • X-ray machines in Health Centres. • ECG machines in Health Centres. • Medicines in the Health Centres. • Quarters for medical staff.	**HEALTH SECTOR** • X-ray & ECG machines in all 3 Hospitals. • Regularity of medical staff needed. • Mobile dispensary needed. • Medicine for main diseases of the block • More PHC/Sub-Centres needed. • Pathological equipment needed.
3	**AGRICULTURAL AND ALLIED SECTOR** • Veterinary aid Centres. • Cattle breed development Centres. • *Sundi* eradication programme. • Pucca water distribution channels. • Requirement of Pesticides. • Subsidized agriculture implements. • Pipes for irrigation on land beyond fencing. • Canal water distribution should be controlled by Central Government • Problem of cotton bug. • De-siltation of ponds. • Plantation along canals and roads.	**AGRICULTURE AND ALLIED SECTOR** • Watershed Management. • Development of Ponds by check dams. • Terrace bunding with plantation. • Pisciculture development. • Poultry farming. • Piggery development. • Deep bore wells for irrigation. • Sericulture. • Plantation Programme. • Dairy development. • Gottery Programme. • Rice de-husking plants. • Bamboo Plantation.

	• Nursery development	
4	**INFRASTRUCTURE SECTOR** • Wheat procurement centre of FCI. • Panchayat Ghar. • Patwar Ghar. • Electrification/solar lights. • Bus stop sheds. • Maintenance/construction of culvent/small bridges. • Hand pump for drinking water. • Water facility for cattle. • Transport facility. • Ensured electricity supply (6PM-8PM, 5AM-8AM at the time of Gate opening). • Bridge at Gang canal (6 Kms from Hindu Mal Kot). Paid tubewells.	**INFRASTRUCTURE SECTOR** • Drinking water facility • Electrification (low tension electrification along border). • Solar street/household lights. • Common workshed. • Road along border line. • Repairing of existing roads joining BPOs/OPs. • Repairing of culverts joining BPOs/OPs. • Bus stop shed. • Panchayat Ghar. • Bore wells for drinking water (deep bore) • Guest house/hostel at Jagjibanpur.
5	**SOCIAL SECTORS** • Construction of community Hall for SC. • Wool processing units. • Training in electronics. • Milk processing units. • Khadi production units. • Papad/Badiyan making women centre. • Training in solar light/pumps. • Cotton seed oil unit. • *Jutti* and *chappal* making unit. • Cotton seed separating units.	**SOCIAL SECTORS** • Construction of community halls. • Fruit processing unit. • Handloom. • *Bidi* making.
6	**SECURITY SECTOR** • Pucca Raod along the border. • Drinking water in all BOPs. • Barracks at Shakti, Rakshak (5S), Q Head, • 7H, Kanchanpur, Kotha, Khakha. • Cook house near 5S and Q Head. • Generator structure in Renuka. • Connecting roads to Madera, Kotha, Khakha. • 5S, QH, Kanachanpur, 7C, Renuka, Sunderpura, 1S, 7H, Shakti, Rakshak etc. • All BOPs, except Q Head should be	**SECURITY SECTOR** • Connectivity of all BOP's/OPs with Pucca road. • Generator sets for the BSF base camp. • Gym facilities in BOPs. • Tube-well & it's repairing in BOPs. • Solar lights in BOPs. • Repair of culverts. • Barracks for *Jawans*.

	linked with mettaled roads on priority basis. • Bridge near Q Head. • Modern Surveillance equipment. • Toilet facilities at 13 posts needed. • Pucca road in Hindu Mal Kot. • One JCB machine for BSF. • Pucca fencing on rest of the border line. • More funds for security work. • Shifting of the canal from Q Head.	
7	**OTHER SECTORS** • Proper Supply of kerosene. • Compensation of the land acquired for BSF/Army. • Compensation of the land acquired for BOPs. • Solution of the land problem between fencing and zero line. • Loan should be waved on land acquired by BSF/Army. • OP on all gates. • Bank facilities in the border area. • Gun license and training.	**OTHER SECTORS** • Availability of kerosene. • Supply of Ration. • Tourism Development. • Gun licenses and training. • Transport facilities. • Communication facility in each village/GP. • Sense of resentment over the fencing in 35 villages.

NEW AVENUES OF EMPLOYMENT AND SUSTAINABLE DEVELOPMENT

Based on felt need of people local resource base, skill available and market potentials a few new areas have been identified for employment generation and sustainable development of the study blocks as follows:

Name of the Activities	Development Block Ganganagar	Development Block Habibpur
Forest Base	Low cost Nursery Development, Mat making	Bamboo basket & products, low cost nursery development, Bidi making, Honey collection and preservation, Mat making, Terrace bending with plantation
Agro Based	Atta chakki, oil Ghani, Pulses de-husking papd/making, cotton seed oil unit.	Oil Ghani rices pulses de-husking, Sericulture, Fruit processing, Rice flaxes units.
Animal Husbandry & Allied	Goattery, Poultry, Milk processing units, Dairy farming, Low cost preservation of eggs, Poultry	Pisciulture, Piggery, Goattery, Poultry, Low cost preservation of eggs, Poultry dressing, cattle & poultry feed, Dairy

Activities	dressing, Cattle and poultry feed, Dairy farming, cow herding, Meet processing, Leather tanning, wool process units.	farming, Cow-herding, Fish meal, Fish pickle, Basket for fish transport, Paddy cum shrup culture, Meet processing, Leather training, Carcuss utilization
Service & cottage Based	i. STD/PCO Booth, ii) Electric repairing iii) Radio, T.V. electronic repairing iv) Transport v) Tyre puncture vi) Iron work vii) Dry cleaning work viii) Tailoring ix) Wax collection & candle making x) Roofing tiles xi) Dari making xii) Bricks making xiii) Repairing work shop xiv) Traditional art and hadicraft xv) Photo state service xvi) Fair Price shops, xvii) handlooms xviii) Jutty/chapel making, new shoe designs.	i. STD/PCO Booth, ii) Electric repairing, iii) Radio, T.V. electronic repairing iv) Transport v) Tyre puncture vi) Iron work vii) Dry cleaning work viii) Tailoring ix) Wax collection & candle making x) Roofing tiles xi) Dari making xii) Bricks making xiii) Repairing work shop xiv) Traditional art and hadicraft xv) Photo state service xvi) Fair Price shops etc xvii) handlooms xviii) Tourism development
Other	Wool processing units, Milk Processing units, handlooms Papad/Badiyan making units	Watershed management, Development of ponds through check dams

Following are the details of the important areas identified for employment generation and low cost rural technologies identified recommended for intervention for employment income generation and sustainable development:

i) Watershed Management

Watershed technology should meet the water needs of the Habibpur development block if the programme has to be accepted and replicated by the people. In tropical and sub-tropical a geothermal-hydro regime, where the rainfall is limited to 3-4 months, it is the water conservation that should be the central focus of the technology. The technology should answer the challenge of how to relocate water in time so water received in 3-4 months becomes available for the entire year.

Watershed management would remove hunger and poverty from the poor area of Habibpur development block, where more than 77% population is scheduled castes and scheduled tribes. Watershed management would restore ecological balance, provide green cover over denuded areas, bring in more rains and improve environment. Some thinkers talk that watershed management holds the key to solve problems of employment, economy, ecology, exports and equity (five e's).

Goattry

Goat 'the poor man's cow' is very important live stock species for the poor villagers. It provides animal protein, which are important for the nutritional well being of the villager people. It contribute to income through its by products i.e. milk, meat, skins and *pashmina*, besides manure. They contribute to farm fertility by return of dung and urine. It is observed that sheep and goats are economical and less harmful than large ruminants within the desired grazing pressure. It is merely an exaggeration that goat pose a threat to the ecology. The goats are beneficial to the poor because of following reasons:

i) Most of the household work of attending to the goat is done by the women. Hence, goattery provides an opportunity for women empowerment (Punia and Punia,1983).

ii) Usually goats are reared by middle aged people and thus provide opportunity for income generation for middle aged and old aged people (Singh,1985).

iii) The root cause of all problems faced by the people particularly SC/ST is gross poverty. They have no or very limited access to resources, especially land.

iv) They are involved in a variety of earning activities based on forest and very limited land resource. They face geographic isolation amid the forest tracts.

v) They continuously experience hungers, fight for survival but can adapt to hardship.

vi) They resist changes and are unable to use new technology.

Poultry

Poultry farming has special advantage is rural area where cheap land, labour and feed are available. In Ganganagar and Habibpur development blocks poultry keeping can be developed to become a reliable source of supply of protein to people. Egg provides an affordable alternative source to bridge the protein gap in the nutritional demand of people. Small farmers and marginal farmers of both the development blocks can adopt poultry production as a means to supplement

their income. Poultry indirectly help to purchase essential inputs for crop production. Thus, it is understood that poultry provide a supplemental activity, stable employment and regular flow of income. The women of the area can involve themselves in backyard poultry production. So poultry can supplement the income of the woman since they are usually responsible for backyard poultry. They can significantly contribution in small scale poultry units without employing extra labourer.

Piggery

Through intervention of scientific rearing of pigs the socio-economic conditions of the poor tribal and scheduled castes of the Habibipur block may be changed to a great extent. Piggery provides better scope to become self sufficient at a shorter period of times, because from a female pig, 15-20 piglets can be obtained within a year. Moreover, pig can be housed with low cost materials commonly available materials and waste can be utilized for pig feeds and 70% of the pig's body can utilized for meat. Pig production in the block is poor because of poor breed stock. It may gain popularity among the scheduled castes and poor tribal of Habibpur development block. There are more prospects to increase the pig population if the people particularly the tribal are motivated and trained for scientific rearing of pigs and breeds like White Yorkshire are introduced to the block. There is good demand for the pork locally. Further, it will also solve the problem of cattle lifting.

Low cost technologies

Following are the details of the low cost technologies to be introduced in the study blocks to kick of the process of employment and income generating activities:

1.1.2 Mini Rice Mill

It is a simple, compact, mini rice mill, which can handle 400-500 kg paddy pr hr with an installed power of 15 HP. The mill gives 2-4% extra rice yield for row paddy and less brokens as compared to huller mills. The bran is also entirely free from husk. The degree of polish can be adjusted as desired. The mill has the salient features of a modern rice mill. It consists of a vibratory cleaner for cleaning paddy, a centrifugal sheller for dehusking, a husk aspirator, paddy separator to separate paddy and brown rice and huller to polish the brown rice. Paddy separated is fed back to the sheller for shelling, while brown rice goes for polishing. Cone/emery/friction polisher can be used in place of huller to further reduce the rice breakage during polishing. Due

to the compactness of the paddy separator, it is possible to arrange all units one below the other in a streamlined configuration for gravity flow of material. The bran and husk obtained in this mill are pure. The space required for this mill is small i.e 1m width X 2m depth X 3.5m height:

With the use of this system, yield from 100 kg par boiled or raw paddy is 65.5 total rice, 0.5 kg brokens, 7.7 kg bran and 95.98% recovery of potential oil. The oil content in the bran is 22% and 18% respectively in parboiled and raw paddy. The system costs Rs. 1,06,000. The traditional huller can be modernized to a mini rice only (as in 1992).

1.1.5 Mini Grain Mill

Coarse grain and millets such as maize jowar, bajra, ragi are generally used by the economically weaker sections. These cereals and millets contains the non-edible fibrous husk/bran to the extent of 8-15%. By minimal refining, these can be made tasty, easily digestible, without reducing digestible, without reducing much of the nutritional factors.To suit has cottage scale operation especially in a rural environment, a simple mini grain mill has been developed with a capacity to process 250 kg grain per day. It costs about Rs. 45,000(as in 1994). By this mill, not only the coarse grains, but also wheat can be refined. In a single step the refined suji and flour are obtained from wheat/maize/jowar/bajra/ragi and other grains. In this mill, the simple chakki machine has been modified suitably to have arrangements for water mixing, sieving and aspiration. The refined product obtained can be used for the preparation of *chapati, upmav, idli, dosa, kesaribhath* etc. Husk/bran and brokens are obtained as by-products.

1.1.7 Pulse Dehusking

This simple pulse dehusking machine can be used by small scale pulse processors for dehusking and splitting of dals. Since the unit is hand operated, it can be used in remote villages and provide self-employment. This hand operated pulse dehusking machine works on the principle of abrasion. It can process 60-70 kg preconditioned (cleaned, water-soaked and sun dried)legumes in an hour. The machine gives 70-75% dehusking in one pass and 95-99% in two passes with a yield of 70-75% dal for bengalgram and tur pulses, as compared to 45-50% of dal through traditional chakki. It comsts about Rs. 5,000 (as in 1994). The product is comparable to mill produced dals but produced at a lower cost. The unit fitted with ½HP motor, costs about Rs. 9,000 and can process 150-200 kg dal/hr.

1.1.8 Home Scale Oil Expeller-cum-Paddy Dehusker

This simple machine named 'Grihashree', overcomes day-to-day household drudgery of rural women. It is used for dehusking of paddy as well as for extraction of oil from the oilseeds at domestic level. The machine consists of 2 units mounted on the same base working from a common drive. One unit is used for dehusking of paddy and the other for extraction of oil from mustard, rye, sesame, etc. It works on ½HP motor and can also be run manually. The operation, maintenance, cleaning and reassemble is easy. The capacity is 18 kg rice/hr or 900 ml oil/hr by motorised unit. The manually operated unit yields 3 kg rice/hr or 125 ml oil/hr. It can be fabricated at an approximate cost of Rs. 10,000.

1.1.9 Parboiling of Paddy

There are many advantages in parboiling. It reduces grain breakage during milling, greatly improves the vitamins and nutrient contents in the polished rice grain, increases the oil content in the bran, enhances the cooking and eating quality of the rice and reduces insect infestation during storage. In the traditional parboiling process, paddy is soaked in water for 3 days, steamed and dried. It has serious drawbacks such as production of foul odour due to fermentation during the prolonged soaking period and also loss of dry matter. The development process aims at elimination of unwanted odour and reduction in soaking period in addition to 0.5-1% higher yield of head rice. There are two methods viz. dry heat and hot soak. In the dry heat method, paddy is soaked overnight in warm water in cement tanks. The water is drained off and the soaked paddy is fed continuously into a roaster at a known temperature for a short time. This roasted paddy is dried in a yard and milled as usual. The hot soak method involves overnight soaking of the cleaned paddy in hot water. It is steamed and dried. Although a batch process, it can be made semi-continuous by using a number of tanks and staggering their operations. The plant can be located in paddy growing areas. As the demand for parboiled rice is increasing, there is a potential for establishing units in the tiny sector in rural and semi-urban areas.

1.1.10 Accelerated Again of New Paddy

The new rice has poor cooking quality and fetches low value. It has to be stored for atleast 3-4 months for again resulting in extra expenditure on warehousing as well as delayed returns. An accelerated process is now available that cures the fresh paddy in a short time and generates desirable cooking characteristics of old rice. The paddy is steamed for short time and kept process improves the cooking quality as well as head yields and also makes stable lipase-free

bran. The cured rice contains more thiamine and has better storage quality. An average skilled person can adopts this process for setting up a unit in tiny sector.

1.1.12 Rice Flakes

The traditional method of preparing rice flakes (*Poha or chiwra*) consists of soaking the paddy in water, sand-roasting and flaking. This results in low yields, excessive breakage during the final stage of flaking and contamination with husk/sand particles. An improved process, batch as well as continuous, is now available for making rice flakes, which overcomes the drawbacks of the traditional method. It consists of soaking the paddy in hot water, roasting, shelling, polishing and finally flaking in a machine. A number of small/tiny scale units are coming up for mechanized production this item.

1.1.14 Papad Making

Papad is a popular food item in India. Though traditionally confined to the household, *Papad* making in recent years has developed into a cottage and small-scale industry. With the use of a simple leg/hand operated *Papad* press costing about Rs. 3,00 (as in 1994), around 500 *Papad* of uniform size can be made in an hr.

1.1.19 Bakery Products

Bakery occupies an important place in the food processing sector. Despite the advent of semi-automatic and automatic bread lines as well as biscuit plants, a sizeable cross section of the population still prefers fresh cottage bread. With a growing population and higher nutritional standards as well as demand for fresh ready-to eat foods, the market for bakery items has also in creased considerable. A bakery unit can be set up in urban, semi-urban as well as rural areas.

1.2.1 Food Toffees

Fruit toffee is a highly nutritious products as compared to sugar boiled confectionery. It is made from pulp of mango and other fruits along with certain ingredients. Small and cottage scale manufacture of fruit toffee provides potential avenues for self employment in the area where the fruits are available. Although fruit toffees are being made in the organized sector, there exists a vast potential for cottage scale production also.

1.2.2 Fruit Bars

Fruits bar is a concentrated fruit product meant for ready consumption. It has a good shelf life. Any variety of pulpy fruits, e.g. mango, guava, papaya, banana, apple etc. single or in combination can be used for manufacture. Fruit bars are becoming increasingly popular due to good shelf life, taste, flavour and texture. The product is accepted in the market.

1.2.15 Improved Method for Mango Ripening

Mangoes are generally harvested when full matured but green. The conventional method of ripening in hay has disadvantage like long ripening time, excessive handling and high degree of spoilage due to stem-end rot. The spoilage during ripening period is reported to be as high as 25 to 30%. In order to improve upon the ripening method, a simple technique has been worked out. It consists of dipping the fully matured but green mangoes in hot water at $52 \pm 2°$ C for 5 minutes, draining and keeping at room temperature till adhering surface water evaporates. Fruits are then packed in ventilated boxes/crates. No hay or then packing material is needed. The ripening generally starts on 6^{th} day of treatment and is completed on 12^{th} day. The operation can be made continuous in fruit processing factories where large quantities of mangoes are handled. The technique has presently been standardized for Alphoso variety. The hot water treatment is found to reduce the spoilage to the extent of 50% and also helps in uniform ripening of fruits. The colour development in the flesh is better than conventionally ripened fruits.

1.2.16 Pickles and Chutney

Pickles and Chutney have a great importance in the Indian menu and have now become essential items in any feast and lunch. Pickling of fruits and vegetables is an old art. A large variety of these fruits are made in Indian homes. However, the taste and method of preparation varies. The basic method is salt curing of fruits and vegetables, acidifying, addition of vinegar/oil and the spices. The market for pickles and chutneys is no the ever increasing side. The process of production is simple and requires low investment

1.2.17 Instant Pickles

The traditional pickles making involves elaborate and time consuming process. A new concept has been worked out for making an instant pickle mix of lime and mango, which can easily be reconstituted into a tasty pickle by the simple addition of oil and water. The dry mix has the features of convenience, better keeping quality, relatively low cost of production reduced packaging and transportation cost. The ever expanding market for pickles, both in domestic and

export sectors can be exploited by adopting suitable market strategies. The process is simple and consists of the selection of fully matured commodities for pickling, washing and cutting, bring curing at optimal conditions, drying brine curing at optimal condition drying, addition of dry spice mixes and packing in units packages.

1.2.18 Potato Flour

Many ready-to-eat products are prepared from potato products can easily be established in rural areas and the market can be exploited in urban and semi-urban centres. Potato flour, granules and mash are sued in the preparation of instant foods, soups etc. as binding materials and also for preparing kheer, tikki, chops, pakoda, cutlets, stuffed parotha, fofta and other products. Production of potato flour can be taken up easily using indigenous equipments. The process involves peeling of potato, cutting, pre-treatment with salt and permitted preservatives, soaking, granulating and drying. The dried product is ground and packed. The flour obtained by the process can be easily mashed potato and used for making a variety of products.

1.2.19 Potato Chips

Potatoes are grown extensively in the northern region of India. During the glut season, growers do not get remunerative prices. There fore it is advisable to utilize the surplus produce by preparing potato chips under hygienic conditions. The product based on developed sun drying technology, is superior to the conventional one both in colour and quality. The process is simple and can be easily adopted at rural level.

1.2.20 Potato Wafers

One of the most widely consumed snack items from potato is fried potato (wafers). For production of good quality wafers, the sugar content of potato should be low. Usually cold stored potatoes have a high sugar content. In such cases, a modified but simple methodology is to be adopted to get good quality chips. The main consumption of potato wafers is in the urban area, especially in hotels, restaurants, canteens, parties etc. though bulk manufacturers have recently comp up in the country, cottage and home scale units do hold considerable scope for local markets.

1.2.21 Mushrooms

Mushrooms are fruit bodies of fungi grow abundantly in the open fields, mead marsh edges, farm yards etc. some wild rooms are poisonous and narcotic but there about 2000 edible species too. Guchhi (*chella esculanta*) and Dhingri (Pleurotus collected from the wild and are the most) mushroom and finding a pride of place on the platter. Technologies have been developed for commercial cultivation of mushrooms under controlled conditions. These are safe and readily available for the market. In India, mainly 3 species, viz. White button or European *(Agaricus bisporus*), Dhingri or Oyster (*Pleurotus sajor caju*) and Paddy straw or chinese (*Volvariella volvacca*) are preferred for commercial cultivation. White buttons account for nearly 90% of mushroom production. It is a temperature for growth is 15-18°C and the first flush appears in 20 days. Paddy straw mushroom is a tropical variety cultivated on rice straw, the optimum temperature for growth being above 30°C and the mushrooms appears from 11^{th} day onwards. Mushrooms are rich sources of early digestible protein and minerals, besides being low in calories and almost fat-free. They contain ergosterol, which is converted into Vitamin D by human body. Profitable mushroom cultivation can be taken up in the rural areas where agor-wastes are easily available. Its cultivation can provide gainful employment to women and weaker sections of society. Investment required is very low. Mushrooms are highly perishable. The unmarketable surplus of fresh produce can be preserved and processed into value added products conversion into pickles, soup and ketchup in small scale processing units near the site of production.

1.3 Beverages

Pulpy fruits like bannan, guava, apple, mango, jackfruit, cashew apple into liquid fruits by using pectin enzymes. The ready-to-serve beverages liquid fruits can be used as natural alternative to synthetic beverage. They can be suitable inluted, blended with other juices and carbonated as soft drinks. The process involves pulping of fruit, warming to a desired temperature, cooling and enzyme and other ready-to eat products. There is a good domestic and export market. Since the far food sector is expanding rapidly the demand, particularly for tomato ketchup and sauces, is also in creasing. Tomato processing can be advantageous to raise the rural economy and to generate employment. The units can be set up in cooperative sector. Better market strategies can be worked out to sell the products in urban centres.

1.3.7 Sugarcane Beverage

Sugarcane juice is a nutritious product containing natural sugars, minerals and organic acids. At present the juice is extracts by street vendors in an unhygienic way. Further, it cannot be stored even for couple for hours as it deteriorates fast. Sugarcane being available in plenty, it can be utilized for making hygienically prepared and processed beverage. This products has a good market potential. Small units can easily be started in rural areas and the products can be sold in semi urban and urban areas. The process is simple and consists of crushing, clarification and filtration to obtain a clear beverage with addition of permitted preservatives at suitable level and then bottling.

1.3.8 Honey Based Beverage

Naturally honey has been one of the man's earliest foods. It is also used in Ayurvedic medicines and pharmaceutical preparations. Due to its pleasant aroma and flavour, it is being used for the production of various delicious beverages. Ready-to-serve honey-based beverages are consumed for quenching thirst and for instant energy. As a natural ingredient with good taste and flavour, it can find ready market.

1.5.1 Modern Oil Expeller

A double chamber modern oil expeller of 10 tpd capacity has been developed. It provides 5.8% residual oil in mustard cake in one-go crushing, as compared to 7.5% in 4 successive crushings achieved in conventional single chamber expeller of 825 mm X 150 mm dia size. The quality of oil conforms to BIS specification and the mustard cake is bright green without any discolouration. One expeller yields 50 extra oil in a year which otherwise is retained in the cake. Durability of wearing components of barrel chamber ensures long spells of continuous run. About a 10 week life is ensured for worm & cage bar assemblies to 3 week life in the conventional oil expeller assemblies. The operation is trouble-free due to better construction material of the components and their metallurgical control, automatic pressure feed lubrication of gears & bearings etc. the plant requires less space for installation.

1.5.7 Mustard Powder

Indian is one of the major producer of mustard and rapeseed. Mustard seeds are mainly used for the extraction of edible oil. The seeds are also used at homes for flavour and pungency. A pasty product obtained from mustard, salt and vinegar is very popular in many countries. Mustard powder is used as a condiment in pickles, meat and salad dressings. Indian black mustard seed having good flavour and pungency is reported to have a export potential. The present method used by the industry has many operational problems. Further, the recovery is low. A technology has been developed for processing mustard powder in rural areas with optimal product recovery of right quality. The process involves grading, conditioning, drying, splitting and duhusking. The mixture of husk and the cotyledons are screened and classified to individual fractions. These are then ground to the desired fineness using triple roller mill and packed

1.5.11 Protein Chewy Candy

Protein Chewy Candy is similar to milk chocolates. In this products, the milk solids are replaced partially or fully by the vegetable protein isolate or edible equality soya or groundnut flour. This chewy candy is nutritious and contains about 12-16% protein supplement especially for children and the aged. The protein chewy candy has the market potential, as the case of hard boiled sugar candies, chocolates and other confections. The manufacturing units can be established in selected rural areas. The required raw materials are the edible quality soya flour or groundnut or protein isolate, liquid glucose, condensed milk, vanaspati, flour colour and packaging materials.

1.7.1 Low Cost Preservation of Eggs

Poultry farming is becoming an increasing popular venture. In order to enhance the shelf life of eggs and to tap for flung markets, a simple process is now available. The eggs are coated with a oil formulation whereby the shelf life is increased from the normal 5-6 days during summers to well over 10-12 days 38°C, 4 weeks at 25°C-30°C, 12 weeks at 13° and 24 weeks at 7°C. Sprayer and paper filter pads are needed for treating eggs with this coasting oil. The process of making egg coating oil involves mixing the stipulated quantities of chemicals with oil in a drum fitted with an immersion heater, connected to a thermostat. There is s wide scope for a small units providing this service at nominal cost. A simple instrument has also been devised for evaluating the egg quality.

1.7.2 Poultry Dressing

Due to the rapid growth in broiler production in India and consumer requirements, the hygienic dressings, packing and distribution of poultry meat have become a necessity. This helps the poultry farmer in marketing the produce in a better way and also ensure a clean and hygiene produce in convenient form. Further, it has the advantage of utilizing the waste. Poultry dressing units may be established in rural areas with sufficient infrastructural facilities and assured sanitation. The processing involves antemortem inspection, slaughtering, scalding, defeathering, singeing, evisceration and cutting. The carcass is washed, packed and chilled in crushed ice for further storage. The marketing of dressed chicken is done in fresh, chilled or frozen from. It may also be feasible to market in cut up portions like half chicken, drumstick, high, back breast and wing. The equipments needed for tiny scale poultry processing plant are killing cones with bleeding trough, scalder, plucker, wash tank with over flow, chopping block, eviscerating table. Chilling tanks, draining rack with spackles, packaging table, cutting knives, singer, balances, ice crusher and deep freezer.

1.7.6 Cattle and Poultry Feed

Cattle and Poultry Feed are the mixtures of various ingredients like, maize, rice brain, oil cakes, molasses, fish meal, etc. the composition can be varied depending on the availability of various raw materials. Balanced feed is essential for proper growth of cattle and chicks. By 2000 AD, the annual requirement of concentrated feed in India is estimated to be 82 Mt. The growing demand has to be met by setting up a number of tiny units in the villages.

1.7.7 Cattle Licks

Salt is as much a dietic necessity for cattle as for the human beings. The cattle meet this requirement by licking the salt. A technology is now available to prepare plain as well as mineralized salt blocks. Mineralized salt blocks containing essential nutrients, trace elements like cobalt, zinc, iron, copper, manganese and iodine help in maintaining the health of cattle by regulating metabolism and helps to increase the milk production in the milch cattle. The process being very simple and the availability of raw material being easy, it is an attractive project for manufacture at small scale.

1.7.8 Fish Meal

Fish meal is a concentrated form of proteins, minerals, vitamin B and other nutrients, which helps in the growth of animal body. Fish meal is gradually replacing the use of cereals in the poultry feed formulations. As a result the demand for the product is increasing steadily. A sizeable proportion is also being exported; especially to the countries in west Europe and Japan. Cottage scale units can be set up with production capacity of 50 kg of fishmeal per day using 250 kg low grade fish. The process consists of washing, cutting, cooking, pressing, drying and powering using a hand operated grinder. The operation is simple and even an unskilled worked can operate it.

1.7.9 Fish Pickle

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1.7.9 Fish Pickle

Pickling is one of the oldest methods of food preservation. It has remained as a household art in India. Commercial exploitation of this art has now made possible with the advent of modern technology. The fish pickle has an emulsion consistency and contains fried fish in an aqueous medium of acid, salt spices condiments and sugar. A covering oil is used in the bottled product. The pickles have a shelf-life of over one year at room temperature. Inexpensive varieties of fish, shark, jew fish or any other fleshy variety and fresh water catfish can be used. Viable cottage scale units can be set up with production capacity of 50 kg/day, working 100 days/annum.

1.7.10 Convenience Fish foods

The thermal processed fish products are made from small bony fish to soften the bones, improve the flavour and retain 100% yield of dressed fish. Thermal processed fish is further processed into following thawing the frozen product:

(a) Breaded fish it is a snack food intended for households, restaurants and institutional feeding. The fish sticks/fingers are served after frying without thawing the frozen product.

(b) Frozen curry: it is a ready-to-use product. The curry is sued after thawing along with rice, chapati or bread.

Both products can be stored in frozen condition upto 1 years. This process makes use of small, inexpensive and under-utilized varieties of fish and hence upgrades their utility. The products are new as commercial items in Indian market. Consumer acceptance trials have transferred to a firm in Madras.

Insulated Basket for Fish Transportation

It is a common trade practice to pack fish in the conventional bamboo baskets at the landing centre for further despatch to different inland markets. But the time these baskets reach the wholesaler or retailers, the quality of the fish deteriorates. In order to improve such practice, an insulated drip-proof bamboo container has been designed with a capacity to hold 25-35 kg of fish for packing and transportation to distant markets. This insulated bamboo baskets system improves the storage life of fish and maintains the original quality. The container being drip-proof has better sanitation. The insulated fish basket is reusable and has been designed to endure at least 6 trips. It can be made by village basket weavers and would find more use in coastal areas. It can generate employment in rural areas. No power of other utilities are required.

1.7.13 Paddy-cum-Shrimp Culture

Shrimp production from paddy fields is traditionally practiced in low lying coastal plains. Using modern scientific principles and aquaculture based on ecobiology, an improved technology of paddy-cucm-shrimp culture has been developed. The improvisation of traditional practice calls for high stocking density of 20 prawns for m^2 and short-term culture of *Penaeus* indicus in paddy fields. The groundnut oil cake is used as feed. The improved technology increases the yield of prawn from 800 kg to 1750 kg/ha per yr and helps to fetch two harvests of prawn in a year.

1.7.18 Quail Farming

Commonly know as *Bater*, its meat is highly cherished as a table delicacy. Since the hunting of wild quail is prohibited, farming of Japanese quail has opened up new vistas in poultry production and as a remunerative rural activity. The required inputs are locally available in a village. The quails are good source of egg, meat and for sport. The litter as well as battery system of brooding and rearing can be employed.

1.8.2 Pest-proofing of Jute Bags

In order to prevent loss of food grains due to insects and pests during storage, a pesticide formulation is sprayed onto the outer surface of the empty gunny bag before storing the food grains. A pest proofing machine is used for spraying. This technique prevents the entry of pests into the gunny bags and assures long and safe storage of food grains. The production of pest proofed jute bags can be started in a village and a unit can employ 4-5 persons.

1.9.1 Paddy Thresher

In India paddy grains are mostly threshed manually or by use of animal power. It is a slow and drudgerous process. A low cost manual/power operated simple thresher has been developed. The power operated unit working on ½HP motor can thresh 300 kg grain/hr costs about Rs. 6,600. The manual unit operated by 2 persons, has capacity of 100 kg grain/hr and costs about Rs. 2,500 (as in 1994). This novel machine is presently being propagated by Orissa Govt. and has proven very popular.

1.9.2 Paddy Thresher-cum-Winnower

This machine threshes the paddy as well as separates the grains with 98% efficiency. The heavy grains, medium ones, straw and dust are separated. The machine consists of a rotary drum mounted with spikes. As the drum rotates at 800 rpm the paddy coming in contact with the spikes is threshed. The winnower attachment consists of a blower, wind box and the hopper. The upper air jet fluidises the mixture of grains, straw and dust while the lower jet penetrates through the cloud and effects separation of the components based on density gradation principle. The machine works on 1HP motor and has the capacity to thresh 300 kg paddy/hr winnow 1500 kg/hr. The machine is presently being propagated in Orissa at subsidized price of Rs. 10,000.

3.1 Tanning of Hides and Skins

Conventionally the rural tanners use the pit or bag method for tanning, which is drudgerous, time consuming and results in low productivity. A simple manually operated drum system for rural tanning has been developed for tanning of hides and skins with a capacity to tan 2 hides or 20 skins in a batch. This technique has been well accepted in rural tanning operation. It has many advantages e.g. conventional wooden drum is replaced by fiber Reinforced Plastic (FRP) material resulting in 60% weight reduction as compared to teakwood drum. FRP does not react with acid or alkali. FRP drum also facilities easy cleaning after processing operations unlike the conventional wooden drum wherein cleaning is often cumbersome. Maximum size is restricted to 90 cm dia X 60 cm width keeping in view the ease of mechanical operation.

3.2 Curing/preservation of Hides and Skins

Common salt is traditionally used for curing/preservation of hides and skins which is the major pollutant in the tanneries. Improved method have been developed that use less amount of salt in admixture with certain biocides and thus restrict the growth bacteria to considerable extent. The biocide along can also be used as short term curing agent. Salt and biocide mixture or biocide alone applied to the flesh side of the hides/skins, which a subsequently piled in a store till taken to the tanneries. In an alternative method of prepservation washed and trimmed hides/skins, after treat me with biocides, are biocides, are stored in the cooling chambers. This way, the use of salt is completely avoided an the hides are kept hides are kept preserved for long time.

3.4 Carcass Utilisation

All tissues of the carcass including the effluents can be converted into quality raw materials or end products. This is achieved by adopting the simple and cost-effective biotechnological

processing method. The utilization of fallen carcass comprises the collection of the carcass in a specially designed vehicle that ensures methodical collection and transportation of carcass at a low cost; flaying of the animal in a simplified manner; rendering meat in a meat mincer; anaerobic treatment of effluents; disposal and utilization of the effluents and composting/vermicomposting of the ruminal and intestinal contents. The minced meat is utilized for making a number of useful products. It is converted into meat by drying in a pan or in a hot air dryer. Mincing helps in increased drying area resulting in faster drying. The mince is also mixed with other dry ingredients for conversion into pelleted poultry for fish feed. It can be used directly as wet feed for the pigs. With the use of a simple method involving 2 weeks treatment, wet feeding has become a realistic proposition. The water effluents, after anaerobic treatment, are used in sub-surface irrigation of nonroot crops e.g. citrus fruit coconut, banana, etc. This way the wash water, otherwise an environmental pollutant, gets treated and disposed off. In addition, it provides nutrients to the soil. The compost/vermicompost is used to raise ornamental plant/flowers to generate additional income in the form of cut flower trade. This approach also helps in keeping the environment clean, healthy and green. An economically viable project has been specially developed for rural regions to process1/2 tpd raw material.

3.15 New Shoe Designs

Conceptual designs are assisted with Gait Analysis and pattern generation through 2D CAD styling and grading system. The entrepreneurs can get graded pattern with skiving and stitch marking etc., out of a large selection of designs.

3.16 Improved Machines and Tools for Leather Artisans

The improved tools help in reduction of drudgery, improvements in productivity and quality as well as additional value earnings for the leather products. A number of simple machines and tools have been developed for different leather processing operations by the artisan. Use of improved tools has been demonstrated and these have been well accepted by the artisans.

4.1.1 Bricks Moulding

Over the past several years, the building bricks industry has been facing an acute shortage of skilled moulders. The industry has to mostly depend upon unskilled moulders resulting in non-uniform quality of bricks. A simple hand moulding table has been developed that moulds bricks in an accurate share and size. This can be operated by any worker with an average skill. The table is fitted with a mould and also provided with table is fitted with a mould and also provided with

movable ms bottom plate. The clay, kneaded with water, similar as in the case of conventional ground moulded bricks, is fed into the could and the brick is ejected by pressing down the pedal. The simple gadget can mould 1,000-1,500 bricks in a day. Uniformly shaped bricks thus produced, can be evenly set inside the kiln to facilitate uniform burning with efficient utilization of fuel. Improved dimensional accuracy of burnt bricks also facilitates perfection in masonry construction and savings in mortar consumption.

4.1.2 Brick Manufacture-Semi Mechanized

To meet the large demand for bricks, a fully indigenous brick making machine has been developed, which brings in semi-mechanization within the reach of a common brick manufacturer. With in the reach of a common brick manufacturer. With the use of this extrusion machine, a small scale unit can produce 2,500 wire cut bricks of 225 X 112.5 X 75 mm size in an hr. It can also produce other forms of clay units useful for flooring and roofing purpose. An automatic reel cutter and a high draught brick kiln is used in conjunction with this machine.

4.4.1 Clay Roofing Tiles

Mangalore-pattern clay roofing tiles are interlocking type with ribs and lugs to rest on battens. These are quite popular in the coastal states. Production of such tiles from alluvial soil could not be undertaken earlier because of its poor work ability and silty nature. The tiles manufactured in southern states from red and block soils shows heavy drying loss, warped surface, high porosity, low flexural strength and crooked alignment when laid on the roof. A process is now available for the manufacture of these tiles from alluvial, red and black soils in small-scale sector.The tiles possess uniform texture, colour and a good finish. Tests carried out in accordance with IS specifications have shows that the breaking load of these tiles is 110-190 kg for AA class and 90-110 kg for A class, while water absorption is 12-14% and 14-16% respectively.

4.4.3 Clay Glazed Wall Tiles

A glazed ceramic wall tile provides a hard, smooth,, impact-resistant surface that is not easily weathered. However, the manufacture of these tiles from high quality ceramic raw materials had remained a high investment project. With the use of new technology, the glazed wall tiles can be produced at a much lower cost from common red clay. They common tiles are coated with glazes of a variety of colours and fired at a temperature of 950°C-1050°C. The properties conform to IS specifications for earthenware glazed wall tiles. These can be used as a substitute for

conventional white ware tiles. The advantages include use of locally available raw material and lower firing temperature thus saving fuel and energy. All materials and equipment are indigenous. The production technology can be easily adapted to suit the rural sector.

4.5.6 Straw Board

Straw Board is made from partially cooked straw, bagasse, grass or their mixture. If a single stock is used, the product is called 'Plain straw board'. In case a mixture of different stocks, the board is called 'Liner board'. A straw board usually consists of several layers laid one over the other to form a thick sheet. Straw Boards are widely used for folding cartons, light weight boxes etc. which are used as packaging material in food products, pharmaceuticals, soaps, detergents, footwear, textiles, hardware etc. It is used for book binding and file making.

4.8.2 Sisal Fiber-Cement Corrugated Roofing Sheets

This is a low cost alternative roofing material that can be produced by using *Sisal* plant fiber. Sisal fibers are cut into small pieces, treated and mixed in cement sand matrix. The fiber-cement mix is spread over flat sheet and then placed over a corrugate mould and pressed. The sheets are demoulded and cured cured for 14 days. This way the sheets get hardened and develop adequate strength. The process require about 1,000 1 water for manufacture of 200 sheets per day and a 50 HP power. The machine and equipment required for its manufacture include fiber cutting machine, fiber treatment mixer, moulds, gantry, crane, hydraulic press and trimming equipment.

4.9.2 Clay Pipes

Stoneware pies mostly used in irrigation, drainage and sewer systems are costly and require firing at high temperatures. An excellent low cost pipe can be produced from clay after proper treatment. Its quality compares well with asbestos-cement or a stoneware pipe. A manually operated vertical clay pipe-making machine has been developed, which can be handled by the skilled or semi-skilled potters in rural areas. In an hour the machine produces 10 pipes of (a) 95 mm dia X 1 m length (b) 150 mm dia X .75m length. The admixtures of varying compositions. The optimum firing temperature for crushing strength of 960 kg per 30m length and water absorption 10-12%. The material conforms to BS 1196-1976.

4.9.3 Ferrocement Doors

Ferrocement Doors shutter is a revolutionary concept. It brings down the cost of joinery. These doors are strong, durable, termite resistant and less prone to fire and weathering. There is no

rotting, warping and swelling. These are monolithic and provide better dimensional stability. The door shutters are ideally suited for school buildings, site offices and other low cost buildings, offering a saving a about 30-40% over conventional second class deodar wood shutters.

4.10.1 Integrated Thin Wall and Column System

The cost o brick has been the main factor in the high cost of construction. The structural analysis has revealed that the type of load coming on the walls in low cost houses can permit reduction of wall thickness to the bare minimum i.e. 11.5cm. A system is developed to reduce the consumption of brick, cement and steel. Here half brick (11.5cm) thick walls are built in situ along with 23 X 23 cm columns. The roof is built by suing the prefab brick panel system. It may be made more comfortable by adding sundried brick wall inside for thermal insulation. The system has been adopted in the construction of 4100EWS houses at NOIDA and Ghaziabad, 249 Harijan houses in district of Ghazipur and Haridwar (U.P.) and is proposed to be adopted in 1.15 lakh Nirbal Varg houses in U.P.

4.11.1 Non-erodible Mud Plaster

The mud plaster over walls gets eroded during rains and necessitates costly repairs. This can be made non-erodible by use of bitumen cutback emulsion containing mixture of hot bitumen and kerosene oil. It is plugged with mud mortar and wheat/rice straw. This mortar is applied on mud wall surface in the thickness of 12 mm. One or two coats of mud-cowdung slurry (gobri) with cut back are applied after the plaster is dry. The plaster enhances the durability of mud wall and reduces the maintenance cost.

4.11.2 Plinth Protection of Mud Walls

The lower portion of mud wall gets eroded during rains due to direct striking of splashing water or water flowing in streets. This causes sudden collapse of the houses. A new method of providing 11.5 cm thick burnt brick wall in cement of lime mortar upto 75 cm height provides protection of such walls to withstand rain and the flood.

4.11.3 Fire Retardant Thatch Roofing

The thatch roof made by the traditional method is generally loose and deteriorates fast. Spread of fire in such roofs is also very fast. In the new method of making fire retardant thatch roof, the thatching material is pressed between two mats made of spite bamboos having spacing of 20 cm

both ways. The length of bomboo mat is kept equal to of the room but its width depends on the length of thatching material available. The two bamboo mats are tied together with the help binding wires after putting the thatch in between the two. The worker applies his body weight and are while tightening the wire to press the thatch. These panels are then laid over the supporting structure with proper overlap. The roof is finished with non-erodible mud plaster to make it fire-retardant and water repellent.

7.4 Low Cost Latrines

Disposal of human waste is a big problem in rural areas. The underground sewerage system septic tank requires high initial cost and maintenance. Further, the water requirement of conventional flushing system is very high while the water supply is scarce in most of the village. Leaching pit type latrine with hard flushing seal is found most appropriate and economical for rural areas. Two pits are used alternative. One pits is connected at a time while the other is closed for anaerobic decomposition of night soil. A distance of 1 m is recommended between 2 leaching pits to avoid seepage of water from one to the other. Optimum diameter and depth for circular leaching pits should be 1.07 m & 1.22 users over a period of 5 years.

7.6 Hand-flush Water-seal Pit Latrines

To improve the sanitary and hygienic conditions, hand-flush water-seal pit latrines have been designed for use in rural and semi-urgan areas. The design consists of a squatting enclosure and two digestion-cum-soakage pits connected through a junction chamber. In the squatting area, a cement mosaic finish pan and trap with 20 mm of water seal is fitted to collect and transfer faeces to a connected pit. The faeces along water flow into the pits. While the water is soaked by the soil, the faeces is digested anaerobically. When one of the pits gets filled up, the other its is connected through the bifurcation chamber. The contents of the first filled up pits are taken out, after about 2 yr and the pitss is prepared for reuse. The main features of the latrine are that it holds human excreta in closed covered pits. It is not accessible to insects, flies, etc. and also to running surface water. Further, it coverts human excreta into useful manure containing fertilizer elements like N.P and K.

8.4 Fishing Hook

The process of manufacturing fishing hooks employed by the artisans is based on primitive heat treatment and finishing techniques. The studies revealed that use of substandard material, non-

uniform heat treatment and lack of quality control were responsible for the poor product quality. The entire process of hook manufacture has been revamped consisting of selection of material quality, hardening, tempering and better geometrical configurations. The equipments required are jig and fixture, hardening furnace, electro-deposition unit. The quality of improved fishing hooks compares favorably with that produced in Japan Norway and Korea.

8.6 Pottery Craft

The rural pottery craft is facing a crisis on account of technology obsolescence and shrinking market. The redclay pottery products like pitcher, *kunda,* planter tableware flower vase and other novelty items are in great demand in rural as well as urban areas. The improved involves the use of kiln working on wood, coal or electricity. The pottery items are glazed for quality/value addition. The required equipments are sieves, ball mills,, up-draft kiln, jigger jolly frug mill.

8.9 Rope, Sutli, Ban Making

The rope has a variety of uses in everyday life and is made from different types of fibers like jute, flax, hemp, coir, and pineapple. The rope is usually made in village through a manual process in a laborious manner. In order to eliminate the drudgery to provide employment opportunities and to enhance the earning capacity, a simple universal fiber yarn machine using easily available sewing machine parts and bicycle components has been developed. The machine can be operated by sitting on a stool by simple pedaling as in a table model sewing machine. Its maintenance is easy. A person can produce 5-8kg of rope per day by using the machine as against 500-700 g by the manual methods in vogue. The machine is also effectively used to manufacture yarns like *Sutli, Ban,* etc. out of Sabai grass and other fibers.

8.10 Sericulture from Leaf to cloth

Silk is the queen of textile, much in demand for the manufacture of garments, parachute components, fishing lines, elastic webs, insulation coils, racing car tyres and in chemical industries. India is the second largest producer of silks, next only to China. Out of 4 important silk varieties viz. Mulberry, Tassar, Muga and Eri, Mulberry silk ranks on top with regard to quantity and quality. There is a good scope for further development of this industry though adoption of holistic approach, from leaf to cloth, as a cooperative venture in rural areas. It consists of: (i) cultivation of mulberry on waste and unutilized lands with improved varieties on scientific lines (ii) rearing of silkworms to produce quality cocoons and higher yield through use

of silk enhancer phytoecodysone (iii) silk reeling and spinning from cocoons to produce quality yarn and spun silk and (iv) silk weaving; all within the village. The cut, insect damaged and waste cocoons need not be discarded. There is a simple process to degum these and convert into spun milk yarn.

8.11 Fur Garments from Sheep/Goat Rabbit Skins

Fur items like caps, purses, satchels, jackets, stoles, coats, wall hangings and foot rug are highly fascinating and expensive too. These items have been traditionally produced in Jammu & Kashmir and Himachal Pradesh, sustaining a large number of local artisans as also meeting the tourist demand. As consequence of the recent restrictions on processing of conventional fur skins, the artisans engaged in this activity have to took for alternative jobs. A simple fur processing technology has been developed to produce value added fur goods from the skins of sheep, goat and rabbits available as slaughter house by-products. These items are produced at a cost substantially lower than conventional fur goods. The existing artisan skills can well be upgraded in this profitable venture.

8.12 Ornamental Fish Rearing and Aquarium

The fascinating world of the colourful aquatic life has attracted people since age old times. Fish aquarium brings home the joy of a new pet into the family. It does not require much space and is not expensive to maintain. Aquarium is a part of elegant interior décor in modern homes. Rearing of fresh tropical ornamental fishes is done in plastic or cement tanks. These are placed in glass aquarium. It is a remunerative cottage scale industry in the rural areas.

CHAPTER-VI

FINDINGS AND OBSERVATIONS OF THE STUDY AND RECOMMANDATIONS FOR ACTION PLAN

A. FINDINGS AND OBSERVATIONS

Following are the findings and observations of the study:

Both study blocks located in the extreme parts of the country have distinct geo-climatic conditions. The development block Ganganagar is located in desert climatic conditions marked with large variations of temperature, extreme dryness and scanty rainfall (annual average 254 mm). A hot and oppressive summer, plentiful rainfall (annual average 2141mm) and moisture in the air throughout the year characterize the climate of Habibpur development block.

The land resources of the Ganganagar block are 965.67 sq. kms. Out of this 74.77% (722.04 sq. kms) is arable land, 15.53% (149.97 sq. kms) fallow land, 7.22% (74.54sq. kms) area not available for cultivation and rest 1.98% (19.12 sq. kms) land is cultivable waste. The land resources of Habibpur block are to the tune of 397.10 sq. kms, which is less than 58.87% of the total land resources of Ganganagar block. In Habibpur block 84.75% (336.54 sq. kms) area is arable, 0.34% (1.35 sq. kms) fallow land, 1.39% (5.52 sq. kms) forest area, 12.04% (47.81 sq. kms) area not available for cultivation and rest 1.48% (5.88 sq kms) is cultivable waste land. There is no forest area in the Ganganagar block.

Almost 77% people in the Ganganagar block and more than 82% people in the Habibpur block are engaged in agriculture sector. 94.6% of the arable land in the Ganganagar block and 82.5% in Habibpur block, is single cropped. The major agriculture produce of the Ganganagar block is wheat (total production 119.01 thousand tons in 1999-2000) sown on 39742 hectares of land. In Habibpur block, major agro-produce is rice (production 715.59 thousand tons in 1999-2000), sown on 31800 hectares of land. The cash crops of Ganganagar block, are cotton and sugarcane. While in Habibpur development block, cash crops are sugarcane and Jute.

The bovine population and poultry are important resources of the agro-based economics of both blocks. There are 61 cows per sq. km of area in Ganganagar block, while in Habibpur block, there are 108 cows in the equal area. But the density of buffaloes is just opposite being 56 buffaloes per sq. km in the Ganganagar block and only 18 in Habibpur block. However, the breed

of buffaloes is superior in the Ganganagar block. Other important cattle is goat with a density of 14 per sq. km in Ganganagar block and as high as 107 in Habibpur block. The poultry is a backyard activity among the scheduled castes and tribes of both blocks. However, fishery is an important resource in Habibpur only block having engaged 6500 persons with 5061 quintals annual fish production.

The population of the Ganganagar block is 324766 (this includes the urban population of Sri Ganganagar city, which is 162371 persons) persons, whereas total population of the Habibpur block is 168538 persons (1991). The population density of the Ganganagar block is 336 persons per sq. km, while it is 424 in the Habibpur block. The Ganganagar block registered 45.62% decadal growth while Habibpur block registered a growth rate of 29.67% in the decade of 1981-91. The general sex ratio in the Ganganagar block is far below the national average. This is reported 858 females per 1000 males in Ganganagar block, while in Habibpur block sex-ratio is higher being 965 females per 1000 males.

Development block Habibpur is predominantly a tribal block, having scheduled tribe population 31.16%, mostly Santhal. Moreover, there is also a very high concentration of scheduled castes (46.56%) population. Contrary to this, there is insignificant number of scheduled tribes in the Ganganagar block. However, the concentration of scheduled castes is very high (33.86%) being more than double of the national average. The sex ratio among the tribal population in Habibpur block is 1012 females per 1000 males, which is in favour of females. Among scheduled castes this ratio is 998 females per 1000 males, while it is only 882 females among the scheduled castes of the Ganganagar block.

The general literacy rate in the Ganganagar block is 43.19%, while it is only 26.87% in Habibpur block. It is observed that 6.59% villages of the Ganganagar block and 1.37% villages of Habibpur block, have more than 50% literacy. The rate of literacy among scheduled castes in the Ganganagar block, is 9.51%, whereas, it is 8.27% in Habibpur block. The literacy among scheduled tribes in the Ganganagar block, is 22.76%, and 17.62% in the Habibpur block. The literacy among tribes is better than scheduled castes.

The percentage of workforce is higher in the Habibpur block (43.5%) in comparison to the Ganganagar block (34.34%). In Habibpur block, 82.45% workforce is engaged in primary sector, 7.16% in secondary sector and 10.39% in tertiary sector. While in the Ganganagar block, 77% workforce engaged in primary sector, 7.01% in secondary sector and 15.99% in tertiary sector. In total workforce, 72.54% are male and rest 27.46% are females in Habibpur block. In Ganganagar

block, 53.83% are male and 46.17% are females. The female workforce is higher in the Ganganagar block.

The study observes that in the Ganganagar block, 46.03% of the total workers is cultivator, followed by agricultural labourer 29.87%, other service sector 7.20%, trade and commerce 6.40%, industrial worker 3.40%, household manufacture 2.78%, transport, storage and communication 2.35%, construction 0.84%, livestock 0.79%, mining and quarrying 0.23% and hunting, plantation, orchards and allied activities 0.11%. While in Habibpur block, 37.74% is cultivator, 33.66% agriculture labourer, 9.96% fishing, 5.01% other service sector, 4.05% trade and commerce, 3.77% industrial worker, 3.08% household manufacturer, 1.34% transport, storage and communication, 0.94% livestock, 0.31% construction, 0.01% mining and quarrying and rest 0.13% is engaged in plantation, orchards and allied activities.

The survey of income levels in the Ganganagar block observes that 63.6% respondents have income less than Rs. 1000/- per month, while the percentage of households in this income level is 79.3% in Habibpur block. It is observed that 15.1% households have their income between Rs. 1000-2000/- per month in Ganganagar block, followed by 10.4% households having income between Rs. 2000-3000/- per month, 6.7% households Rs. 3000-4000/- and rest 4.2% households having their income level above Rs. 4000/- per month. In Habibpur block 10% households have their income level Rs. 1000-2000/- per month, followed by 5.9% households having income Rs. 2000-3000/- per month and rest 1.5% households have their income level above Rs. 4000/-per month. The study further shows that percentage of saving being 5.2% in the Ganganagar block is far better than 2.1% in Habibpur development block.

The expenditure pattern of the income shows that in the Ganganagar block, 50.3% of the total income is spent on food items, followed by drinking and smoking (18.7%), house and household goods (11.3%), clothes (4.4%), medical facilities (2.5%), education (2.1%), and social and other ceremonial activities (5.5%). Whereas in Habibpur block, 56.2% of the income spent on food items, followed by 20.2% on drinking and smoking, 8.6% on house and household goods, 3.9% on clothes, 2.1% on education, 1.6% on medical facilities and 5.3% on social and other ceremonial activities.

The study of levels of development of both study blocks, based on income level, availability of household goods and expenditure pattern reveals that Ganganagar block is well developed, in comparison to Habibpur development block.

During the reference period of the study (i.e. year 1994-95 to 2000-2001), total 246 projects in the Ganganagar block, and 47 projects in the Habibpur block have been executed under BADP. The total funds allocated to the Ganganagar block was to the tune of Rs. 1331.32 lakhs, while it was only Rs. 116.92 lakhs for Habibpur block during the same period. The main executive agencies involved in the implementation of BADP in the Ganganagar block are *Panchayat Samiti,* Public Health and Engineering Department, Public Work Department, Other Line Departments of the district viz. Collectorate, DRDP, Municipal Council, *Aawas Vikas Sansthan*, Urban Improvement Trust, Superintendent of Police Office, *Jodhpur Vidut Vikas Nigam* and RSBCC, etc. In Habibpur block, major agencies are *Panchayat Samiti, Zila Parishad*, BSF, PWD, PHED, Collectorate and DRDP etc.

Out of total work completed in Ganganagar block (during reference period), 46.75% was executed by the *Panchayat Samiti* followed by other line departments (33.33%), PHED (16.26%) and PWD (3.66%). Whereas in Habibpur block, 78.72% work is executed by the *Panchayat Samiti,* followed by the BSF (10.63%), other line departments (4.26%), *Zila Parishad* (4.26%), and PHED (2.13%). Unlike Ganganagar block, BSF is an executive agency for the implementation of projects pertaining to the security sector in Habibipur block.

The sectoral distribution of the total projects executed in the Ganganagar development block shows that 58.54% of the total projects have been executed in infrastructure sector, followed by education (18.29%), security (14.22%), health (6.10%), agricultural and allied sector (0.4%) and other social sectors (2.45%). Most of the work (42.36%) has been executed by other line departments, followed by *Panchayat Samiti* (35.42%), PHED (17.36%) and rest (4.86%) by the PWD. In education sector total work has been executed by the *Panchayat Samiti.* Maximum work of security sector is also done by the *Panchayat Samiti* (42.86%), followed by the PHED (40%) and other line departments (17.14%). The projects of health sector have been executed by other line departments (60%), *Panchayat Samiti* (26.66%) and PWD (13.34%). Only activity of agriculture and allied sector is executed by PHED in Ganganagar block.

In Habibpur development block, out of total 47 projects implemented 38.30% were in education sector, 25.33% in infrastructure, 21.28% in security and 14.89% in health sector. No work has been done in agricultural and allied sector and other social sectors. Maximum work of infrastructure sector has been executed by the *Panchayat Samiti* (47.83%), followed by *Zila Parishad* (16.67%) and by other line departments (8.83%). While entire work of education sector has been implemented by the *Pancyayat Samiti.* In

health sector 71.42% work has been implemented by the *Panchayat Samiti* and rest 14.29% by the PWD and other line departments.

16 The sector wise utilization of funds in Ganganagar block during the reference period shows that 67.44% amount is utilized in infrastructure sector, followed by education (10.88%), security (10.59%), health (10.02%), agriculture and allied sector (0.06%) and other social sectors (1.01%). Whereas, in the Habibpur development block 47.84% of the total funds has been utilized in infrastructure sector, 38.78% in education, 7.5% in security sector and rest 5.87% in health sector in the reference period.

17 The study of the funding pattern of the study blocks shows that the Ganganagar block received funds at the rate of Rs. 409.80 per head of it's population, Rs 138 thousand per sq. km of area and Rs. 41.59 lakh per km of international border length during the reference period. While the development block Habibpur received funds at the rate of Rs. 69.37 per head of it's population, Rs. 29 thousand per sq. km of area and Rs. 1.43 lakh per km of international border length in the same period.

18 The assessment of satisfaction level of the beneficiaries of the BADP projects in their respective villages concludes that 72% people and 78% *Panchayat* representatives and knowledgeable persons are satisfied with the work done in the Ganganagar block. While in Habibpur development block, percentage of satisfied people is 65% and 70% for the *Panchayat* representatives and knowledgeable persons, respectively. The major reasons of discontent are different priorities of the people, people's participation is not ensured at planning stage, felt needs of the people are not being considered, standard of the work done is not up to the desired level and absence of monitoring committee in the blocks.

19. The study observes that in Ganganagar block 13.5% respondents feel the threat of cross-border crime pertaining to the smuggling and terrorism. However, they admit that the border fencing and construction of BOPs and OPs have reduced their apprehension of cross-border threats to insignificant level. Whereas, 25% respondents in Habibpur block have sense of insecurity. About 90% have reported that cattle (particularly cows) are the most favoured targets of the hordes of invading dacoits from Bangladesh, who have turned cross border crime into a major industry turning the lives of local into an endless nightmare.

20 Cattle-lifting is the most profitable crime in the Habibpur development block as there is great demand of cattle particularly cows and oxen in Bangladesh for ploughing as well as

for supply of beef and hides to gulf countries. The local people mostly scheduled castes and tribes are poor and simple people, who are being threatened and looted (cattle lifting mainly) by the Bangladeshi gangs most of cow lifters. This has caused a great concern among the local people. Persisting meetings between the BSF and Bangladesh Rifles have not been able to check the growing menace of smuggling, cattle lifting and illegal infiltration of Bangladeshi into India. In spite of grim crime situation in the blocks, people by and large perceive no sense of insecurity.

21 The study of hypothetical investment pattern in the Ganganagar block reveals that 82.22% respondents are interested in purchase of agriculture land in their respective village, even near the border line. Similarly, 78.97% respondents gave their preference for the purchase of agriculture land. This clearly reflects that people are interested in immovable property and perceive no sense of insecurity.

22 In Ganganagar development block, 44.61% respondents have taken loan for productive purposes. Majority of the respondents has negotiated the loans for agriculture purposes. 95.07% in Ganganagar block and 74.88% in Habibpur block, have taken loan for agriculture. Other priorities were livestock (2.46%), business (1.98%) and other social ceremonies (0.49%) in Ganganagar block. In Habibpur block, other priorities are fishing net (9.32%), marriage of children (7.9%), livestock (4.18%), business (2.79%) and other social ceremonies (0.93%). The purchase of the immovable assets reflects the sense of security among the people.

23 The private money-lenders do not give loans until they satisfied to themselves that the *Asami* (pawn) will not run away after taking loan. In case of Ganganagar block, 21.19% respondents have taken loan from private money-lenders. In Habibpur block, 25.12% respondents have taken loan from the private sources. The credit markets do not operate in an environment of insecurity and uncertainty.

24 Majority of the respondents in both study blocks has own houses, livestock, agriculture land and implements. Cent percent households in both blocks have their own houses. In Ganganagar block, 93.62% have livestock, followed by agriculture implements (65.27%), agriculture land (45.93%), shops (12.96%) and small enterprises (3.07%). In Habibpur block, 81.97% have livestock, followed by agriculture implements (72.96%), agriculture land (37.37%), shops (10.30%) and small enterprises (1.07%). The possession of immovable assets is an indicator of prevailing sense of security among the people.

No case of outward migration is reported from any of the block except a few families of Ganganagar block who have been given land *patta* in Hamunagarh district (earlier part of Sri Ganganagar district) by the Rajasthan Government. While there are several examples of inward migration in both blocks, these 'newly settled outsiders' do not see any sense of insecurity in any of the border block.

26 The discussions that held with *Panchayat* representatives, knowledgeable persons and general public have brought the serious issue of infiltration into the notice. People are of the opinion that Bangladeshi infiltrators have become majority (95%) in the border villages; they have purchased land in border areas. Moreover, they have entered the local politics and taking the advantage of the Government schemes. These infiltrators have out numbered the bonafied Indian citizens.

27 There is a significant growth in educational infrastructure and enrolment of students in primary, middle and secondary levels of education in Ganganagar block, during the reference period of the study. Contrary to it, Habibpur development block, has registered a very poor growth rate in the educational infrastructure and a heavy student dropout particularly at secondary level (-24.80%), during the 7 years of the present study.

28 The BADP has played a significant role in the development of educational infrastructure in both study blocks. In Ganganagar block, 9.24% of the total funds has been utilized for this purpose. This has benefited 41 schools in the block. In Habibpur block, 38.78% funds of the BADP has been utilized for construction of additional education infrastructure, which benefited 18 schools. This has increased the total enrolment in the schools and attracted more number of girl students. This has created awareness among people particularly poor scheduled castes and tribal for the education of girls. There are 48 villages in Ganganagar block and 35 in Habibpur block, which require schools.

Though, both study blocks are agriculture dominating areas but ironically no work has been done under BADP in this sector. Only a minor channel was constructed at village Mukan (Ganganagar block) with a small amount of Rs. 0.80 lakh in 1995-96. This amount is insignificant (0.3%) compare to the total allocation of the year. Virtually no work has been done in this sector in Habibpur block. This is the neglected sector, which needs attention for BADP schemes.

The critical gap identified in the field of agriculture sector is in the area of minor irrigation, quality seeds and timely supply of fertilizers and pesticides, training in new

techniques and technologies of farming and allied areas. Development of animal husbandry and veterinary aid centres is also needed. There is gap in the field of pisciculture, sericulture, horticulture and social forestry. De-siltation of ponds and watershed development needs special attention particularly in Habibpur block.

BADP has done good work in extending the health facilities to the people in both blocks, 15 health related activities in Ganganagar block and 7 activities in Habibpur block have been completed. 10% of the total funds in Ganganagar block and 5.87% of funds in Habibpur block has been incurred on health related schemes. There is wide gap in the health sector. Blood bank, X-ray and ECG machines and laboratory in all sub-hospitals of both blocks are needed. 16 PHCs in Ganganagar block and 19 in Habibpur block are essential. Besides, provisions for dental, eye clinic and mother & child programme are also required.

A commendable work has been done in security sector under BADP particularly in Ganganagar block, where 10.56% of the total allocation of the block (during 7 year of reference period) has been incurred on security arrangements. While 7.5% of total allocation, has been incurred in this sector in Habibpur block. Under BADP *Naka-cum-OP-Machan*, barracks for Jawan, DCB at BOPs, WSS at BOPs and banker *Nirman* has been done in Ganganagar block. In Habibpur block repair of BOPs, purchase of wireless sets have been done under BADP. Beside this, police station, police line and police quarters have also been constructed in Ganganagar block. However, a significant gap has been observed in the security sector.

Most striking aspect of the BADP funds utilization is related to the infrastructure development. Almost half of the total allocation (48.52%) in Ganganagar block has been utilized for construction of administrative buildings of different departments in Sri Ganganagar City, whereas in Habibpur block only one fourth (25.39%) has been incurred for this purpose and staff quarters at BDO office, doctors and other health staffs' quarters have been constructed.

The people's participation has been ensured in the implementation of the BADP in both study blocks. In Ganganagar block, 46.74% of the total activities has been executed through people's participation. In Habibpur development block, involvement of the people has been ensured in 82.97% activities. The maximum people's participation has been reported in education sector (100%) both in terms of money and activities in both blocks. This is followed by the security sector (42.85% of total work and 47.35% of total

allocation), infrastructure (35.41% of the work and 19.87% of the allocation) and rest in Health sector (26.66% of the work and 28.08% of the allocation) in Ganganagar block. In Habibpur block, second important sector in terms of people's participation is infrastructure sector (91.66% of the work and 91.06% of the total allocation), followed by health sector (71.42% of the work and 9.76% of the allocation) and rest in security sector (50% of the work and 22.77% of the allocation). There is no people's participation in agriculture and allied sector and other social sectors. However, no Voluntary Organization/NGO has been involved in any of the block.

The major problems identified in both study blocks are irrigation facilities, drinking water, border land disputes, lack of good roads, unemployment, health services, poverty, electricity, price rise, veterinary centres, schools, inadequate cooperation of Govt. staff, land fragmentation, community halls, public library, supply of kerosene, transport facility and cross-border crime in order to their preference in Ganganagar block. In Habibpur block, the main problems are poverty, cross border crime, lack of good roads, border land disputes, unemployment, drinking water, health facilities, irrigation facilities, electricity, price rise, inadequate cooperation of Govt. staff, veterinary hospital, schools, inadequate supply of kerosene, community hall and library, transport facility, and flood and soil erosion in order to the preference of the people.

Based on the assessment of the problems of the people and discussions with block officials, knowledgeable persons and *Panchayat* representatives the sector wise 'felt needs' of the people have been enlisted for both study blocks. The enlisting of the 'felt needs' have been done as per priorities perceived by the people in both blocks.

The study observes that monitoring schedule was not notified in any of the block. Grass-root level organizations, block level *Panchayat Samities*, BSF etc. are not involved in the monitoring of the BADP work. There is no clear-cut policy or indicators of monitoring the progress of the work in any of the block.

The scheme did not seem to give due important to the 'felt needs' of the people in both blocks. The people's participation is restricted only to the execution of the projects, their participation at planning level is absent in both blocks. Moreover, in most of the cases projects only related to infrastructure building were encouraged by the administration for people's participation. In Habibpur block, BADP is not a popular scheme and most of the representatives of the *Panchayat Raj* institutions including Block *Pramukh* are not aware about this scheme.

The BADP has played a vital role in fastening the mobility of people and BSF by constructing 15 roads in Ganganagar block and 4 roads in Habibpur block (including box bridge and culverts). The construction of additional rooms in primary and secondary schools has promoted the educational development in 45 schools in Ganganagar block and 18 schools in Habibpur block. Construction of 15 hospitals (including 5 veterinary hospitals) in Ganganagar block, and 7 in Habibpur block has extended the medical facilities to the people.

The construction of *Panchayat Ghar* (15) and *Patwar Ghar* (15) in Ganganagar block has strengthened the functioning of the Panchayat and provides relief from day to day land related problems. The another important area, where BADP has done camdable work, is the water supply for drinking purpose in Ganganagar block. Total 35 works related to water supply (12 water tanks, 7 diggies and 15 other water supply works) have been executed in Ganganagar block to quench the thirst of the people.

Security is the major concern of BADP and it has strengthen it by 35 works in Ganganagar and 10 works in Habibpur block. Besides, administrative buildings constructed under BADP have enhanced the efficiency of the administration.

40 It is, too, early to make a clear cut statement about the impact of BADP on socio-economic development as the scheme is itself only 7 years old. There are certain activities, which have been completed recently but have not started functioning yet. However, the schemes implemented under BADP in both blocks have brought a significant impact in certain areas leading to socio-economic development and sense of security among the people living in border blocks.

B. RECOMMANDATIONS FOR ACTION PLAN

On the basis of the findings and observations of the study, following recommendations have been made to prepare an action plan for future development of the study blocks though BADP implementation:

The effective and timely implementation of the scheme needs a proper mechanism for the monitoring of the expenditure and work performance. However, this is the weak area in the implementation of the BADP schemes. There is no Monitoring Committee and Monitoring Schedule in any of the blocks. A permanent Monitoring Committee should be formed at the district level, having all district level heads (including BSF) of the implementing agencies it's permanent members. The work sanctioned to different agencies under BADP should be informed to all members of the Committee. Each member should be empowered to monitor the work for each implementing agency. The Committee should have atleast one meeting in the year, and evaluation report of the Committee should be kept ready by District Planning Office for the consideration of Screening Committee and Empowered Committee in decision-making for future policy and action plan.

The role of Empowered Committee at the Centre and Screening Committee at the state level is very important in deciding the policy and action plan, scope of the programme, allocation of funds for different schemes and recommendation of the scheme to be implemented under BADP. As per present scope of the programme, there are three important areas, which need special attention under BADP. These areas are science and technology, health and agriculture and allied sector, which have potentials for socio-economic development - one of the two major objectives of the BADP. Therefore, it is advisable that Secretary, Ministry of Science & Technology, Secretary, Ministry of Agriculture, and Secretary, Ministry of Health, should be the members of the Empowered Committee. Similarly, equal rank officers at the State Government level should be the members of the Screening Committee.

The channel of fund flow from State level to district level has to be changed. This should be uniform in all blocks. Funds from the State should be released directly to the District Planning Office and not to the line departments. The District Planning Office should be equipped and empowered to release the funds to different implementing agencies. There is need of capacity building and delegation of power to District Planing Office for planning, implementation and coordination of schemes under BADP at the district level. This may be considered by the Screening and Empowered Committees for effective implementation of BADP and preparation of the district level data base needed for future policy and action plan.

The BADP is a special programme as additive to the normal state plan aiming at creation of infrastructure to strengthen the sense of security, while meeting the special needs of the people leading to socio-economic development of the border areas. This is an unusual task and cannot be met in the traditional manner of planning and scheme implementation. Therefore, it needs an off the track strategy and scope for intervention. As per 'felt needs' and priorities perceived by the people, it is advisable that proposals having Science & Technology components should be given priority. A tribal village in Habibpur block and a village dominated by the scheduled castes in Ganganagar block may be taken up to develop a role model through Science & Technology intervention under BADP.

Since, to meet the specific requirements of the people is the main thrust of the BADP, hence, people should have major role to play in the identification of their 'felt needs' and priority areas. Their participation at the project formulation stage should be ensured. Some reputed NGOs/Voluntary Organization and educational/technical institutions of the border districts, may be involved to assist the people in the task of identifying the 'felt needs' and priorities. Moreover, potential areas and low cost rural technologies suited to the block may also be identified for intervention for employment and sustainable development.

The emphasis on creation of permanent infrastructure, like roads (including culverts/bridges), schools and hospitals should be continue but within the 16 kms of the international borderline. Moreover, only like roads connecting villages along the border line and link roads to connect BOPs and OPs of BSF should be constructed and repaired under BADP. Priority should be given to the culverts/small bridges upon these connecting roads. The funds of BADP should not be utilized to repair those roads of the block, which have been constructed under any other scheme of the State/Central governments. Construction of administrative buildings at district headquarter, even if it lies in the border block, should not be allowed under BADP. Moreover, building constructed for different purpose as per 'felt needs' and priority of people should not be concentrated on a few locations, rather spread all along the border line. All construction work should inscribe on the walls (in front and back side both), "constructed under BADP" with year of scheme.

The funds of BADP fall under non-lapsable category. Therefore, formulation and funding of short-term projects under BADP, may be given a re-thought. It is advisable that projects of importance and priority may be formulated and implemented on a long-term basis. However, such projects should not be clubbed with regular projects, under different schemes of State/Central Governments. Secondly, the criteria for allocation of the BADP funds should consider the threat perception, topography, remoteness and accessibility of area and socio-

economic backwardness, in addition to the present criteria of funding. Hence, area specific projects should also be considered under BADP.

There is a co-ordination lapse between the civilian population of the border villages and BSF, which causes misunderstandings among the people and the forces. Therefore, a co-ordination-cum-vigilance committee having members from *Panchayat* representatives, knowledgeable persons of the village and BSF personnel of near by BOPs should be constituted in each block. This Committee should organize some joint programmes to keep watch on infiltrators and other border crimes.

Based on the local resources base, skills available, 'felt needs' and market availability, a few areas in forest sector, agro based, animal husbandry & allied activities, service and cottage based activities and some miscellaneous areas, have been identified as potentials for new avenues of employment in both blocks. Besides, 60 low cost rural technologies have been identified and recommended for intervention in both blocks for employment generation and sustainable development.

Special emphasis should be given to the education sector, particularly in Habibpur development block, where there is no significant increase in educational infrastructure and heavy drop-outs has been reported. In fact, all funds provided for infrastructure development should be utilized for the development of schools, health centres and link roads (including culverts/small bridges), particularly connecting border villages, BOPs, and OPs.

Funds under BADP should be provided to some selected high schools to develop the hostel facilities for girls' of the weaker sections (SC in Ganganagar and SC & ST in Habibpur blocks, who have registered very poor literacy rate) on the pattern of *Ashram* schools. These hostels should be constructed in the central places of the main border area. Two locations for Habibpur block (Habibpur and Aktail) and two locations for Ganganagar block (Phatuhi and Hindu Mal Kot) have been identified. These hostels should run the training programmes in pre-decided (based on survey) low-cost rural technologies suited to the resource base and local market potentials of the blocks.

Besides mentioned recommendations, there are certain importance issues, which need to be highlighted at this juncture for their amicable solution. Such issues have been summed as follows:

The artisans, small entrepreneurs and petty businessmen of the border areas need special loans and marketing facilities as institutional credit, are not available as per requirement in the

near border villages. Some arrangements have to be made for credit them through District Planning Office, involving NABARD services.

There is a serious problem about the land between fencing and zero-line in Ganganagar block. This has caused a confrontation between the farmers and BSF. Farmers should be allowed on permanent basis to work on their land. The irrigation timing should be changed and pipes should be provided to farmers for irrigation.

A few farmers have taken loan for the land development, which later on acquired by the BSF/Army. In such cases, loan either should be waved off or paid by the Ministry of Home/Defence.

Low-tension electrification is needed in the border region of Habibpur block.

Since, there is scarcity of water for drinking, as well as irrigation purpose, hence "paid tubewells" should be allowed under BADP.

To make communication fast, all villages should have telephone facilities.

There should be TV relay centres in the border area to counter the propaganda of hostile country. All *Gram Panchayats* should be given TV sets with antennae.

Modern surveillance equipments should be provided to the BSF.

There are the seeds of discontent among the people of 35 villages in Habibpur block over the fencing. The fencing should be created only 150 meters away from the zero line and not beyond that in any case. Moreover, the present type of fencing, which is being created, is useless and sheer wastage of public money.

There is grim situation of dacoity (mainly, cow-lifting) by the Bangladeshis and infiltration in Habibpur block. This has to be checked on priority basis. The piggery should be promoted along the border area.

REFERENCES

Ahuja and Rathore, 1987 : Goats and Goat Keepers, Prinwell Publiction, Jaipur.

District Census Hand books (1981,1991), District Sri Ganganagar, Rajasthan.

District Census Hand books (1981,1991), District Malda, West Bengal.

District Statistical Handbooks (1994 - 2000), : District Sri Ganganagar, Rajasthan.

District Statistical Handbooks (1994 - 2000), : District Malda, West Bengal.

Evaluation Report on BADP (1999) : Programme Evaluation Organisation, Planning Commission, Government of India.

Krishnan. S. (1982) : Goat- Rearing-A Profitable Proposition, Live Stock Advisor,Vol. 7.

Punia and Punia, (1983) : Knowledge and Adoption of Improved Goat Rearing Practies, Live Stock Aadviser, vol. 8.

Ram and Mruthunjaya, (1984) : Growth of Goats and Sheep in Rajasthan Desert, Analysis and implications, Agricultural Situation in India, January 1984.

Report on BADP, (2001) : Report of the Working Group on Border Area Development Programme, Planning Commission, Government of India.

Sehgel, K.K. (1972) : Rajasthan District Gazetteers, Sri Gangangar, Director, District Gazetteers, Government of Rajasthan, Jaipur.

Sengupta, J.C. (1969) : West Bengal District Gazetteers, Malda, Director, District Gazetteers, Government of West Bengal Calcutta

Singh, B. (1985) : Farmers Response Towards Goat Production, Rural India Vol. 48.

Technical Report (1995) : CSIR Rural Technologies-A Compendium, CSIR, New Delhi.

Annexure-I

RECOMMENDED LOW COST RURAL TECHNOLOGIES FOR EMPLOYMENT AND SUSTAINABLE DEVELOPMENT

Following are the details of the recommended low cost rural technologies identified and recommended for intervention under BADP in the study blocks to kick off the process of employment and income generating activities (the details of technologies are based on CSIR Rural Technology Compendium, 1995):

1. **Mini Rice Mill:** It is a simple, compact, mini rice mill, which can handle 400-500 kg paddy per hr with an installed power of 15 HP. The mill gives 2-4% extra rice yield for raw paddy and less brokens as compared to huller mills. The bran is also entirely free from husk. The degree of polish can be adjusted as desired. The mill has the salient features of a modern rice mill. It consists of a vibratory cleaner for cleaning paddy, a centrifugal sheller for dehusking, a husk aspirator, paddy separator to separate paddy and brown rice and huller to polish the brown rice. Paddy separated is fed back to the sheller for shelling, while brown rice goes for polishing. Cone/emery/friction polisher can be used in place of huller to further reduce the rice breakage during polishing. Due to the compactness of the paddy separator, it is possible to arrange all units one below the other in a streamlined configuration for gravity flow of material. The bran and husk obtained in this mill are pure. The space required for this mill is small i.e 1m width X 2m depth X 3.5m height. With the use of this system, yield from 100 kg parboiled or raw paddy is 65.5 total rice, 0.5 kg brokens, 7.7 kg bran and 95.98% recovery of potential oil. The oil content in the bran is 22% and 18% respectively in parboiled and raw paddy.
2. **Mini Grain Mill:** Coarse grains and millets such as maize *jowar, bajra, ragi* are generally used by the economically weaker sections. These cereals and millets contain the non-edible fibrous husk/bran to the extent of 8-15%. By minimal refining, these can be made tasty, easily digestible, without reducing much of the nutritional factors. To suit the cottage scale operation especially in a rural environment, a simple mini grain mill has been developed with a capacity to process 250 kg grain per day. It costs about Rs. 45,000(as in 1994). By this mill, not only the coarse grains, but also wheat can be refined. In a single step the refined *suji* and flour are obtained from *wheat/maize/jowar/bajra/ragi* and other grains. In this mill, the

simple *chakki* machine has been modified suitably to have arrangements for water mixing, sieving and aspiration. The refined product obtained can be used for the preparation of *chapati, upma, idli, dosa, kesaribhath* etc. Husk/bran and brokens are obtained as by-products.

3. **Pulse Dehusking:** This simple pulse dehusking machine can be used by small scale pulse processors for dehusking and splitting of dals. Since the unit is hand operated, it can be used in remote villages and provide self-employment. This hand operated pulse dehusking machine works on the principle of abrasion. It can process 60-70 kg preconditioned (cleaned, water-soaked and sun dried)legumes in an hour. The machine gives 70-75% dehusking in one pass and 95-99% in two passes with a yield of 70-75% dal forbengalgram and *tur* pulses, as compared to 45-50% of *dal* through traditional *chakki.* The product is comparable to mill produced dals but produced at a lower cost. The unit fitted with ½HP motor, costs about Rs. 9,000 and can process 150-200 kg dal/hr.
4. **Home Scale Oil Expeller-cum-Paddy Dehusker:** This simple machine named '*Grihashree'*, overcomes day-to-day household drudgery of rural women. It is used for dehusking of paddy as well as for extraction of oil from the oilseeds at domestic level. The machine consists of 2 units mounted on the same base working from a common drive. One unit is used for dehusking of paddy and the other for extraction of oil from mustard, rye, sesame, etc. It works on ½HP motor and can also be run manually. The operation, maintenance, cleaning and reassemble is easy. The capacity is 18 kg rice/hr or 900 ml oil/hr by motorised unit. The manually operated unit yields 3 kg rice/hr or 125 ml oil/hr. It can be fabricated at an approximate cost of Rs. 10,000.
5. **Parboiling of Paddy:** There are many advantages in parboiling. It reduces grain breakage during milling, greatly improves the vitamins and nutrient contents in the polished rice grain, increases the oil content in the bran, enhances the cooking and eating quality of the rice and reduces insect infestation during storage. In the traditional parboiling process, paddy is soaked in water for 3 days, steamed and dried. It has serious drawbacks such as production of foul odour due to fermentation during the prolonged soaking period and also loss of dry matter. The development process aims at elimination of unwanted odour and reduction in soaking period in addition to 0.5-1% higher yield of head rice. There are two methods viz. dry heat and hot soak. In the dry heat method, paddy is soaked overnight in warm water in cement tanks. The water is drained off and the soaked paddy is fed continuously into a roaster at a known temperature for a short time. This roasted paddy is dried in a yard and milled as

usual. The hot soak method involves overnight soaking of the cleaned paddy in hot water. It is steamed and dried. Although a batch process, it can be made semi-continuous by using a number of tanks and staggering their operations. The plant can be located in paddy growing areas. As the demand for parboiled rice is increasing, there is a potential for establishing units in the tiny sector in rural and semi-urban areas.

6. **Accelerated Again of New Paddy:** The new rice has poor cooking quality and fetches low value. It has to be stored for atleast 3-4 months for again resulting in extra expenditure on warehousing as well as delayed returns. An accelerated process is now available that cures the fresh paddy in a short time and generates desirable cooking characteristics of old rice. The paddy is steamed for short time and kept hot for 2 hours followed by drying in the shade. The process improves the cooking quality as well as head yields and also makes stable lipase-free bran. The cured rice contains more thiamine and has better storage quality. An average skilled person can adopts this process for setting up a unit in tiny sector.
7. **Rice Flakes:** The traditional method of preparing rice flakes (*Poha or chiwra*) consists of soaking the paddy in water, sand-roasting and flaking. This results in low yields, excessive breakage during the final stage of flaking and contamination with husk/sand particles. An improved process, batch as well as continuous, is now available for making rice flakes, which overcomes the drawbacks of the traditional method. It consists of soaking the paddy in hot water, roasting, shelling, polishing and finally flaking in a machine. A number of small/tiny scale units are coming up for mechanized production this item.
8. **Papad Making :** *Papad* is a popular food item in India. Though traditionally confined to the household, *Papad* making in recent years has developed into a cottage and small-scale industry. With the use of a simple leg/hand operated *Papad* press costing about Rs. 3,000 (as in 1994), around 500 *Papad* of uniform size can be made in an hour.
9. **Bakery Products:** Bakery occupies an important place in the food processing sector. Despite the advent of semi-automatic and automatic bread lines as well as biscuit plants, a sizeable cross section of the population still prefers fresh cottage bread. With a growing population and higher nutritional standards as well as demand for fresh ready-to-eat foods, the market for bakery items has also in creased considerable. A bakery unit can be set up in urban, semi-urban as well as rural areas.
10. **Food Toffees:** Fruit toffee is a highly nutritious products as compared to sugar boiled confectionery. It is made from pulp of mango and other fruits along with certain ingredients. Small and cottage scale manufacture of fruit toffee provides potential avenues for self

employment in the area where the fruits are available. Although fruit toffees are being made in the organized sector, there exists a vast potential for cottage scale production also.

11. **Fruit Bars:** Fruits bar is a concentrated fruit product meant for ready consumption. It has a good shelf life. Any variety of pulpy fruits, e.g. mango, guava, papaya, banana, apple etc. single or in combination can be used for manufacture. Fruit bars are becoming increasingly popular due to good shelf life, taste, flavour and texture. The product is well accepted in the market.
12. **Improved Method for Mango Ripening :** Mangoes are generally harvested when full matured but green. The conventional method of ripening in hay has disadvantage like long ripening time, excessive handling and high degree of spoilage due to stem-end rot. The spoilage during ripening period is reported to be as high as 25 to 30%. In order to improve upon the ripening method, a simple technique has been worked out. It consists of dipping the fully matured but green mangoes in hot water at $52\pm2°$ C for 5 minutes, draining and keeping at room temperature till adhering surface water evaporates. Fruits are then packed in ventilated boxes/crates. No hay or then packing material is needed. The ripening generally starts on 6^{th} day of treatment and is completed on 12^{th} day. The operation can be made continuous in fruit processing factories where large quantities of mangoes are handled. The technique has presently been standardized for Alphonso variety. The hot water treatment is found to reduce the spoilage to the extent of 50% and also helps in uniform ripening of fruits. The colour development in the flesh is better than conventionally ripened fruits.
13. **Pickles and Chutneys:** Pickles and Chutneys have a great importance in the Indian menu and have now become essential items in any feast and lunch. Pickling of fruits and vegetables is an old art. A large variety of these items are made in Indian homes. However, the taste and method of preparation varies. The basic method is salt curing of fruits and vegetables, acidifying, addition of vinegar/oil and the spices. The market for pickles and chutneys is no the ever increasing side. The process of production is simple and requires low investment
14. **Instant Pickles:** The traditional pickles making involves elaborate and time consuming process. A new concept has been worked out for making an instant pickle mix of lime and mango, which can easily be reconstituted into a tasty pickle by the simple addition of oil and water. The dry mix has the features of convenience, better keeping quality, relatively low cost of production reduced packaging and transportation cost. The ever expanding market for pickles, both in domestic and export sectors can be exploited by adopting suitable market strategies. The process is simple and consists of the selection of fully matured commodities

for pickling, washing and cutting, bring curing at optimal conditions, drying brine curing at optimal condition drying, addition of dry spice mixes and packing in units packages.

15. **Potato Flour:** Many ready-to-eat products are prepared from potato. Units based on potato products can easily be established in rural areas and the market can be exploited in urban and semi-urban centres. Potato flour, granules and mash are sued in the preparation of instant foods, soups etc. as binding materials and also for preparing *kheer, tikki*, chops, *pakoda,* cutlets, stuffed *parotha, kofta* and other products. Production of potato flour can be taken up easily using indigenous equipments. The process involves peeling of potato, cutting, pre-treatment with salt and permitted preservatives, soaking, granulating and drying. The dried product is ground and packed. The flour obtained by the process can be easily reconstituted with boiling water to get the mashed potato and used for making a variety of products.
16. **Potato Chips:** Potatoes are grown extensively in the northern region of India. During the glut season, growers do not get remunerative prices. Therefore, it is advisable to utilize the surplus produce by preparing potato chips under hygienic conditions. The product based on developed sun drying technology, is superior to the conventional one both in colour and quality. The process is simple and can be easily adopted at rural level.
17. **Potato Wafers:** One of the most widely consumed snack items from potato is fried potato (wafers). For production of good quality wafers, the sugar content of potato should be low. Usually cold stored potatoes have a high sugar content. In such cases, a modified but simple methodology is to be adopted to get good quality chips. The main consumption of potato wafers is in the urban area, especially in hotels, restaurants, canteens, parties etc. Though bulk manufacturers have recently comp up in the country, cottage and homescale units do hold considerable scope for local markets.
18. **Mushrooms :** Mushrooms are fruit bodies of fungi grow abundantly in the open fields, mead marsh edges, farm yards etc. some wild rooms are poisonous and narcotic but there about 2000 edible species too. Guchhi (*chella esculanta*) and Dhingri (Pleurotus) collected from the wild and are the most mushroom and finding a pride of place on the platter. Technologies have been developed for commercial cultivation of mushrooms under controlled conditions. These are safe and readily available for the market. In India, mainly 3 species, viz. White button or European *(Agaricus bisporus*), Dhingri or Oyster (*Pleurotus sajor caju*) and Paddy straw or chinese (*Volvariella volvacca*) are preferred for commercial cultivation. White buttons account for nearly 90% of mushroom production. It is a temperature variety cultivated on compost, the optimum temperature for growth is 15-18°C and it takes 30-35

days for the mushrooms to pop up. Dhingri is a subtropical variety cultivated on cereals and unfermented wet straw, the optimum temperature for growth is 18-30°C and the first flush appears in 20 days. Paddy straw mushroom is a tropical variety cultivated on rice straw, the optimum temperature for growth being above 30°C and the mushrooms appear from 11th day onwards. Mushrooms are rich sources of early digestible protein and minerals, besides being low in calories and almost fat-free. They contain ergosterol, which is converted into Vitamin D by human body. Profitable mushroom cultivation can be taken up in the rural areas where agor-wastes are easily available. Its cultivation can provide gainful employment to women and weaker sections of society. Investment required is very low. Mushrooms are highly perishable. The unmarketable surplus of fresh produce can be preserved and processed into value added products conversion into pickles, soup and ketchup in small scale processing units near the site of production.

19. **Beverages:** Pulpy fruits like bannan, guava, apple, mango, jackfruit, cashew apple into liquid fruits by using pectin enzymes. The ready-to-serve beverages are both refreshing and thirst quenching. The liquid fruits can be used as natural alternative to synthetic beverage. They can be suitable diluted, blended with other juices and carbonated as soft drinks. The process involves pulping of fruit, warming to a desired temperature, cooling and enzyme treatment under optimum conditions. The treated juice is stored at low temperature for 2-3 days filtered, bottled and pasturized.
20. **Sugarcane Beverage:** Sugarcane juice is a nutritious product containing natural sugars, minerals and organic acids. At present the juice is extracts by street vendors in an unhygienic way. Further, it cannot be stored even for couple for hours as it deteriorates fast. Sugarcane being available in plenty, it can be utilized for making hygienically prepared and processed beverage. This product has a good market potential. Small units can easily be started in rural areas and the products can be sold in semi urban and urban areas. The process is simple and consists of crushing, clarification and filtration to obtain a clear beverage with addition of permitted preservatives at suitable level and then bottling.
21. **Honey Based Beverage:** Naturally honey has been one of the man's earliest foods. It is consumed as such, stored by bottling/canning. It is also used in Ayurvedic medicines and pharmaceutical preparations. Due to its pleasant aroma and flavour, it is being used for the production of various delicious beverages. Ready-to-serve honey-based beverages are consumed for quenching thirst and for instant energy. As a natural ingredient with good taste and flavour, it can find ready market.

22. **Modern Oil Expeller:** A double chamber modern oil expeller of 10 tpd capacity has been developed. It provides 5.8% residual oil in mustard cake in one-go crushing, as compared to 7.5% in 4 successive crushings achieved in conventional single chamber expeller of 825 mm X 150 mm dia size. The quality of oil conforms to BIS specification and the mustard cake is bright green without any discolouration. One expeller yields 50 tens extra oil in a year which otherwise is retained in the cake. Durability of wearing components of barrel chamber ensures long spells of continuous run. About a 10 week life is ensured for worm & cage bar assemblies in comparison to 3 weeks life in the conventional oil expeller assemblies. The operation is trouble-free due to better construction material of the components and their metallurgical control, automatic pressure feed, lubrication of gears & bearings etc. The plant requires less space for installation.
23. **Mustard Powder:** Indian is one of the major producer of mustard and rapeseed. Mustard seeds are mainly used for the extraction of edible oil. The seeds are also used at homes for flavour and pungency. A pasty product obtained from mustard, salt and vinegar is very popular in many countries. Mustard powder is used as a condiment in pickles, meat and salad dressings. Indian black mustard seed having good flavour and pungency is reported to have a export potential. The present method used by the industry has many operational problems. Further, the recovery is low. A technology has been developed for processing mustard powder in rural areas with optimal product recovery of right quality. The process involves grading, conditioning, drying, splitting and duhusking. The mixture of husk and the cotyledons are screened and classified to individual fractions. These are then ground to the desired fineness using triple roller mill and packed.
24. **Protein Chewy Candy:** Protein Chewy Candy is similar to milk chocolates. In these products, the milk solids are replaced partially or fully by the vegetable protein isolate or edible equality *soya* or groundnut flour. This chewy candy is nutritious and contains about 12-16% protein. It is a good protein supplement especially for children and the aged. The protein chewy candy has the market potential, as the case of hard boiled sugar candies, chocolates and other confections. The manufacturing units can be established in selected rural areas. The required raw materials are the edible quality *soya* flour or groundnut or protein isolate, liquid glucose, condensed milk, *vanaspati*, flour, colour and packaging materials.
25. **Low Cost Preservation of Eggs:** Poultry farming is becoming an increasing popular venture. In order to enhance the shelf life of eggs and to tap for flung markets, a simple process is now available. The eggs are coated with a oil formulation whereby the shelf life is increased from

the normal 5-6 days during summers to well over 10-12 days 38°C, 4 weeks at 25°C-30°C, 12 weeks at 13° and 24 weeks at 7°C. Sprayer and paper filter pads are needed for treating eggs with this coasting oil. The process of making egg coating oil involves mixing the stipulated quantities of chemicals with oil in a drum fitted with an immersion heater, connected to a thermostat. There is a wide scope for a small units providing this service at nominal cost. A simple instrument has also been devised for evaluating the egg quality.

26. **Poultry Dressing:** Due to the rapid growth in broiler production in India and consumer requirements, the hygienic dressings, packing and distribution of poultry meat have become a necessity. This helps the poultry farmer in marketing the produce in a better way and also ensure a clean and hygiene product in convenient form. Further, it has the advantage of utilizing the waste. Poultry dressing units may be established in rural areas with sufficient infrastructural facilities and assured sanitation. The processing involves antemortem inspection, slaughtering, scalding, defeathering, singeing, evisceration and cutting. The carcass is washed, packed and chilled in crushed ice for further storage. The marketing of dressed chicken is done in fresh, chilled or frozen from. It may also be feasible to market in cut up portions like half chicken, drumstick, thigh, back breast and wing. The equipments needed for tiny scale poultry processing plant are killing cones with bleeding trough, scalder, plucker, wash tank with over flow, chopping block, eviscerating table, chilling tanks, draining rack with spackles, packaging table, cutting knives, singer, balances, ice crusher and deep freezer.
27. **Cattle and Poultry Feed:** Cattle and Poultry feed are the mixtures of various ingredients like, maize, rice bran, oil cakes, molasses, fish meal, etc. The composition can be varied depending on the availability of various raw materials. Balanced feed is essential for proper growth of cattle and chicks. By 2000 AD, the annual requirement of concentrated feed in India is estimated to be 82 Mt. The growing demand has to be met by setting up a number of tiny units in the villages.
28. **Cattle Licks:** Salt is as much a dietic necessity for cattle as for the human beings. The cattle meet this requirement by licking the salt. A technology is now available to prepare plain as well as mineralized salt blocks. Mineralized salt blocks containing essential nutrients, trace elements like cobalt, zinc, iron, copper, manganese and iodine help in maintaining the health of cattle by regulating metabolism and other physiological activities. This supplement also helps to increase the milk production in the milch cattle. The process being very simple and

the availability of raw material being easy, it is an attractive project for manufacture at small scale.

29. **Fish Meal:** Fish meal is a concentrated form of proteins, minerals, vitamin B and other nutrients which help in the growth of animal body. Fish meal is gradually replacing the use of cereals in the poultry feed formulations. As a result the demand for the product is increasing steadily. A sizeable proportion is also being exported; especially to the countries is west Europe and Japan. Fish meal is produced from low grade marine fish usually classified as trash or 'C' class fish. Fishery wastes are also blended with the low grade fish. The meal is being produced mostly using crude methods of sundering. Cottage scale units can be set up with production capacity of 50 kg of fishmeal per day using 250 kg low grade fish. The process consists of washing, cutting, cooking, pressing, drying and powdering using a hand operated grinder. The operation is simple and even an unskilled worker can operate it.
30. **Fish Pickle:** Pickling is one of the oldest methods of food preservation. It has largely remained as a household art in India. Commercial exploitation of this art has now made possible with the advent of modern technology. The fish pickle has an emulsion consistency and contains fried fish in an aqueous medium of acid, salt spices condiments and sugar. A covering oil is used in the bottled product. The pickles have a shelf-life of over one year at room temperature. Inexpensive varieties of fish, shark, jew fish or any other fleshy variety and fresh water catfish can be used. Viable cottage scale units can be set up with production capacity of 50 kg/day, working 100 days/annum.
31. **Convenience Fish foods:** The thermal processed fish products are made from small bony fish to soften the bones, improve the flavour and retain 100% yield of dressed fish. Thermal processed fish is further processed into following thawing the frozen product:
    (a) Breaded fish it is a snack food intended for households, restaurants and institutional feeding. The fish sticks/fingers are served after frying without thawing the frozen product.

    (b) Frozen curry: it is a ready-to-use product. The curry is used after thawing alongwith rice, *chapati* or bread.

Both products can be stored in frozen condition upto 1 years. This process makes use of small, inexpensive and under-utilized varieties of fish and hence upgrades their utility. The products are new as commercial items in Indian market.

32. **Insulated Basket for Fish Transportation:** It is a common trade practice to pack fish in the conventional bamboo baskets at the landing centre for further despatch to different inland markets. But the time these baskets reach the wholesaler or retailers, the quality of the fish

deteriorates. In order to improve such practice, an insulated drip-proof bamboo container has been designed with a capacity to hold 25-35 kg of fish for packing and transportation to distant markets. This insulated bamboo baskets system improves the storage life of fish and maintains the original quality. The container being drip-proof has better sanitation. The insulated fish basket is reusable and has been designed to endure at least 6 trips. It can be made by village basket weavers and would find more use in remote areas. It can generate employment in rural areas.

33. **Paddy-cum-Shrimp Culture:** Shrimp production from paddy fields is traditionally practiced in low lying coastal plains. Using modern scientific principles and aquaculture based on ecobiology, an improved technology of paddy-cum-shrimp culture has been developed. The improvisation of traditional practice calls for high stocking density of 20 prawns for m^2 and short-term culture of *Penaeus* indicus in paddy fields. The groundnut oil cake is used as feed. The improved technology increases the yield of prawn from 800 kg to 1750 kg/ha per yr and helps to fetch two harvests of prawn in a year.
34. **Quail Farming:** Commonly know as *Bater*, its meat is highly cherished as a table delicacy. Since the hunting of wild quail is prohibited, farming of Japanese quail has opened up new vistas in poultry production and as a remunerative rural activity. The required inputs are locally available in a village. The quails are good source of egg, meat and for sport. The litter as well as battery system of brooding and rearing can be employed.
35. **Pest-proofing of Jute Bags:** In order to prevent loss of food grains due to insects and pests during storage, a pesticide formulation is sprayed onto the outer surface of the empty gunny bag before storing the food grains. A pest proofing machine is used for spraying. This technique prevents the entry of pests into the gunny bags and assures long and safe storage of food grains. The production of pest proofed jute bags can be started in a village and a unit can employ 4-5 persons.
36. **Paddy Thresher:** In India paddy grains are mostly threshed manually or by use of animal power. It is a slow and drudgerous process. A low cost manual/power operated simple thresher has been developed. The power operated unit working on ½HP motor can thresh 300 kg grain/hr costs about Rs. 6,600. The manual unit operated by 2 persons, has capacity of 100 kg grain/hr and costs about Rs. 2,500 (as in 1994). This novel machine is presently being propagated by Orissa Govt. and has proven very popular.
37. **Paddy Thresher-cum-Winnower:** This machine threshes the paddy as well as separates the grains with 98% efficiency. The heavy grains, medium ones, straw and dust are separated.

The machine consists of a rotary drum mounted with spikes. As the drum rotates at 800 rpm the paddy coming in contact with the spikes is threshed. The winnower attachment consists of a blower, wind box and the hopper. The upper air jet fluidises the mixture of grains, straw and dust while the lower jet penetrates through the cloud and effects separation of the components based on density gradation principle. The machine works on 1HP motor and has the capacity to thresh 300 kg paddy/hr winnow 1500 kg/hr. The machine is presently being propagated in Orissa at subsidized price of Rs. 10,000.

38. **Tanning of Hides and Skins:** Conventionally the rural tanners use the pit or bag method for tanning, which is drudgerous, time consuming and results in low productivity. A simple manually operated drum system for rural tanning has been developed for tanning of hides and skins with a capacity to tan 2 hides or 20 skins in a batch. This technique has been well accepted in rural tanning operation. It has many advantages e.g. conventional wooden drum is replaced by fiber Reinforced Plastic (FRP) material resulting in 60% weight reduction as compared to teakwood drum. FRP does not react with acid or alkali. FRP drum also facilities easy cleaning after processing operations unlike the conventional wooden drum wherein cleaning is often cumbersome. Maximum size is restricted to 90 cm dia X 60 cm width keeping in view the ease of mechanical operation.
39. **Curing/preservation of Hides and Skins:** Common salt is traditionally used for curing/preservation of hides and skins which is the major pollutant in the tanneries. Improved method have been developed that use less amount of salt in admixture with certain biocides and thus restrict the growth bacteria to considerable extent. The biocide along can also be used as short term curing agent. Salt and biocide mixture or biocide alone applied to the flesh side of the hides/skins, which a subsequently piled in a store till taken to the tanneries. In an alternative method of preservation washed and trimmed hides/skins, after treat me with biocides, are biocides, are stored in the cooling chambers. This way, the use of salt is completely avoided an the hides are kept hides are kept preserved for long time.
40. **Carcass Utilisation:** All tissues of the carcass including the effluents can be converted into quality raw materials or end products. This is achieved by adopting the simple and cost-effective biotechnological processing method. The utilization of fallen carcass comprises the collection of the carcass in a specially designed vehicle that ensures methodical collection and transportation of carcass at a low cost; flaying of the animal in a simplified manner; rendering meat in a meat mincer; anaerobic treatment of effluents; disposal and utilization of the effluents and composting/vermicomposting of the ruminal and intestinal contents. The

minced meat is utilized for making a number of useful products. It is converted into meat by drying in a pan or in a hot air dryer. Mincing helps in increased drying area resulting in faster drying. The mince is also mixed with other dry ingredients for conversion into pelleted poultry for fish feed. It can be used directly as wet feed for the pigs. With the use of a simple method involving 2 weeks treatment, wet feeding has become a realistic proposition. The water effluents, after anaerobic treatment, are used in sub-surface irrigation of nonroot crops e.g. citrus fruit coconut, banana, etc. This way the wash water, otherwise an environmental pollutant, gets treated and disposed off. In addition, it provides nutrients to the soil. The compost/vermicompost is used to raise ornamental plant/flowers to generate additional income in the form of cut flower trade. This approach also helps in keeping the environment clean, healthy and green. An economically viable project has been specially developed for rural regions to process1/2 tpd raw material.

41. **New Shoe Designs:** Conceptual designs are assisted with Gait Analysis and pattern generation through 2D CAD styling and grading system. The entrepreneurs can get graded pattern with skiving and stitch marking etc., out of a large selection of designs.
42. **Improved Machines and Tools for Leather Artisans:** The improved tools help in reduction of drudgery, improvements in productivity and quality as well as additional value earnings for the leather products. A number of simple machines and tools have been developed for different leather processing operations by the artisan. Use of improved tools has been demonstrated and these have been well accepted by the artisans.
43. **Bricks Moulding:** Over the past several years, the building bricks industry has been facing an acute shortage of skilled moulders. The industry has to mostly depend upon unskilled moulders resulting in non-uniform quality of bricks. A simple hand moulding table has been developed that moulds bricks in an accurate share and size. This can be operated by any worker with an average skill. The table is fitted with a mould and also provided with table is fitted with a mould and also provided with movable ms bottom plate. The clay, kneaded with water, similar as in the case of conventional ground moulded bricks, is fed into the could and the brick is ejected by pressing down the pedal. The simple gadget can mould 1,000-1,500 bricks in a day. Uniformly shaped bricks thus produced, can be evenly set inside the kiln to facilitate uniform burning with efficient utilization of fuel. Improved dimensional accuracy of burnt bricks also facilitates perfection in masonry construction and savings in mortar consumption.

44. **Brick Manufacture-Semi Mechanized:** To meet the large demand for bricks, a fully indigenous brick making machine has been developed, which brings in semi-mechanization within the reach of a common brick manufacturer. With in the reach of a common brick manufacturer. With the use of this extrusion machine, a small scale unit can produce 2,500 wire cut bricks of 225 X 112.5 X 75 mm size in an hr. It can also produce other forms of clay units useful for flooring and roofing purpose. An automatic reel cutter and a high draught brick kiln is used in conjunction with this machine.
45. **Clay Roofing Tiles:** Mangalore-pattern clay roofing tiles are interlocking type with ribs and lugs to rest on battens. These are quite popular in the coastal states. Production of such tiles from alluvial soil could not be undertaken earlier because of its poor work ability and silty nature. The tiles manufactured in southern states from red and block soils shows heavy drying loss, warped surface, high porosity, low flexural strength and crooked alignment when laid on the roof. A process is now available for the manufacture of these tiles from alluvial, red and black soils in small-scale sector.The tiles possess uniform texture, colour and a good finish. Tests carried out in accordance with IS specifications have shows that the breaking load of these tiles is 110-190 kg for AA class and 90-110 kg for A class, while water absorption is 12-14% and 14-16% respectively.
46. **Straw Board:** Straw Board is made from partially cooked straw, bagasse, grass or their mixture. If a single stock is used, the product is called 'Plain straw board'. In case a mixture of different stocks, the board is called 'Liner board'. A straw board usually consists of several layers laid one over the other to form a thick sheet. Straw Boards are widely used for folding cartons, light weight boxes etc. which are used as packaging material in food products, pharmaceuticals, soaps, detergents, footwear, textiles, hardware etc. It is used for book binding and file making.
47. **Sisal Fiber-Cement Corrugated Roofing Sheets:** This is a low cost alternative roofing material that can be produced by using *Sisal* plant fiber. Sisal fibers are cut into small pieces, treated and mixed in cement sand matrix. The fiber-cement mix is spread over flat sheet and then placed over a corrugate mould and pressed. The sheets are demoulded and cured cured for 14 days. This way the sheets get hardened and develop adequate strength. The process require about 1,000 1 water for manufacture of 200 sheets per day and a 50 HP power. The machine and equipment required for its manufacture include fiber cutting machine, fiber treatment mixer, moulds, gantry, crane, hydraulic press and trimming equipment.

48. **Clay Pipes:** Stoneware pies mostly used in irrigation, drainage and sewer systems are costly and require firing at high temperatures. An excellent low cost pipe can be produced from clay after proper treatment. Its quality compares well with asbestos-cement or a stoneware pipe. A manually operated vertical clay pipe-making machine has been developed, which can be handled by the skilled or semi-skilled potters in rural areas. In an hour the machine produces 10 pipes of (a) 95 mm dia X 1 m length (b) 150 mm dia X .75m length. The admixtures of varying compositions. The optimum firing temperature for crushing strength of 960 kg per 30m length and water absorption 10-12%. The material conforms to BS 1196-1976.
49. **Ferrocement Doors:** Ferrocement Doors shutter is a revolutionary concept. It brings down the cost of joinery. These doors are strong, durable, termite resistant and less prone to fire and weathering. There is no rotting, warping and swelling. These are monolithic and provide better dimensional stability. The door shutters are ideally suited for school buildings, site offices and other low cost buildings, offering a saving a about 30-40% over conventional second class deodar wood shutters.
50. **Integrated Thin Wall and Column System:** The cost o brick has been the main factor in the high cost of construction. The structural analysis has revealed that the type of load coming on the walls in low cost houses can permit reduction of wall thickness to the bare minimum i.e. 11.5cm. A system is developed to reduce the consumption of brick, cement and steel. Here half brick (11.5cm) thick walls are built in situ along with 23 X 23 cm columns. The roof is built by suing the prefab brick panel system. It may be made more comfortable by adding sundried brick wall inside for thermal insulation. The system has been adopted in the construction of 4100EWS houses at NOIDA and Ghaziabad, 249 Harijan houses in district of Ghazipur and Haridwar (U.P.) and is proposed to be adopted in 1.15 lakh Nirbal Varg houses in U.P.
51. **Non-erodible Mud Plaster:** The mud plaster over walls gets eroded during rains and necessitates costly repairs. This can be made non-erodible by use of bitumen cutback emulsion containing mixture of hot bitumen and kerosene oil. It is plugged with mud mortar and wheat/rice straw. This mortar is applied on mud wall surface in the thickness of 12 mm. One or two coats of mud-cowdung slurry (gobri) with cut back are applied after the plaster is dry. The plaster enhances the durability of mud wall and reduces the maintenance cost.
52. **Plinth Protection of Mud Walls:** The lower portion of mud wall gets eroded during rains due to direct striking of splashing water or water flowing in streets. This causes sudden collapse of the houses. A new method of providing 11.5 cm thick burnt brick wall in cement

of lime mortar upto 75 cm height provides protection of such walls to withstand rain and the flood.

53. **Fire Retardant Thatch Roofing:** The thatch roof made by the traditional method is generally loose and deteriorates fast. Spread of fire in such roofs is also very fast. In the new method of making fire retardant thatch roof, the thatching material is pressed between two mats made of spite bamboo having spacing of 20 cm both ways. The length of bamboo mat is kept equal to of the room but its width depends on the length of thatching material available. The two bamboo mats are tied together with the help binding wires after putting the thatch in between the two. The worker applies his body weight and jerk while tightening the wire to press the thatch. These panels are then laid over the supporting structure with proper overlap. The roof is finished with non-erodible mud plaster to make it fire-retardant and water repellent.
54. **Low Cost Latrines:** Disposal of human waste is a big problem in rural areas. The underground sewerage system septic tank requires high initial cost and maintenance. Further, the water requirement of conventional flushing system is very high while the water supply is scarce in most of the village. Leaching pit type latrine with hard flushing seal is found most appropriate and economical for rural areas. Two pits are used alternative. One pits is connected at a time while the other is closed for anaerobic decomposition of night soil. A distance of 1 m is recommended between 2 leaching pits to avoid seepage of water from one to the other. Optimum diameter and depth for circular leaching pits should be 1.07 m & 1.22 users over a period of 5 years.
55. **Fishing Hook:** The process of manufacturing fishing hooks employed by the artisans is based on primitive heat treatment and finishing techniques. The studies revealed that use of substandard material, non-uniform heat treatment and lack of quality control were responsible for the poor product quality. The entire process of hook manufacture has been revamped consisting of selection of material quality, hardening, tempering and better geometrical configurations. The equipments required are jig and fixture, hardening furnace, electro-deposition unit. The quality of improved fishing hooks compares favorably with that produced in Japan Norway and Korea.
56. **Pottery Craft:** The rural pottery craft is facing a crisis on account of technology obsolescence and shrinking market. The redclay pottery products like pitcher, *kunda*, planter tableware flower vase and other novelty items are in great demand in rural as well as urban areas. The improved involves the use of kiln working on wood, coal or electricity. The

pottery items are glazed for quality/value addition. The required equipment are sieves, ball mills, up-draft kiln, jigger jolly and frug mill.

57. **Rope, Sutli, Ban Making:** The rope has a variety of uses in everyday life and is made from different types of fibers like jute, flax, hemp, coir, and pineapple. The rope is usually made in village through a manual process in a laborious manner. In order to eliminate the drudgery to provide employment opportunities and to enhance the earning capacity, a simple universal fiber yarn machine using easily available sewing machine parts and bicycle components has been developed. The machine can be operated by sitting on a stool by simple pedaling as in a table model sewing machine. Its maintenance is easy. A person can produce 5-8kg of rope per day by using the machine as against 500-700 g by the manual methods in vogue. The machine is also effectively used to manufacture yarns like *Sutli, Ban,* etc. out of Sabai grass and other fibers.
58. **Sericulture from Leaf to cloth:** Silk is the queen of textile, much in demand for the manufacture of garments, parachute components, fishing lines, elastic webs, insulation coils, racing car tyres and in chemical industries. India is the second largest producer of silks, next only to China. Out of 4 important silk varieties viz. Mulberry, Tassar, Muga and Eri, Mulberry silk ranks on top with regard to quantity and quality. There is a good scope for further development of this industry though adoption of holistic approach, from leaf to cloth, as a cooperative venture in rural areas. It consists of: (i) cultivation of mulberry on waste and unutilized lands with improved varieties on scientific lines (ii) rearing of silkworms to produce quality cocoons and higher yield through use of silk enhancer phytoecodysone (iii) silk reeling and spinning from cocoons to produce quality yarn and spun silk and (iv) silk weaving; all within the village. The cut, insect damaged and waste cocoons need not be discarded. There is a simple process to degum these and convert into spun milk yarn.
59. **Fur Garments from Sheep/Goat Rabbit Skins:** Fur items like caps, purses, satchels, jackets, stoles, coats, wall hangings and foot rug are highly fascinating and expensive too. These items have been traditionally produced in Jammu & Kashmir and Himachal Pradesh, sustaining a large number of local artisans as also meeting the tourist demand. As consequence of the recent restrictions on processing of conventional fur skins, the artisans engaged in this activity have to took for alternative jobs. A simple fur processing technology has been developed to produce value added fur goods from the skins of sheep, goat and rabbits available as slaughter house by-products. These items are produced at a cost

substantially lower than conventional fur goods. The existing artisan skills can well be upgraded in this profitable venture.

60. **Ornamental Fish Rearing and Aquarium:** The fascinating world of the colourful aquatic life has attracted people since age old times. Fish aquarium brings home the joy of a new pet into the family. It does not require much space and is not expensive to maintain. Aquarium is a part of elegant interior décor in modern homes. Rearing of fresh tropical ornamental fishes is done in plastic or cement tanks. These are placed in glass aquarium. It is a remunerative cottage scale industry in the rural areas.
