THE U. S. AGENCY FOR INTERNATIONAL DEVELOPMENT
NEW DELHI, INDIA

PL 480, TITLE II, FOOD FOR WORK

IMPACT EVALUATION

STUDY OF TANKS AND DAMS : CATHOLIC RELIEF SERVICES
(DELHI ZONE)

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THIS IMPACT EVALUATION WAS CONDUCTED

UNDER SUPERVISION OF

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For

International Development

(New Delhi, India)

PL 480, Title II, Food for Work

Impact Evaluation

Study of Tanks and Dams

Catholic Relief Services: Delhi Zone

The Centre for Research, Planning and Action

16, Dakshneshwar, 10-Hailey Road, New Delhi - 110001

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The Centre for Research, Planning and Action was contracted by the United States Agency for International Development to undertake an impact evaluation of Food For Work Projects carried out through Catholic Relief Services in Delhi zone. This was one of the several studies similarly designed to assist USAID and CRS to better understand the impact of FFW projects. The results of this evaluation are presented in this report.

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S.P.Ahuja
Project Director

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GLOSSARY

SURVEY SCHEDULE

1. Executive Summary

1.1 Introduction

1.1.1 This refers to Food For Work Evaluation study carried out in Delhi Zone with respect to irrigation tanks built with the help of Title II commodities distributed as food wages.

1.1.2 Field survey was conducted in three consignee areas viz Mirzapur, Mariabad and Majghai.

1.1.3 The survey covered 37 tanks of which 29 were in Mirzapur, 5 in Mariabad and 3 in Majghai.

1.1.4 Results of the present study are based on 444 interviews with beneficiaries. These beneficiaries were selected from a total of 825 beneficiary farmers by an appropriate probability sampling design. In addition, 148 non-beneficiaries (control group) were contacted by experienced data collectors.

1.1.5 The study revelaed that there were on an average 22 beneficiaries per tank in the three consignee areas.

1.1.6 In Mirzapur, an average of 55,837 mandays equivalent of FFW commodities were used in the construction of each tank. As against this in Mariabad and Majghai respectively 7200 and 8133 mandays worth of FFW commodities were used. The area irrigated per tank in Mirzapur was also relatively high.

1.2 Change in Income

1.2.1 Average income per beneficiary in the zone is estimated at Rs. 26048 per annum. This marks an increase of 51 per cent over the income of these beneficiaries before FFW programme was initiated. The income per beneficiary prior to FFW programme was Rs. 17238 per annum.

1.2.2 As a result of provision of irrigation facilities there appears to be some change in favour of off-farm activities. The share of income from off farm activities increased from 0.4 per cent before FFW to 0.6 per cent in post FFW project stage.

1.2.3 Average size of landholding for the beneficiary group was somewhat large, almost 80 percent owning more than 5 acres of unirrigated land. For the control group, per household land-holding was comparatively much less. Because of this, the average household income of the control group is significantly less than that of the beneficiary group.

1.3 Change in Employment

1.3.1 The average employment of beneficiaries improved by 17 per cent from pre-project level. As compared to the control group the average employment of the beneficiary group was 60 per cent more after FFW.

1.3.2 Average annual household employment (defined as the employment of beneficiary and two other working members of the family) is observed at 544 mandays. Of these 207 mandays (38 per cent) are contributed by the beneficiaries themselves. The rest (62 per cent) of mandays are contributed by other (two) members of the family. On average, the beneficiary himself

puts in about 20 to 30 per cent more time on work than any other member of his family. The increased opportunity for work for FFW beneficiary arises largely from increased economic activity caused by additional irrigation through FFW projects.

1.3.3 Very little hired employment was observed. However, at the post - project stage the hired employment had gone up by about 25 per cent.

1.4 Change in Agricultural Output

1.4.1 The value of output, per beneficiary in Kharif is estimated at Rs. 10,843 after FFW as compared to Rs. 8,680 before FFW. This marks an increase of about 25 per cent in value of produce for Kharif only.

1.4.2 Income per acre per beneficiary during Kharif is estimated to have increased from Rs. 786/- before FFW to Rs. 947 after FFW. This marks an increase of about 20 per cent per acre of area under Kharif crops.

1.4.3 The value of output per beneficiary in Rabi is estimated to have increased from Rs. 7392/- before FFW to Rs. 11706/- after FFW. This marks an increase of 58 per cent. The increase in value of output per acre in Rabi is of the order of 44 per cent, as compared to 20 per cent for Kharif. This is largely because irrigation needs during Rabi season are greater and a more intensive use of irrigation facilities provided through FFW projects is feasible.

1.4.4 In case of non-beneficiaries (control group)the average value of produce for Kharif is estimated at Rs. 1,862/-. For Rabi average output is estimated at Rs. 1893/- This small increase is largly because land area owned by non-beneficiaries is much less as compared to beneficiaries.

1.5 Irrigation and Cropping Pattern

1.5.1 There was an increase in irrigated area as a result of building of tanks. In Mirzapur, the irrigated area increased by 65 per cent for Kharif season, and 75 per cent for Rabi season. Mariabad tanks provided an increase of irrigated area in Kharif season of 27 percent and 6.5 per cent in Rabi season. In Majghai, there was an increase of 51 per cent in kharif season and 65 per cent in Rabi season.

1.5.2 Beneficiaries, in Kharif, devoted 54 per cent of their cultivated area to paddy, 10 per cent to jowar, 18 per cent to arhar, 5 per cent to maize, 12 per cent to bajra and one per cent to sugarcane. Most of the irrigated area was, however, devoted to paddy (85 per cent).

1.5.3 In Rabi, most of the area is devoted to wheat (61 per cent) followed by gram (24 per cent) and barely (13 per cent). The rest of the area is accounted for by potato and mustard cultivation. As compared to pre-FFW land use, there is a marginal shift in favour of wheat. A large proportion of irrigated area (86 per cent) is devoted to wheat followed by gram (6 per cent).

1.5.4 In thecase of non-beneficiaries (Control group) the average area cultivated in Kharif is estimated at 2.51 acres of which only 20 per cent i.e. 0.51 acres is irrigated. As against this, post-project irrigated area of the beneficiary group is 57 per cent as compared to 36 per cent area being irrigated at pre-project stage.

1.5.5 For Rabi, irrigated area per beneficiary on post-project basis works out at 66 per cent as compared to only 42 per cent at pre-project stage. The corresponding percentage for the control group for Rabi is 20.67.

1.6. Change in Consumption and Asset Formation

1.61. About 54 per cent of the beneficiaries considered that FFW projects had brought about a change in their consumption pattern. Majority of these who mentioned change in their consumption pattern agreed that this change was in favour of better quality of food including milk. About 30 per cent, however, said that the change in consumption pattern was reflected more in increased purchases of clothing.

1.6.2 About 47 per cent considered that FFW projects had improved their level of food consumption and thus had improved their nutritional intake.

1.6.3 Asked how change in nutritional status reflected itself in their every day life, about 55 per cent mentioned " lower incidence of illness" and about 42 per cent mentioned " improvement in growth of children"

1.6.4 Most beneficiaries reported that FFW projects were instrumental in improving their personal assets .

1.7 Discharge of Obligations

1.7.1 Most beneficiaries (75 per cent) mentioned that FFW projects contributed to better discharge of their social/economic obligations such as marriage of dependents, redemption of old debts, attending festivals etc.

1.8 Socio-Economic Characteristics of Beneficiaries

1.8.1. Most beneficiaries are inthe age group of 31 to 40 years (31) per cent) and 41-50 years (31 per cent).

1.8.2 Almost half (48 per cent) of them are illiterate. Others who are literate but have no formal education accounted for 11 per cent. The remaining 41 per cent have primary or higher level education.

1.8.3 Backward Classes acount for 34 per cent of beneficiaries. Scheduled castes and Scheduled Tribes account for another 26 per cent. In caste terms, 60 per cent of the beneficiaries are from the weaker sections.

1.8.4 A preponderant majority of beneficiaries (97 per cent) are Hindus.

1.8.5 Almost all (97 per cent) beneficiaries are married.

1.8.6 Occupation-wise 82 per cent of the beneficiaries were cultivators. Among others, 4 per cent were engaged in non-agricultural labour.

1.8.7 By current incomes (which would include incomes earned from FFW projects) only about 5 per cent earned less than Rs. 300/- per month. About 13 per cent had income of Rs. 301/- to Rs. 500/- another 13 per cent between Rs. 501 to Rs. 750/- and rest more than Rs. 750/- As many as 59 per cent of the beneficiaries had an income of more than Rs. 1000/- per month.

1.8.8. Very few houses had access to piped water or electricity. Most of the beneficiaries live in their own houses, though 53 per cent of the houses were 'kutcha' and another 26 per cent were 'mixed'. Except about 15 per cent of the beneficiaries, all others had more than 2 rooms. Almost none of these houses had separate latrine/bath facilities.

1.9 Additional Employment Generated

1.9.1. The generation of these benefits has been made possible by investment of 6797 bulgar tonnes over the four year period over which these tanks have been built.

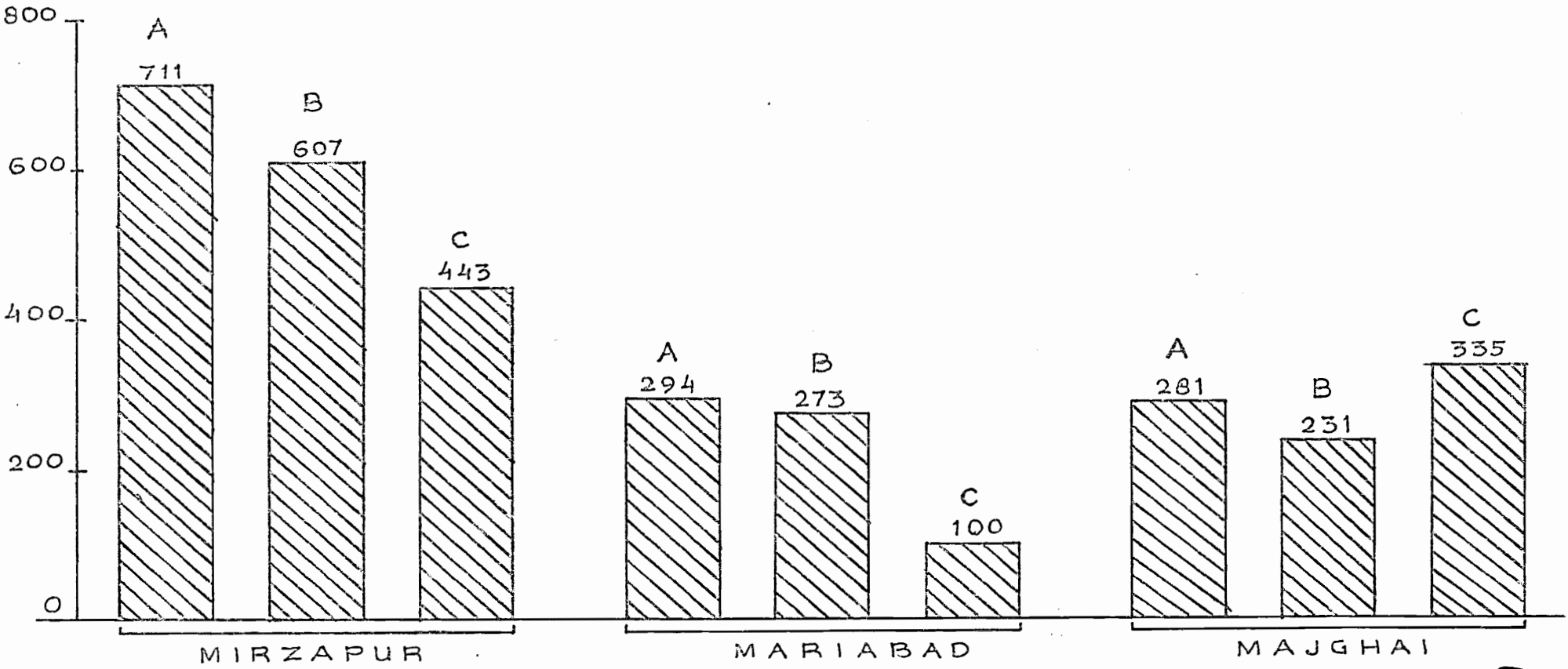
1.9.2 These investments have helped generate one-time employment for 1.68 million mandays in connection with the construction of tanks under reference over the four year period.

1.9.3 In addition, repetetive full time employment has been generaged for 345 persons through increased productivity of areas irrigated with the help of FFW projects.

EMPLOYMENT IN AGRICULTURAL-OPERATIONS FOR THE BENEFICIARY & TWO OTHER MEMBERS / NON-BENEFICIARIES (PER HOUSEHOLD)

(MANDAYS PER-YEAR)

A - after FFW for Beneficiaries
B - before FFW for Beneficiaries
C - Control or Non-Beneficiaries



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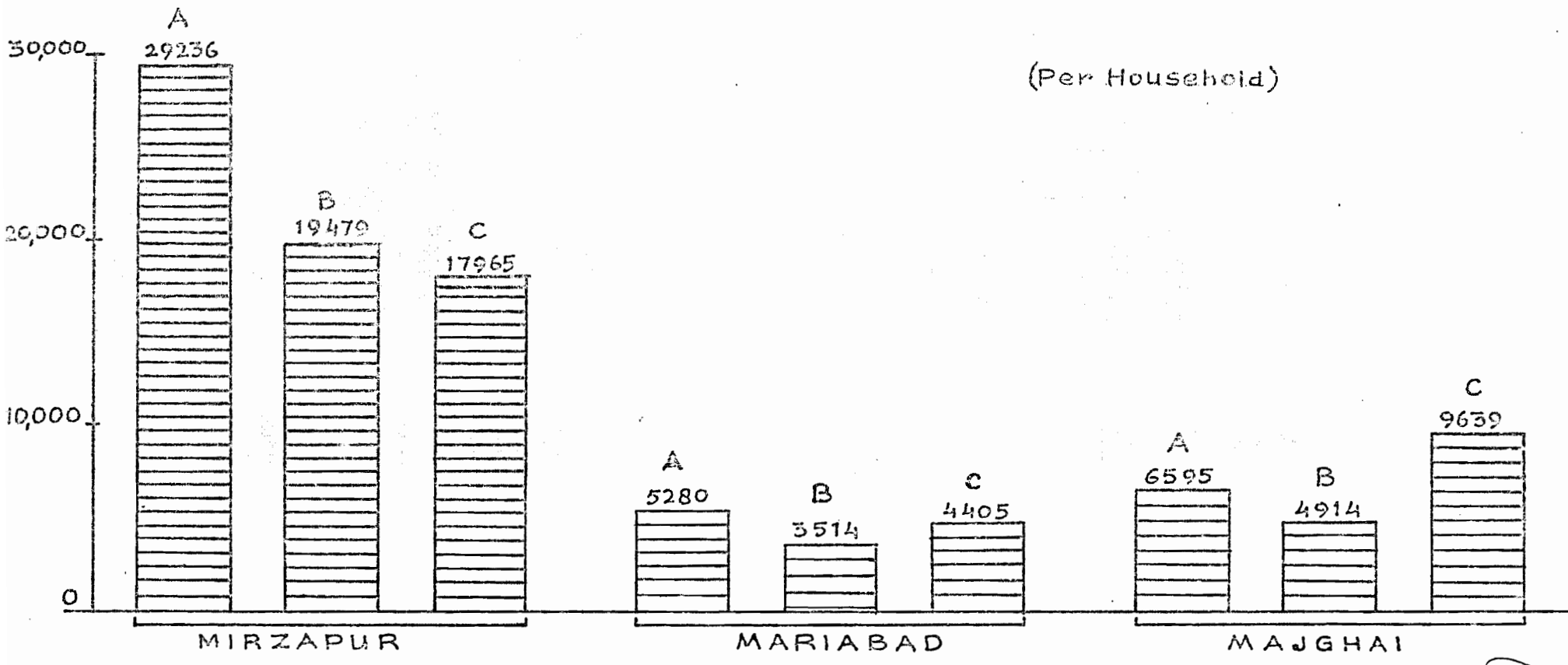
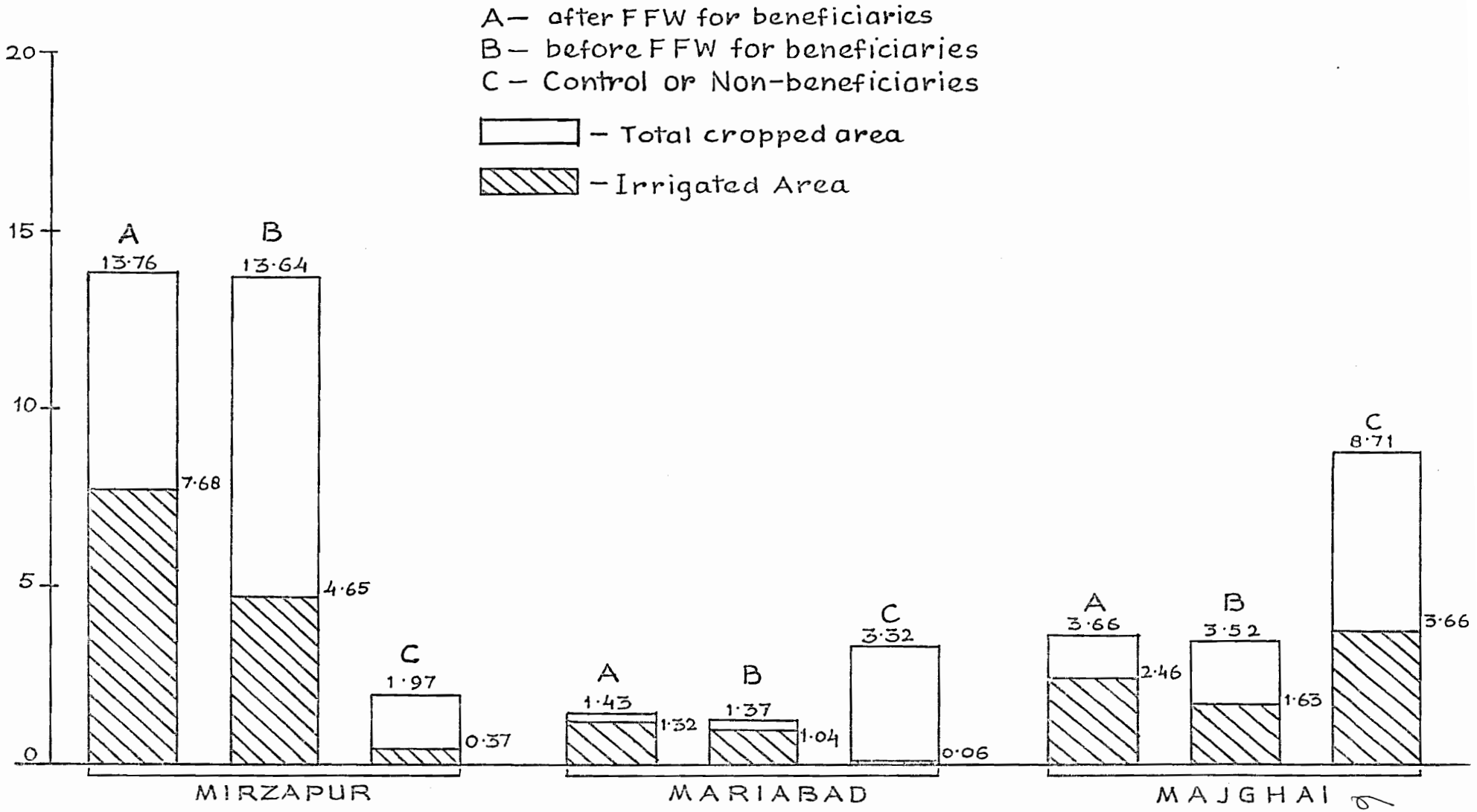
INCOME FOR THE BENEFICIARIES/NON-BENEFICIARIES
(Rs. Per Annum)

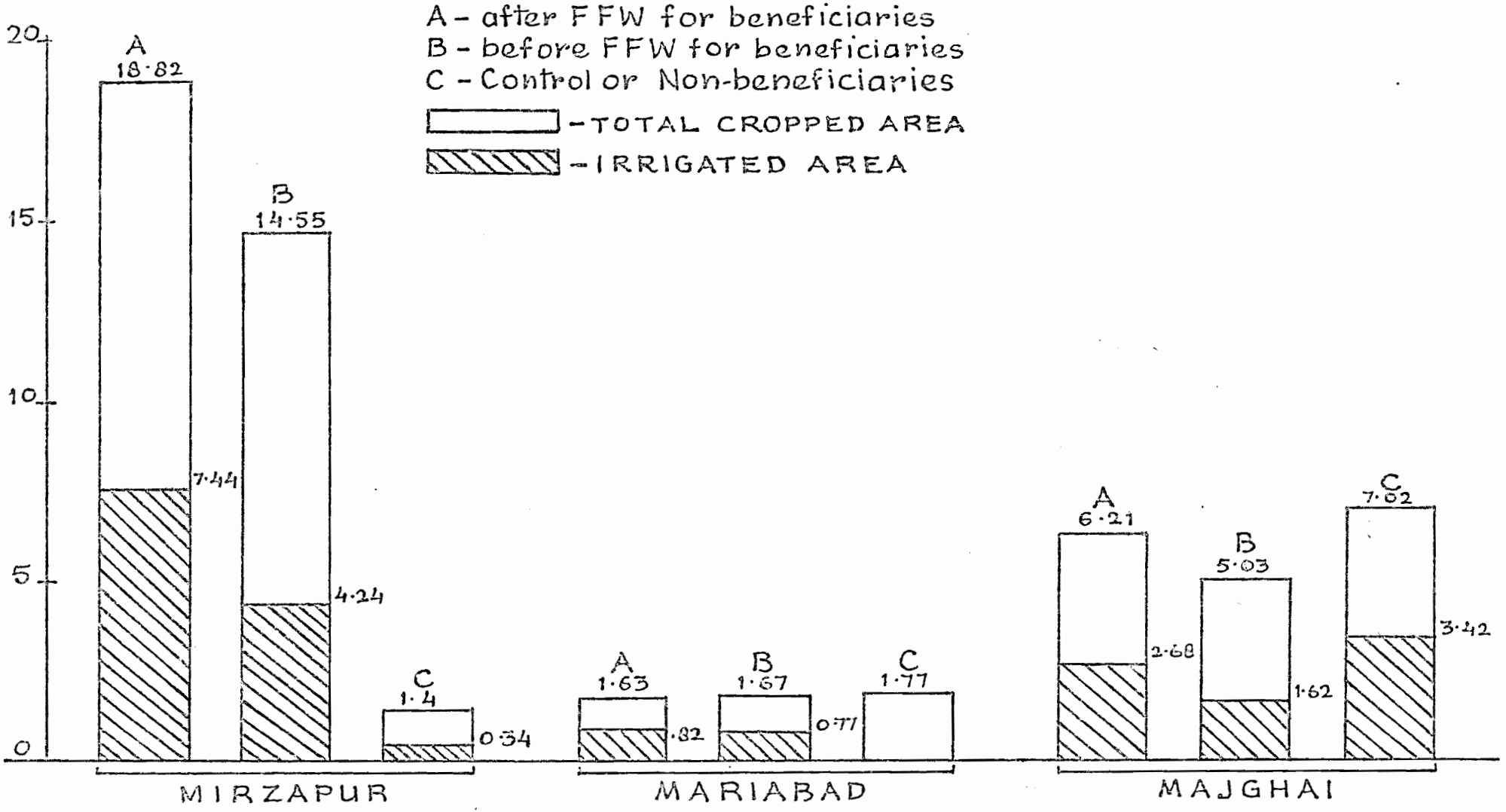
A - after FFW for Beneficiaries
B - before FFW for Beneficiaries
C - Control or Non Beneficiaries



CROPPED & IRRIGATED AREA IN KHARIF
(acres per beneficiary/non-beneficiary)



CROPPED & IRRIGATED AREA IN RABI
(acres per beneficiary / non beneficiary)



2. Introduction and Method

2.1 Introduction

2.1.1 The Catholic Relief Services (CRS) with its headquarters at New Delhi carries out a substantial programme intended at rural development through Food For Work Projects. The CRS implements this programme through its five regional offices located at Cochin, Bombay, Calcutta, Delhi and Madras. During FY 1980 (ending September 1980) CRS distributed food under this programme corresponding to 21.8 million mandays.

2.1.2 The United States Agency for International Development (USAID) in India commissioned the Centre for Research, Planning and Action (CERPA) New Delhi to conduct an impact study of the assets stream of benefits of Food For Work Projects in CRS Delhi Zone. The study was to provide a greater understanding of the impact of tanks constructed through CRS India Food For Work Programme in the Zone. Issues that concerned USAID included (a) the reason or purpose for constructing the tanks, (b) whether the completed project achieved the desired purpose; and (c) it is benefitting small/marginal farmers or landless labourers.

2.1.3 A large part of the food outlay under Delhi Zone was accounted for by activity " tanks" . During FY 1980 ending September, 1980 tanks for irrigation accounted for 43.5 per cent of all mandays utilised in Delhi Zone. It was, therefore, decided to conduct evaluation study in Delhi zone for irrigation tanks only.

2.1.4 Consignee-wise analysis of mandays utilised on irrigation tanks during FY 1980 shows that 87.6 per cent of the total mandays utilised for tanks in Delhi zone were accounted for by Mirzapur consignee. These three consignees, all located in Uttar Pradesh, together accounted for 98.1 per cent of all mandays utilised for construction of tanks in Delhi zone. Remaining 1.9 per cent of the mandays were allocated to two consignees in Himachal Pradesh.

2.1.5 Since the mandays utlised for construction of tanks was very low for the two consignees in Himachal Pradesh it was considered appropriate, keeping in view the administrative and cost considerations to limit this evaluation study to the consignees in Uttar Pradesh. Thus, it was considered useful to restrict the study to the three consignees at Mirzapur, Mariabad(Varanasi) and Majghai (Naugarh). Throughout the discussion these consigee areas will be referred to as Mirzapur, Mariabad and Majghai.

2.1.6 It was initially proposed to study the tanks by purpose i.e. whether built for irrigation, pisciculture or drinking water etc. But on preliminary investigations it was observed that almost all tanks, with

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the exception of one at Majghai built for drinking water, were built for the purpose of irrigation and, therefore, the study was confined to evaluation of investments in tanks built for irrigation.

2.2 Description of Population

2.2.1 The study covered 37 tanks in all, 29 in Mirzapur, 5 in Mariabad (Varanasi) and 3 in Majghai (Naugarh). These tanks were used for irrigation purpose only. It may be added that it was initially intended to cover the tanks constructed during FY 1979 to FY 1981 in the study. However, at the time of conduct of survey it was observed that there were four tanks constructed during FY 1978. These tanks were also included in the sample 37 tanks.

2.1 Distribution of Tanks by Year of Construction and Consignee

(Numbers)

Year	Mirzapur	Mariabad	Majghai	Total
1978	4	-	-	4
1979	6	-	-	6
1980	7	5	3	15
1981	12	-	-	12
Total	29	5	3	37

2.2.2 Tank-wise mandays utilized and total number of beneficiaries and non-beneficiaries are given in Annexure 2.1. Total beneficiaries, non-beneficiaries per tank for each consignee area are as follows:-

2.2 Yearwise Distribution of Tanks, Beneficiaries and Mandays Utilised

Consignee Area/year of Construction	No. of Tanks	No of Beneficiaries	Beneficiaries/ tank (Nos)	Total MDU (Nos)	MDU/ TANK (Nos)
1	2	3	4	5	6
Mirzapur					
1978	4	88	22	220608	55152
1979	6	141	24	370396	61732
1980	7	145	21	324484	46355
1981	12	284	24	703904	58652
Sub Total	29	658	23	161932	55841
Mariabad					
1980	5	108	22	36000	7200
Majghai					
1980	3	59	20	26400	8800
Grand Total	37	825	22	1681792	45454

2.2.3 Mirzapur accounted for 80 percent of beneficiaries, Mariabad for 13 percent and Majghai for 7 percent. Further, the beneficiaries per tank were broadly of the same order in the three areas.

2.3 Sampling Design

2.3.1 A sample of beneficiaris was obtained through a probability sampling scheme by means of a two-stage stratified sampling design. Each consignee i.e. Mirzapur, Mariabad and Majgahi was treated as a stratum. Within each consignee area the tanks covered constituted the sub-strata. From each tank twelve beneficiaries were selected by equal probability sampling without replacement.

2.3.2 The deatils of the sample size such as number of tanks number of beneficiaries/non-beneficiaries in the sample are as under:

2.3. Number of Beneficiaries and Non-Beneficiaries in the Sample by Consignee

Consignee	Tanks (Nos)	No. of sample beneficiaries	No. of sample Non-beneficiaries
Mirzapur	29	348	116
Mariabad	5	60	20
Majghai	3	36	12
Total	37	444	148

2.3.3. It may bementioned that the sampling fraction is about 54 percent for beneficiaries and about 40 percent for non-beneficiaries. Thus, the errors of estimation associated with the estimates of parameters are likely to be within acceptable limits.

2.3.4 Field survey involved personal interviews conducted by trained CERPA data collectors by means of structured schedules for selected beneficiaries/non-beneficiaries. A copy of beneficiary schedule is attached to the Report. In addition, special schedules were designed for project holders and village leaders. Beneficiaries/non-beneficiaries were selected, after recording their names on separate Listing Schedules. In all 740 schedules were canvassed. The break-up is as follows:

Type of Schedule	No. of contacts
Beneficiary	444
Non-Beneficiary	148
Project Holder	37
Village Leader	37
Listing (Beneficiary)	37
Listing (Non-Beneficiary)	37
TOTAL	740

2.3.5 The information collected through Project,Village and Listing Schedules was analysed mannually. Data collected through beneficiary and non-beneficiary schedules were coded with the help of a code plan and analysed with the help of a computer.

2.4 Reference Period

2.4.1 Data regarding self-employment, hired labour, income and cropping pattern etc. is collected for two periods of e reference i.e. before the project became operational and after, and is uniform for all the tanks.

2.5 Report

2.5.1 A description of the socio-economic and demographic characteristics of beneficiaries and non-beneficiaries with emphasis on inter-consignee variation is given in Chapter 3 Chapter 4 presents effects on employment and income. Effects on agricultural production, productivity and irrigation are discussed in Chapter 5. Chapter 6 gives perceptions and observations of respondents regarding FFW projects. It also gives, in brief, a profile of tanks surveyed.

2.6 Estimation Procedure

2.6.1 For a given variable, total for sampled beneficiaries for a tank is obtained. Sample mean is found by dividing sample total by the number of beneficiaries in the sample. Tank sample means, thus obtained, are then weighted by the total number of beneficiaries in respective tank for a consignee area. This gives an average value for that consignee. Consignee averag. s are aggregated to get overall average by using the number of beneficiaries for consignee areas as weights.

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3. Socio-Economic and Demographic Characteristics

3.1 Introduction

3.1.1 This chapter describes the characteristics of beneficiaries and non-beneficiaries and their households. The beneficiaries were those who availed themselves of irrigation benefits from the tanks (i.e. the assets created through FFW projects) whereas non-beneficiaries were those who did not receive such benefits and were located not too far from the assets that are under evaluation. The non-beneficiaries are expected to serve the purpose of 'control' (a broad comparison group) for evaluating the benefits. The beneficiaries and non-beneficiaries are supposed to be similar in respect of basic characteristics for the proposed study. The non-beneficiaries' characteristics as such, to a large extent, would be similar to those of the entire population in the areas whereas those of the beneficiaries might be different.

3.1.2 Throughout the discussion in the chapter, emphasis is on the similarities and disimilarities of beneficiaries and non- beneficiaries in respect of socio-economic characteristics. It may be mentioned that the weightages assigned to beneficiaries of Mirzapur, Mariabad and Majghal are 80,13 and 7 per cent respectively. Similarly for non-beneficiaries these are 83.6,10 and 6.4 per cent respectively for Mirzapur, Mariabad and Majghai. The results for these areas together with the overall are presented. Becuase of the high weightage to Mirzapur the results of overall would correspond more to Mirzapur. Therefore, the inter-consignee variation in respect of different characteristics have broadly been commented upon separately for beneficiaries and non-beneficiaries.

3.2 Sex, Age, Education, Caste, Religion and Marital Status

3.2.1 Both beneficiaries and non-beneficiaries in all the three areas are only males. Women in India are seldom the land owners. Most of the beneficiaries and non-beneficiaries are in the age group of 31-50 years. Land ownership is passed from father to son only after former's death and as such there would not be many who acquire land at younger age.

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3.1 Distribution of Beneficiaries (B) and Non-beneficiaries (C) according to Age, Education, Caste, Religion and Marital Status. (in percent)

Age (in year)	Mirzapur B	Mirzapur C	Mariabad B	Mariabad C	Majghai B	Majghai C	Overall B	Overall C
upto 20	1	2	1	-	-	-	1	2
21-30	13	12	10	-	32	-	14	11
31-40	31	41	35	28	28	28	31	38
41-50	31	34	34	35	21	35	31	33
51-65	20	10	13	26	19	26	19	13
above 65	4	1	7	11	-	11	4	3
Education								
Illiterate	44	46	51	77	89	85	48	52
Literate but no formal education	10	25	16	4	8	16	11	22
Primary	28	20	21	9	3	-	25	17
Middle	12	7	7	10	-	-	11	7
Secondary & above	6	2	5	-	-	-	5	2
Caste								
S.C.	15	15	24	41	30	17	17	18
S.T.	7	7	9	19	40	36	9	10
Backward	32	38	56	40	16	24	34	37
Others	46	40	11	-	14	23	40	35
Religion								
Hindu	97	99	87	81	100	100	97	99
Muslim	2	1	-	5	-	-	2	1
Christian	1	-	13	-	-	-	1	-
Others	-	-	-	14	-	-	-	-
Marital Status								
Married	97	98	94	95	100	100	97	99
Unmarried	-	-	2	5	-	-	-	-
Widow/ Widower	3	2	4	-	-	-	3	1

3.2.2 Literacy rate amongst beneficiaries varies across the consignee areas. It is highest in Mirzapur and least in Majghai. Also literacy among beneficiaries is higher as compared to non-beneficiaries. However, very few have education beyond middle school level.

3.2.3 Literacy thus appears to be a causative factor in giving people access to development programmes and reap benefits from them.

3.2.4 Majority of the beneficiaries and non-beneficiaries belong to low-castes. In Mariabad and Majghai, low-caste people account for 89 and 86 per cent respectively. Caste constitution amongst beneficiaries and non-beneficiaries does not have significant differentials.

3.2.5 Classification of beneficiaries and non-beneficiaries by religion revealsthat most of them alre Hindus (97%).

3.2.6 Almost all beneficiaries and non-beneficaries were married.

3.3 Occupation, Farmer Category and Income

3.3.1 Classification of beneficiaries and non-beneficiaries according to their main occupation is attempted. A large majority of them (about 85%) are engaged in agriculture except in Mariabad where 63 per cent of beneficiaries and 35 per cent of non-beneficiaries are engaged in agriculture.

3.3.2 Data on landholding for each beneficiary farmer in the universe is available in the Listing Schedules. Beneficiaries are classified into five categories according to size of landholding. Results are presented in Table 3.2. For computing landholdings one acre of irrigated area is taken equivalent to two acres of unirrigated area (This is the norm applied for determining land holding in the land-ceiling legistation). Wide variations are observed in the distribution of farmers falling in different categories in the three areas. Mirzapur beneficiaries have comparatively larger landholdings.

3.3.3 However, comparison of distribution of beneficiaries on the basis of sample estimates is based on categorisation in three classes only, which is also presented in the table.

3.3.4 80 per cent, 1per cent and 24 percent of the beneficiaries have got more than 5 acres of land respectively in Mirzapur, Mariabad and Majghai. Out of 80 per cent (640 in number) of beneficaries having more than 5 acres in Mirzapur) 53 per cent have got than 10 acres of land.

3.3.5 On the basis of sample estimates beneficiaries having land more than 5 acres are 78 per cent, and 25 per cent respectively in Mirzapur and Majghai. No beneficiaries in Mariabad had more than 5 acres. The corresponding figures for non-beneficiaries for the three consignees are 57, nil and 48 per cent.

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3.2 Distribution of Beneficiaries (B) and Non-Beneficiaries (c) by Occupation And Landholding

(in percent)

Occupation	Mirzapur		Mariabad		Majghai		Overall	
	B	C	B	C	B	C	B	C
Agriculture	84	95	62	35	89	88	82	88
Ag. Labour	1	-	-	-	6	12	1	1
Non-Agriculture Labour	2	2	21	41	-	-	4	5
Artisan	-	1	-	-	3	-	-	1
Dairy farming	-	-	4	5	-	-	1	1
Business/ prfession	-	-	-	-	2	-	-	-
service	1	1	3	19	-	-	1	3
Others	12	1	10	-	-	-	11	1
Total	100	100	100	100	1000	100	100	100

Landholdings (For all beneficiaries)

Acres	Mirzapur		Mariabad		Majghai		Overall	
	B	C	B	C	B	C	B	C
Upto 2.5	3.2	-	83.3	-	63.8	-	17.5	-
2.6-5.0	16.8	-	15.7	-	12.1	-	16.5	-
5.1-10.0	26.8	-	-	-	13.8	-	22.5	-
10.1 or more	53.2	-	1.0	-	10.3	-	43.5	-
	100.0	-	100.0	-	100.0	-	100.00	-

Note: Data in this table is taken from the listing schedule
Corresponding data for the control group was not collected.

(For sample beneficiaries and control)

Landholdings in Acres								
0-2.5	5	5	52	100	56	43	14	17
2.6-50	17	38	48	-	19	9	21	32
More than 5 acres	78	57	-	-	25	48	65	51
Total	100	100	100	100	100	100	100	100

3.4 Income

3.4.1 Consistent with the distribution of landholdings, large number of beneficiaries in Mirzapur have larger incomes. Variation in incomes between the three areas and as betwen beneficiaries and non-beneficiaries also follows the pattern of landholdings, major component of total income being agricultural income.

3.3 Distribution of Beneficiaries (B) and Non-beneficiaries (C) by Income

Annual Income (in Rs.)	Mirzapur		Mariabad		Maghai		Overall	
	B	C	B	C	B	C	B	C
Upto 3600	1	1	9	29	45	38	5	6
3601-6000	7	17	38	26	41	27	13	19
6000-9000	9	20	42	45	6	18	13	22
9001-12000	10	13	10	-	3	17	10	12
Above 12000	73	49	1	-	15	-	59	41
Total	100	100	100	100	100	100	100	100

3.5 Amenities

3.5.1 Almost all the beneficiaries and non-beneficiaries own a house Nearly 53 percent of the houses owned have 'kutcha' structure (made with unbaked tiles and mud). There is little variation between the three areas in this respect. Quite a good number of houses have 'mixed' structure i.e. partly it is 'kutcha' and partly 'pucca'.

3.5.2 Most of the villages where beneficiaries and non-beneficiaries live are without electricity. As such there are few beneficiary and non-beneficiary houses which have electricity outside the house and a very few having electricity in the house.

3.5.3 Large number of beneficiaries and non-beneficiaries are dependent on tube well or hand-pump, outside the house, for the supply of drinking water.

3.5.4 The beneficiaries and non-beneficiaries in the area virtually have no sanitation facilities in terms of latrine and bathroom. There are a few in Mirzapur and Mariabad who enjoy such facilities.

contd.....

3.4 Distribution of Beneficiaries)B) and Non -beneficiaries (C) by Structure of House: Availability of Drinking water, Electricity and possession of Laterine & Bathroom

Structure	Mirzapur		Mariabad		Majghai		Overall	
	B	C	B	C	B	C	B	C
Hut	3	3	94	-	-	13	15	4
Kutcha house	59	70	-	-	12	70	53	72
Mixed house	31	27	-	100	85	17	26	24
Pucca house	7	-	6	-	3	-	6	-
Availability of Drinking Water								
Inside the house	5	3	-	-	-	-	4	3
Outside the house	95	97	100	100	100	100	96	97
Availability of Electricity								
Inside the house	1	1	-	-	-	-	1	1
Outside the house	1	6	10	-	-	-	2	5
No electricity	98	93	90	100	100		97	94
Sanitation								
Possess Laterine	2	1	-	-	-	-	1	1
Possess Bathroom	8	1	3	-	-	-	7	-

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4. Employment and Income

4.1 Introduction

4.1.1 Analysis of impact of FFW irrigation tanks on employment and income of beneficiaries has been carried out with respect to two time points of reference i.e. before FFW and after FFW. 'Before FFW' refers to the 12-month period prior to the completion of the tank and 'After FFW' refers to the period of 12 months preceding the survey.

4.2 Employment

4.2.1 Attempt has been made to analyse the impact of construction of tanks on the employment of beneficiaries in respect of tanks constructed in 1978,1979,1980 and 1981 .

4.2.2. None of the beneficaires or their family members had worked on FFW Projects and received wages in FFW commodities.

4.2.3. Employment data collected for beneficiary and two other working members of his family is presented in table 4.1 and table 4.2 Average total employment in a year for the beneficiary household (defined as comprising the beneficiary and two other working members) in the zone was 544 days after FFW.

4.2.4 The total employment on agriculture operations per beneficiary in the area increased from 537 mandays to 627 mandays in a year recording an increase of 17 per cent. The corresponding increases in three consignee areas of Mirzapur, Mariabad and Majghai were 17 per cent, 8 per cent and 22 per cent respectively. On average, a non-beneficiary spent 393 mandays in a year on agricultural operations.

4.2.5 The hired labour component, though small, was largest in Mirzapur followed by Majghai. In Mariabad it was nil . The overall requirement of hired labour per beneficiary increased from 109 mandays to 136 mandays in a year, an increase of 25 per cent.

4.2.6 Construction of tanks in four years in the zone provided employment for 4608 persons for a full year.

4.2.7 Family employment had also increased during the two reference periods from 536 mandays to 627 mandays in a year and this increase in employment is itself equivalent to full employment of 284 persons for a year.

4.2.8 The total generation of employment opportunities, self and hired, works out at 345 persons for a full year..

4.1 Average Employment of Beneficiary Household and Hired Labour.

(Mandays/Year)

Consignee area Mirzapur						Maria-bad	Majg-hai	
Year of tank Construction	1978	79	80	81	Average	1980	1980	Over all
Employment								
Self	166	216	219	209	207	194	226	207
Others I	154	212	176	190	187	181	167	186
Others II	135	158	163	166	159	113	135	151
Total	455	586	558	565	553	488	528	544
Hired Labour								
Before FFW	94	92	105	138	115	-	41	109
After FFW	115	189	120	156	149	-	42	136

4.2 Total Employment by Agricultural Operations of Beneficiaries / Non-Beneficiaries (Mandays Per household/per year)

consignee area/operation	Preparatory	Sowing/ Transplantation	Irrigation	Interculture	Harvesting/Threshing	Transportation & Marketing	Total
Mirzapur							
B	122	43	44	94	274	30	607
A	136	47	61	117	314	36	711
NB	94	32	25	68	203	21	443
Mariabad							
B	42	42	18	47	118	6	273
A	43	48	21	50	124	8	294
NB	32	13	1	13	36	5	100
Maighai							
B	39	28	52	34	69	9	231
A	42	34	67	41	87	10	281
NB	58	51	35	60	152	14	370
Overall							
B	106	42	39	84	239	25	537
A	117	46	56	103	273	31	627
NB	83	31	23	60	178	18	393

B: Before FFW

A: After FFW

NB: Non-Beneficiary

4.3 Income

4.3.1 Income of beneficiary households has been analysed by year of tank construction, seperately for consignees, as well as on overall basis for the region. This analysis is presented in table 4.3.

4.3.2 Income from activities relating to agriculture is taken as" farm income" . Income from activities such as dairy, poultry cattle farming, bee farming etc. is taken as " off-farm income" . Contribution of 'off farm income' and income from other sources per beneficiary remaind at nearly 5 per cent both before and after construction of tanks.

4.3 Per Household Income of Beneficiaries and Non-Beneficiaries
(In Rs. rounded to nearest hundred).

	Mirzapur (Year)					Mariabad	Majghai	Overall
Source	1978	1979	1980	1981	Total	1980	1980	
On Farm								
B	121	156	205	232	195	35	49	164
A	193	234	306	345	292	53	66	245
NB	-	-	-	-	43	39	92	16
	(60)	(50)	(49)	(49)	(150)	(50)	(34)	(50)
Off farm								
B	1	-	0.5		0.7	1	0.8	0.8
A	3	1	-	2	2	2	0.9	2
NB	-	-	-	-	2	0.9	0.7	2
Other								
B	6	5	13	9	8	5	5	8
A	10	7	24	16	15	8	5	13
NB	- -	-	-	-	6	4	4	6
	(52)	(44)	(85)	(85)	(77)	(50)	(-2)	(71)
Total								
B	128	160	219	241	204	41	55	172
A	206	242	330	363	309	62	72	260
NB	-	-	-	-	51	44	96	58

B = Before FFW; A= After FFW; N.B. * Non-Beneficiary
Note: Figures in brackets indicate percentage change.

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4.3.3 On -farm income per beneficiary for tanks built during 1978, increased by 60 per cent whereas for tanks constructed during 1979-81 increased by about 50 per cent. For Mariabad and Majghai (all tanks built in 1980) the increase in farm income was 50 and 34 per cent respectively.

4.3.4. To understand the shift in income, cumulative distribution of beneficiaries by income classes has been estimated. The results of this analysis combined for all years for the three consignee areas as presented below.

4.4. Cumulative Distribution of Beneficiaries by Annual Income (Per cent)

(Rs'00)

Area/Income (More than)	Nil	30	60	90	120	150	200	300	400	600 & above
Mirzapur										
B	100	94	81	68	58	51	40	26	8	4
A	100	98	92	83	73	67	56	40	28	8
Mariabad										
B	100	66	16	2	-	-	-	-	-	-
A	100	91	53	11	2	-	-	-	-	-
Majghai										
B	100	36	18	15	12	5	-	-	-	-
A	100	55	24	18	15	12	-	6	-	-

B = Before FFW A= After FFW

4.3.5. There is an obvious shift of beneficiaries from lower income groups to higher income groups. This shift is more pronounced in case of Mariabad for lower income groups. There were 16 per cent beneficiaries having annual income more than Rs. 6000 before FFW whereas after FFW 53 per cent of beneficiaries attained this income level. The distribution of beneficiaries in respect of their incomes, however, shows variations between the consignee areas. After FFWP there were 73 per cent (Mirzapur) 2 per cent (Mariabad) and 15 per cent (Majghai) beneficiaries having annual income more than Rs. 12,000 as compared to corresponding Pre-FFW levels of 58 per cent, nil and 12 per cent.

4.3.6 Average agricultural income for a non-beneficiary in Mirzapur, Mairabad and Majghai was Rs. 4298, 3913 and 9184 respectively compared to his total income of Rs. 5070, 4404 and 9639. Off-farm income and income from other sources for a non-beneficiary follow the same pattern as that of a beneficiary.

5. Agricultural Production

5.1 Introduction

5.1.1 The most important impact of creation of an irrigation facility such as as tank is to bring about increase in agricultural production through more intensive use of land and change in cropping pattern.

5.2 Impact on irrigation

5.2.1 In Mirzapur the construction of tanks was undertaken in four years from 1978 to 1981 and, therefore, an intertemporal comparison for change in irrigated area is possible. Analysis of increase in irrigated area for these tanks built over different years reveal that the percentage increase in the irrigated area was 19 in 1981, around 25 in 1979 and 1980 and 30 in 1978.

5.1 Area Irrigated Before (B) and After (A) FFW by Consignee areas

Area	Year	Total cropped area (acress)		Total Irrigated area		Irrigated area as % of cropped area.		Difference (6)-(5)
		B	A	B	A	B	A	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mirzapur	1978	1374	1368	308	709	22	52	30
	1979	2745	2872	752	1490	27	52	25
	1980	3798	3995	1101	2184	29	55	26
	1981	8057	8264	3874	5527	48	67	19
Total	1978-1980	7917	8235	2161	4383	27	53	26
Mariasbad	1980	247	242	195	231	80	95	15
Magjhai	1980	409	424	192	303	47	71	24

5.2.2 Thus, the maximum increase in percentage irrigated area is in 2 years. As such only tanks built in the period 1978-1980 (i.e. 25 out of total of 37) are aggregated for the analysis in regard to increased irrigation and resulting additional output. These tanks have generated additional irrigation for 2369 acres in the region.

5.2.3 Total cost for 25 tanks built in the three years i.e. 1978, 1979 and 1980 comes to 3943000 kg equivalent of Bulgar. Cost per acre of additional irrigation, thus works out at 1664 kg equivalent of Bulgar.

5.2.4 It is observed thatpaddy and wheat are the major crops in Kharif and Rabi seasons respectively. Major part of additional irrigation has been claimed by these two crops. The other crops put together in the two seasons have got a small share. As such, for purposes of analysis of allocation of additional irrigation, Kharif crops are divided into two categories namely paddy and other crops. Rabi crops are similarly categorised as wheat and other crops. The results are presented in table 5.2.

5.2.5 Additional irrigated area per beneficiary during Kharif in Mirzapur was 1.87, 2.91 and 4.03 acres for the tanks built in 1978,1979 and 1980 respectively. Out of this 1.58, 2.34 and 3.36 acres were paddy. On overall basis, combining the three years, of 3.09 acres of additional irrigated area 2.55 acres were under paddy. For the region as a whole, additional irrigated area is 2.29 acres of which 1.89 acres were under paddy. The other crops got only 18 percent of additional irrigation, though their share in total cropped area is nearly 52 per cent. Total additional irrigated area in the region for the tanks built in three years works out to 1241 acres.

5.2.6 In Rabi, majority of additional irrigations has gone under wheat. Additional irrigated area per beneficiary for three years 1978,1979, and 1980 for Mirzapur are 2.69, 2.33 and 3.44 acres out of which 2.39,1.82 and 3.04 acres respectively were claimed by wheat. Combining all the tanks built over three years and built in Mariabad and Majghai overall additional irrigated area is 2.10 acres out of which 1.81 acres have gone to wheat. Total works out to be 1127 acres.

5.2 Irrigated Area per Beneficiary Before & After FFW by Crops

(Acres)

	1978		1979		1980		Total Mirzapur		Mariabad 1980		Majghai 1980		Overall	
	B	A	B	A	B	A	B	A	B	A	B	A	B	A
KHARIF														
Paddy	1.42	3.00	2.60	4.94	3.45	6.81	2.65	5.20	0.69	0.86	1.63	2.46	2.14	4.03
Others Kharif Crops	0.29	0.58	0.12	0.69	0.33	1.00	0.24	0.78	0.35	0.46	-	-	0.23	0.63
Sub Total	1.71	3.58	2.72	5.63	3.78	7.81	2.89	5.98	1.04	1.32	1.63	2.46	2.37	4.66
RABI														
Wheat	1.27	3.66	2.47	4.29	3.31	6.35	2.51	4.94	0.57	0.65	1.57	2.58	2.01	3.82
Other Rabi Crops	0.52	0.82	0.14	0.65	0.50	0.90	0.36	0.79	0.20	0.17	0.10	0.10	0.30	0.59
Sub Total	1.79	4.48	2.61	4.94	3.81	7.25	2.87	5.73	0.77	0.82	1.67	2.68	2.31	4.41

B: Before FFW A: After FFW

5.2.7 Data for irrigated area for non-beneficiaries is recorded only for 1982. As such changes in irrigated area for non-beneficiaries cannot be measured. The non- ıbeneficiaries have during Kharif, respectively for Mirzapur, Mariabad and Majghai 18.8, 1.81 and 42 per cent of total cropped area as irrigated area. Corresponding figures for Rabi season are 24, nil and 49 per cent. Overall, for both the seasons, these figures are 21.1 and 45 per cent.

5.3 Cropping Intensity and Cropping Pattern

5.3.1 There is a close relationship between extent of irrigation, cropping intensity and change in cropping pattern. Increase in irrigation facilities is normally followed by more intensive cultivation of land. The higher the irrigation intensity the greater is the shift of bajra etc to crops requiring intensive irrigation such as wheat, paddy and sugarcane. Increase in farm income is expected fo follow these changes because the crops in whose favour the shift takes place are also high value crops.

5.3.2 There is a marginal increase in cropping intensity (Table 5.3) compared to substantial increase in irrigated areas. Increase in area cropped, area irrigated and output are given in table 5.3. However, in case of '1978' tanks surveyed in Mirzapur the gross cropped area decreased by 7 percent compared to 109 per cent increase in irrigated area. Figures for percentage increase in cropped area and irrigated area f are 10 and 107 for 1979 tanks; 67 and 107 for 1980 tanks and, nill and 42 for 1981 tanks. Figures in respect of same for Mariabad are 4 and 30 and for Majghai 4 and 51 respectively. Total cropped area per beneficiary in the region increased from 19.64 acres to 20.90 acres.

5.3.3. Wide variations between non-beneficiaries of three areas and between a beneficiary and a non-beneficiary in a particular area in respect of total cropped area are observed. Cropped area for a non-beneficiary is much less in Mirzapur and more in Mariabad and Majghai as compared to beneficiary. Total cropped area for a non-beneficiary for Mirzapur, Mariabad and Majghai are 3.37 5.09 and 15.73 acres respectively.

5.3.4 There is evidence of shift in cropping pattern for both the crop seasons namely Kharif and Rabi. The analysis is presented seperately by seasons both in respect of three areas and for tanks built in different years for Mirzapur.

5.3.5 Paddy is the major crop in all the three consignee areas for both time periods. The shift in cropping pattern has taken place in favour of paddy, an irrigation - intensive crop. This is reflected from the data given below for tanks by year of construction.

5.3 Area Cropped and Irrigated and Value of Output per Beneficiary: Kharif and Rabi

	Mirzapur		Mariabad		Majghai		Overall	
	B	A	B	A	B	A	B	A
Cropped Area (Acres)								
Kharif	13.64	13.76	1.37	1.43	3.52	3.66	11.04	11.45
Rabi	10.31	11.38	0.90	0.81	3.41	3.53	8.60	9.45
Total	23.95	25.14	2.27	2.24	6.93	7.19	19.64	20.90
% Increase	-	(5.0)	-	(-1.3)	-	(3.8)	-	(6.4)
Irrigated Area (Acres)								
Kharif	4.65	7.68	1.04	1.32	1.63	2.46	3.98	6.48
Rabi	4.24	7.44	0.77	0.82	1.62	2.68	3.59	6.22
Total	8.89	15.12	1.81	2.14	3.25	5.14	7.57	12.70
% of Irrigated Area	27	60	79	96	47	71	39	61
Value of Output (Rs)								
Kharif	10436	12965	1515	2479	1926	2999	8680	10843
Rabi	8950	12019	937	1237	2403	3359	7392	11706
Total	19386	24984	2452	3716	4329	6358	16072	22549
Value of Output /Acre								
Kharif	765	942	1106	1734	547	819	786	947
Rabi	868	1056	1041	1527	705	952	860	1239
Per Acre (Rs)	809	994	1080	1659	625	884	818	1079

B = Before FFW A= After FFW

5.4 Changes in Cropping Pattern in Kharif

(Area in Acres)

Area	Year	Other Kharif Crops B	Other Kharif Crops A	Other Kharif Crops Change	Under Paddy B	Under Paddy A	Under Paddy Change
Mirzapur	1978	8.29	7.70	(-)0.59	3.21	3.74	0.53
	1979	11.32	11.67	0.35	4.94	5.68	0.74
	1980	14.43	15.01	0.58	6.76	8.08	1.32
	1981	15.97	15.96	(-) 0.01	7.96	8.29	0.33
					5.72	6.44	0.72
Mariabad	1980	1.37	1.43	0.06	0.82	0.86	0.04
Majghai	1980	3.52	3.66	0.14	2.60	2.92	0.32

5.3.6 Increase in area under paddy has been contributed by two factors: (a) Increase in cropping intensity and (b) shift in cropping pattern. The first factor contributed 49 per cent whereas the shift in cropping pattern in favour of paddy from other less profitable crops contributed 51 per cent of total increase in area under paddy.

5.3.7 Beneficiaries, on overall basis, had 48 per cent of total cropped area under paddy during 1982. Compared to this non-beneficiaries had 49 per cent of total cropped area under paddy in Kharif.

5.3.8 Arhar, bajra, jowar are other Kharif crops. Area under these crops is reduced because of its shift in favour of paddy. However, the percentage irrigated area to cropped area for these crops has increased from 15 per cent to 29 per cent.

5.3.9 Cash crops like sugarcane and cotton are not grown in any area except in Mariabad where 20 per cent of area is under sugarcane. In Mariabad, 95 per cent of the total cropped area is irrgated (after FFW). Almost complete basence of cash crops in other two areas may be because of lack of assured irrigation.

5.3.10 Non-beneficiaries in the three areas have cropping pattern almost similar to that of beneficiaries for Kharif season with the exception of Mariabad. Mariabad non-beneficiaries grow only two crops namely paddy and arhar. The other two areas grow paddy, arhar, maize, bajra and jowar.

5.3.11 Wheat in Rabi season occupies the same status as paddy in Kharif. Percentage area under wheat increased after FFWP. The whole of increased area brought under cultivation in the region, bec aucse of increased irrigation, has been claimed by this crop.

5.5 Changes sin Cropping Pattern in Rabi

(Areas in acres)

	Year	Under other Rabi Crops B	A	Change	Under Wheat B	A	Change
Mirzapur	1978	7.32	7.85	0.53	2.77	4.26	1.49
	1979	8.15	8.70	0.55	4.61	5.12	0.51
	1980	11.76	12.54	0.78	5.40	7.13	1.73
	1981	12.40	13.14	0.74	7.46	8.38	0.92
Mariabad	1980	0.90	0.81	0.09	0.63	0.65	0.02
Majghai	1980	3.41	3.53	0.12	2.50	2.88	0.38

5.3.12 Gram is the second prominent crop in the area in Rabi season. The impact of FFWP on percentage area under the crop in three areas is marginal. Barley is grown in two areas viz. Mirzapur and Mariabad. Other crops account for nearly 10 per cent of the cropped area.

5.4 Yield per Acre

5.4.1 Yield per acre for important crops have been analysed seperately for the three consignee areas. In Majghai the highest increase in yield rate of paddy was noticed. This increase was about 36 per cent as compared to 24 per cent in Mariabad and 14 per cent in Mirzapur. For the non-monsoon ((Rabi) crop of wheat, increases, although of much smaller order, maintained the relative position of the consignees as in Kharif. Increase for Majghai was about 13 percent; for Mariabad 10.5 per cent, and for Mirzapur 5 per cent.

5.4.2. Lower, and in two cases, negative, growth in yield rate was noticed for arhar and gram. This is, as already noted, due to the shift of irrigated land in favour of paddy and wheat.

5.4.3 Overall, impact of irrigation in terms of yield rate was noticeably higher in Majghai and Mariabad because (a) average land holdings in these two consignee areas are much smaller and (b) the ratio of irrigated to cropped area is much higher.

5.6 Changes in Yield per Acre for Major Crops
(Kg/Acre)

	Mirzapur		Mariabad		Majghai	
	B	A	B	A	B	A
Kharif						
Paddy	666	759 (14.0)	698	865 (23.9)	441	598 (35.6)
Arhar	450	459 (2.0)	468	515 (10.0)	381	377 (-1.0)
Rabi						
Wheat	735	772 (5.0)	749	828 (10.5)	549	620 (12.9)
Gram	498	478 (-4.0)	443	596 (34.5)	442	445 (0.7)

B = Before FFW
A= After FFW

(Figures in brackets indicate % change)

6. Beneficiaries' Perceptions of FFW Programme

6.1 Introduction

6.1.1 The survey instrument was utilized to elicit opinions/ perceptions of beneficiaries in regard to various aspects of the programme which included the effects of FFWP on their income and addition to personal assets. Questions were also directed at assessment, in very broad terms, of the secondary' benefits that may have accured, such as changes in consumption pattern, and ability to discharge social and economic obligations. Towards the end, some observations on profile of tanks are also presented.

6.2 Asset Formation

6.2.1 There are variations in beneficiaries' opinion about impact of FFW assets from region to region. The question to them was whether they could add to their assets because of FFW programme. Purchase, extension and renovation of house, purchase of agricultural land and implements, cooking utensils, milch cattle, jewellery etc. was considered as asset formation. The beneficiaries reporting positive role of FFW programme in terms of asset formation were 64 per cent in Mirzapur, 44 per cent in Mariabad and 28 per cent in Majghai.

6.1. Distribution of Beneficiaries by Opinion About Role of FFW in Asset Formation

(in percent)

FFWP Role	Mirzapur	Mariabad	Majghai	Overall
Positive	64	44	28	59
Nil	33	54	69	38
No opinion	3	2	3	3
Total	100	100	100	100

6.3 Discharge of Social/Economic Obligations

6.3.1 Table 6.2(a) presents the perception of beneficiaries on the role of FFW programme in better discharge of social/economic obligations in terms of going for pilgrimage, celebration of festive occasions and have more social contacts etc, by beneficiaries. It is observed from this table that the percentage of beneficiaries reporting positive opinion for better discharge of social/economic obligations was as higher as 80 per cent in Mirzapur, followed by 55 per cent in Mariabad and 51 per cent in Majghai.

6.2.(a) Distribution of Beneficiaries by Opinion on Role of FFWP in Discharge of Social/ Economic Obligations

(in percent)

Role of FFWP	Mirzapur	Mariabad	Majghai	Overall
Positive	80	55	51	75
No effect	20	45	49	25
Total	100	100	100	100

6.3.2 Going into the details of the nature of social/economic obligations discha rged it is seen from table 6.2(b) that the beneficiaries of Mirzapur and Mariabad and almost similar distribution but different to that for Majghai. 47 per cent of Mirzapur beneficiaries performed marriages of their dependents, 29 per cent re-payed old debts, 14 per cent could celebrate festivals, and 3 per cent went on pilgrimage. Of Mariabad beneficiaries 34 per cent performed marriages of dependents, 22 per cent re-paid old debts and 37 per cent celebrated festivals with ease. About 54 per cent of Majghai beneficiaries were able to repay old debts, 28 per cent could arrange the marriages of their dependents and 6 per cent could celebrate festivals.

6.2 (b) Distribution of Beneficiaries Opinion on Nature of Social /Economic Obligation Performed

(in per cent)

	Mirzapur	Mariabad	Majghai	Overall
Marriage of dependents	47	34	28	44
Repay old Debts	29	22	54	30
Participation in Festivals	14	37	6	17
Pilgrimage	3	5	6	3
Others	7	2	6	6
Total	100	100	100	100

6.4 Nutritional Intake

6.4.1 Table 6.3(a) presents the opinion of beneficiaries about improvement in nutritional intake. The percentage of beneficiaries reporting improvement in nutritional intake resulting in ,lesser incidence . of illness and normal growth of children were 48 in Mirzapur, 47 in Mariabad and 31 in Majghai.

6.3(a) Distribution of Beneficiaries by Opinion on Role of FFW in Improving Nutritional intake

(in per cent)

	Mirzapur	Mariabad	Majghai	Overall
Improved	48	47	32	47
Not improved	47	43	62	48
Do not know	5	10	6	5

6.4.2 Information relating to effects of improved nutritional intake is presented in table 6.3(b). Of all the beneficiaries reporting improvement the percentage mentioning less incidence of illness was 52 in Mirzapur , 79 in Mariabad and 36 in Majghai. The percentage of beneficiaries reporting better growth of children were 45 in Mirzapur, 18 in Mariabad and 64 in Majghai.

6.3.(b) Distribution of Beneficiaries by Opinion on effects of Improved Nutrition (in per cent)

	Mirzapur	Mariabad	Majghai	Overall
Less Incidence of illness	52	79	36	55
Improvement in the Growth of children	45	18	64	42
Other benefits	3	3	-	3
Total	100	100	100	100

6.5 Consumption Pattern

6.5.1 Beneficiaries were asked whether there was any change in consumption pattern because of implementation of FFW programme in terms of consumption of food, milk, clothes etc. Table 6.4(a) presents the percentage of beneficiaries reporting change in consumption pattern. It is seen from this table that the beneficiaries reporting positive change in the consumption pattern because of FFW programme were 57 per cent in Mirzapur, 50 per cent in Mariabad and 31 per cent in Majghai.

6.4 (a) Distribution of Beneficiaries by Opinion on The Role of FFWP on changes in consumption Pattern.

(in per cent)

	Mirzapur	Mariabad	Majghai	Overall
Change	57	50	31	54
No Change	38	40	60	40
Cannot say	5	10	9	6
Total	100	100	100	100

6.5.2 The details of changes in consumption pattern of beneficiaries are presented in table 6.4(b). In all the 3 areas, the beneficiaries reporting change in terms of more food were highest: 42 per cent in Mirzapur, 60 per cent in Mairabad and 55 per cent in Majghai. Those reporting change in favour of more clothing were 31 per cent in Mirzapur, 20 per cent in Mariabad and 36 per cent in Majghai. Also, 26 per cent of beneficiaries in Mirzapur, 20 per cent of beneficiaries in Mariabad, 9 per cent in Majghai reported consumption of more milk. Only one per cent of beneficiaries in Mirzapur did not know about nature of change in consumption pattern.

6.4(b) Beneficiaries' Opinion on Nature of Change in Consumption Pattern.

No. of Beneficiaries (%) reporting	Mirzapur	Mariabad	Majghai	Overall
More food	42	60	55	45
More clothing	31	20	36	30
More Milk	26	20	9	24
Cannot say	1	-	-	-
Total	100	100	100	100

6.6 Income Effects

6.6.1 Table 6.5(a) to 6.5.(c) present beneficiaries' perceptions in regard to increase in income due to FFW programme. More than 90 per cent of the beneficiaries mentioned that they experienced an increase in their income on account of FFW projects. About 5 percent beneficiaries in Mirzapur and 9 per cent in Majghai reported no impact of the programme on their incomes. However, 4 percent beneficiaries in Mirzapur and 10 per cent in Mariabad could not say whether their incomes have increased because of FFW programme.

6.5.(a) Beneficiaries' Perception of Increase in Incomes due to FFW

No. of Beneficiaries (%) reporting	Mirzapur	Mariabad	Majghai	Overall
Increase	91	90	91	91
No Increase	5	-	-	4
Cannot say	4	10	9	5
Total	100	100	100	100

6.6.2 As regards beneficiaries' response to the extent of increase in their incomes, 87 percent in Mirzapur, 85 per cent in Mariabad and 53 per cent in Majghai mentioned that their incomes had increased by more than Rs. 600/- per month. About 10 percent beneficiaries mentioned that increase in their income was between Rs. 201/- to Rs. 600/- p.m. 16 per cent of beneficiaries in Majghai, 4 per cent in Mariabad and 2 per cent in Mirzapur reported an increase between Rs. 101/- to 200/- per month. Thus a substantial increase in income was reported by the beneficiaries of Mirzapur and Mariabad as compared to that of Majghai.

6.5 (b) Beneficiaries' Opinion on the Extent of Increase in of Increase in Income with FFW

(Beneficiaries in %)

Income in Rs.	Mirzapur	Mariabad	Majghai	Overall
Upto 100	2	-	22	3
101 - 200	2	4	16	3
201 - 600	9	11	9	10
Above 600	87	85	53	84

6.6.3 Asked whether there was an increase in income from off-farm activities after the completion of FFW Projects, 4 per cent of the beneficiaries replied in the affirmative. This shows that construction of tanks not only helps agriculture but also makes some contribution to off-farming activities.

6.5.(c) Beneficiaries' Perception of Income Increase in Off-Farm Activities of FFW

(Beneficiaries in %)

	Mirzapur	Mariabad	Majghai	Overall
Income increased	4	5	-	4
Not increased	88	92	94	89
No opinion	8	3	6	7
Total	100	100	100	100

6.7 Suggestions for Improving FFW Programme

6.7.1 Respondents were asked to give suggestions for improving the effectiveness of Food For Work Programme. A large number of beneficiaries did not respond to this, their percentage being 84 in Mirzapur, 83 in Mariabad and 80 in Majghai. This shows that, by and large, the programme in its present form is acceptable to the beneficiaries.

6.7.2. Of those suggesting improvements/change several said the 'tank should be made of stone', the percentage for this being 14 in Majghai, 10 in Mariabad and 8 in Mirzapur. The beneficiaries suggesting raising the level of tank were 3 per cent in Mirzapur, 2 per cent in Mariabad and 3 per cent in Majghai. Two per cent of the beneficiaries in Mirzapur, and 3 per cent beneficiaries in Majghai wanted 'one more tank'. 5 per cent beneficiaries in Mariabad and one per cent in Mirzapur suggested to link FFW programme with grant of loans for pumpsets.

6.8. Some Observations on Tanks

6.8.1 A majority of beneficiaries considered that the water supply from tanks was adequate to meet their requirements.

6.8.2 Almost all beneficiaries used a pumpset to draw water from the tank and put into the channels leading l to their fields. Since these pumps usually belong to one or two persons, others hire them.

6.8.3 Almost all respondents considered that the water seepage in the channel was normal and was not a source of worry.

6.8.4 In large majority of cases the location of the tank was recommended by Panchayat Samiti/Gram Panchayat. Only in some cases was location of tanks decided on the recommendation of local social workers.

6.8.5 At present there is no regular maintenance of tanks. The maintenance is generally carried out when required.

6.8.6 Sometimes tanks go dry because either rainfall is below normal or the available water is utilized in the first few irrigations. For this reason, some of the beneficiaries said that tank water was not always available to them.

6.8.7 There were a few complaints of silting of water tanks.

6.8.8. A few project holders experienced labour shortage during consutruction of tanks.

6.8.9. In case of 6 out of 37 tanks some delay in receipt of FFW commodities in the course of construction was mentioned. For this reason the work on the project had to be suspended for sometime and taken up later.

Annexure 2.1

Projectwise Earthwork Done, Additional Irrigation Planned, Mandays Utilized and Number of Beneficiaries/Non-beneficiaries

Mirzapur Consignee

S.No.	Project Code	Earth work done (in cu-bic meter)	Planned Addition to irrigated area (acre)	Mandays Utilised (nos)	Beneficiaries (Nos)	Non-beneficiaries (Nos)
	1	2	3	4	5	6
Tanks: 1978						
1.	A-3/87-(78)	31500	140	48744	21	10
2.	A-3/82-(78)	36000	150	55656	25	13
3.	A-3/85-(78)	39375	170	58104	17	10
4.	A-3/83-(78)	37500	160	58104	25	10
Tanks:1979						
1.	A-3/72-(79)	39200	150	60912	25	12
2.	A-3/59-(79)	38400	140	57600	30	15
3.	A-3/71-(79)	37500	130	58032	21	15
4.	A-3/60-(79)	38400	140	57600	18	8
5.	A-3/70-(79)	44800	150	69336	25	18
6.	A-3/58-(79)	43200	160	66916	22	13
Tanks:1980						
1.	A-3/115-(80)	60000	250	93240	12	25
2.	A-3/37-(80)	25000	125	38520	20	15
3.	A-3/38-(80)	27000	140	41760	25	20
4.	A-3/41-(80)	27000	140	41760	25	14
5.	A-3/40-(80)	28400	150	43920	26	15
6.	A-3/39-(80)	25000	125	38520	25	10
7.	A-3/36-(80)	17300	100	26764	12	5

1		2	3	4	5	6
Tanks: 1981						
1.	A-3/69-(81)	40000	175	61920	30	20
2.	A-3/66-(81)	61250	300	95040	22	15
3.	A-3/76-(81)	35378	160	54720	27	11
4.	A-3/75-(81)	30856	140	47746	13	14
5.	A-3/64-(81)	23000	115	36360	23	16
6.	A-3/68-(81)	37500	150	58320	28	18
7.	A-3/71-(81)	35378	160	54720	22	9
8.	A-3/72-(81)	30856	140	47746	27	15
9.	A-3/67-(81)	46400	200	72000	26	10
10.	A-3/75-(81)	30856	140	47746	20	12
11.	A-3/65-(81)	45000	200	79840	19	11
12.	A-3/70-(81)	30856	140	47746	27	15
Mariabad Consignee						
1.	A-3/31-(80)	5024*		7200	19	9
2.	A-3/31-(80)	6028*		7200	21	21
3.	A-3/31-(80)	10047 *		12000	35	10
4.	A-3/31-(80)	3517*		4800	16	8
5.	A-3/31-(80)	3349*		4800	17	9
Majghai Consignee						
1.	A-3/52-(80)	7850*		7200	15	9
2.	A-3/53-(80)	23328*		9600	21	11
3.	A-3/129-(80)	12200*		9600	23	10

* Earth work done was not available from records for these tanks. It was estimated by the data collectors.

GLOSSARY
(of some of the terms used in the text)

Irrigation tanks	The tanks which were built under food for work programme and are being used for irrigation purposes. On the average these are about 300 ft. in length, 200ft. in width and 8 to 15 ft. in depth. These generally have mud walls with 20 to 30 ft. base width tapering to 5 to 10 feet at the top. No bricks or cement are used. Three sides are higher with fourth side providing inlets for water. The water is lifted with the help of diesel driven pumps over the tank wall into the channels.
Beneficiaries	The farmers who are getting benefits or irrigation from tanks, their lands being located near the tank.
Non-beneficiaries or Control Group	Farmers having similar socio-economic conditions but not getting irrigation facilities from the tanks. At the same time their lands are adjacent to those of the beneficiaries.
Off-farm activities	These are agro-based activities like dairy farming, cattle farming, poultry, vegetable growing, bee-keeping, fishing etc. In certain context some of these activities are also understood as " On-farm" activities. For purposes of analysis here " On-farm" activities are defined as only those which are related to raising and harvesting of crops and their marketing etc.
Marginal farmer	Having less than 2.5 acres of unirrigated agriculture land or 1.25 acres of irrigated land.
Small Farmer	Having less than 5 acres of unirrigated agriculture land or 2.50 acres of irrigated land.
Other farmers	Having more than 5 acres of unirrigated agriculture land or more than 2.5 acres of irrigated land.
Kutcha House	House built with mud having thatched roofs.

Pucca House	House built with bricks.
Mixed House	House built partly with mud and partly with bricks.
Jowar	Crop named after millet.
Arahar	A variety of pulse.
Bajra	A variety of cereals.
Gram Panchayat	Refers to an assembly of village wise-men (generally elected) to whom day-to-day problems of the village are referred.
Panchayat Samiti	A body of Elected members at block level to deal with all community development programmes of block with the help of Block and district officials.
Kharif	This is local name of the rainy seasons crops, for which the sowing period is July/August and harvesting period is September/October. Few major Kharif crops are Paddy, Corn, Millet, Pulses etc.
Rabi	This is a local name for winter crops for which the sowing period is November/December and harvesting period is March/April. Few major Rabi crops are wheat, gram, barley, peas, mustard.

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CENTRE FOR RESEARCH, PLANNING AND ACTION

16, DAKSHNESHWAR, 10-HAILEY ROAD, NEW DELHI-110 001

USAID FFW EVALUATION : BENEFICIARY PROFILE

1. Particulars of FFW Project (With reference to which the beneficiary has been selected for interview)

1.1. Name of the consignee.....,.....1.2, Name of the distributor..... .....

1.3. Name of FFW Project.....1.4, Code No.....

1.5. Location of FFW Project.....

2. Profile of the Selected FFW Beneficiary :

2.1. Name and address of the selected beneficiary.....

2.2. a) Date of actual employment [if any] on FFW Project.....

b) Whether currently working on a FFW Project : 1 ☐ Yes 2 ☐ No

2.3. FFW Project on which worked during preceding 12 calender months : [if any]

Name and address of the Project	Date and month From	To	No. of days worked	No. of days for which paid	Distance from place of living (in km.)
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....

2.4. Sex : 1 ☐ Male 2 ☐ Female 2.5. Age (in completed years).....

2.6. Education : 1 ☐ Illiterate 2 ☐ Literate but no formal education 3 ☐ Primary 4 ☐ Middle 5 ☐ Secondary 6 ☐ Graduate and above

2.7. Caste : 1 ☐ S. C. 2 ☐ S. T. 3 ☐ Backward 4 ☐ Others.....

2.8. Religion : 1 ☐ Hindu 2 ☐ Muslim 3 ☐ Sikh 4 ☐ Christian 5 ☐ Others

2.9. Marital Status : 1 ☐ Married 2 ☐ Unmarried 3 ☐ Widow/widower 4 ☐ Separated

2.10. Whether identified as : 1 ☐ Small farmer 2 ☐ Marginal farmer 3 ☐ Agr. Labourer 4 ☐ Other (specify).....

2.11. Occupation : 1 ☐ Agriculture 2 ☐ Agr. Labour 3 ☐ Non-agriculture labour 4 ☐ Artisan 5 ☐ Dairy farming 6 ☐ Business/Profession 7 ☐ Service 8 ☐ Pension 9 ☐ Student 10 ☐ Others (specify).....

2.12 Approximate monthly income of the household during last 12 months (in Rs.)

1 ☐ 0-50 2 ☐ 51-100 3 ☐ 101-200 4 ☐ 201-300 5 ☐ 301-500 6 ☐ 501-750 7 ☐ 751-1000 8 ☐ above 1000 9 ☐ Unwilling to disclose/Unable to specify

2.13. Housing, Sanitation and Hygiene :

Sl. No.	Item	Inside the house	Outside the house	Sl. No.	Item	
1.	**Water Supply :**			4.	**Structure of House**	
	Hand pump	1 ☐	2 ☐		No house	1 ☐
	Well water	3 ☐	4 ☐		Hut	2 ☐
	Tap water	5 ☐	6 ☐		Kutcha house	3 ☐
	Canal water	X	7 ☐		Mixed house	4 ☐
	Tank water	X	8 ☐		Pucca house	5 ☐
	Tube well	X	9 ☐			
2.	**Electricity**			5.	**Number of living rooms :**	
	Available	1 ☐	2 ☐	6.	**Sanitation**	
3.	**House**				Latrine	☐ Yes ☐ No
	Owned	☐ Yes ☐ No			Bath	☐ Yes ☐ No

3. **Family size and Work Force :**

Family size	Numbers		
	Male	Female	Total
Working Members			
Adults	.....	.....	.....
Children	.....	.....	.....
Total	.....	.....	.....
Non-working Members			
Adults	.....	.....	.....
Children	.....	.....	.....
Total	.....	.....	.....

4. **Land Holding : (Acre 00.0)**

		Total Cultivated		Irrigated	
		Present	Prior to FFW	Present	Prior to FFW
i)	Land Owned	.....	.....	.....	.....
ii)	Land leased in	.....	.....	.....	.....
iii)	Land leased out	.....	.....	.....	.....
iv)	Total operational holding 1 +2—3	.....	.....	.....	.....

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5. Impact of the Project on Agriculture (Preceding 12 months)

		Area Sown		Output		Value (Rs.)	
		Irrigated	Unirrigated	Grain	By Products	Grain	By Products
Season	Crop						
Kharif	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
Rabi	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
Others	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
Total							

ii) Before FFW

		Area Sown		Output		Value (Rs.)	
		Irrigated	Unirrigated	Grain	By Products	Grain	By Products
Season	Crop						
Kharif	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
Rabi	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
Others	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
Total							

6. **Impact on Employment**

6.1. **Level of Household Employment (in mandays per year)**

		Preparatory Stage		Sowing/Transplantation		Irrigation		Inter-Culture Operation	
		Present	Prior to FFW	Present	Prior to FFW	Present	Prior to FFW	Present	Prior to FFW
Season	**Crop**								
Kharif	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rabi	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....
Others	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total									

		Harvesting and Threshing		Transporation, Storage and Marketing		Total	
		Present	Prior to FFW	Present	Prior to FFW	Present	Prior to FFW
Season	**Crop**						
Kharif	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
Rabi	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
Others	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
Total							

6 2. Do You hire labour for your agriculture operations ? 1 ☐ Yes 2 ☐ No
If yes ; For how many mandays and for what purpose ?

	Purpose	Preceding 12 Months No.	No. of days worked	Before FFW No.	No. of days worked
1.	.....	.....		.....	
2.	.....	.....		.....	
3.	.....	.....		.....	
4.	.....	.....		.....	

6.3. Were any additional employment opportunities created during construction period of FFW : 1 ☐ Yes 2 ☐ No

6.4. i) If yes ; nature of employment : 1 ☐ Increased transport 2 ☐ Shop vending 3 ☐ Other [specify].....

ii) Did you avail of any of these : 1 ☐ Yes 2 ☐ No

iii) If yes ; Give Number of days for which availed.....

iv) If not, who availed : 1 ☐ Landless labour 2 ☐ Artisan 3 ☐ Local traders 4 ☐ Other poor people

6.5. i) Is there any increase in off farming activity of your household after completion of the Project ? 1 ☐ Yes 2 ☐ No

ii) If yes ; Give approximate increase in income :

Name and Activity	Number		Income	
	At present	Before FFW	Preceding 12 month	Prior to FFW
1. Dairy Farming	.....	.....	.....	.....
2. Poultry Farming	.....	.....	.....	.....
3. Cattle Farming	.....	.....	.....	.....
4. Beekeeping	.....	.....	.....	.....
5. Vegetable growing	.....	.....	.....	.....
6. Fishing	.....	.....	.....	.....
7. Others [specify]	.....	.....	.....	.....
Total				

7. Impact on Family Income : (Preceding 12 Calendar Months)

Source	Persons	Kind Type	Quantity received (Kgs.)	Value of col. 4 Rs	Cash Rs.	Total Rs.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A. From FFW (participating members)	Self					
	Others (1)					
	Others (2)					
Total						
B. Outside FFW (participationg members)	Self					
	Others (1)					
	Others (2)					
Total						
C. Non-Participating members	(1).....					
	(2).....					
Total						
G. Total A+B+C						
Year Before FFW (Total)						

Note : For non-paticipating members provide relationship in the space providedagainst (1) and (2)

8. Impact on Employment : (Preceding 12 Calendar months)

Manday Worked

Name of the Activity	SELF			Others (i).....			Others (ii).....		
	From	To	No. of Mandays	From	To	No. of Mand ys	From	To	No. of Mandays
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
A. ON FFW									
1.									
2.									
3.									
B. Outside FFW									
1.									
2.									
3.									
C. Unemployed									
1.									
Total									

Note : Provide details for 3 working members. State relationship to self in the space provided against others above.

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9. **Mode of Conveying Water to the Field**

9. (a) How is water conveyed from tank/dam to your field ?

1 ☐ Channels, 2 ☐ Channels and outlets, 3☐ Well and outlets, 4 ☐ Hose Pipes, 5 ☐ Pumpset and outlets, 6 ☐ Lifting Manually, 7 ☐ Any other specify.....

i) Normally how long you irrigate your field.....hours a day

ii) Normally how much land you irrigate in a day.....

iii) Did you hire some labourers such as agricultural labourers, landless labourers for the same : 1 ☐ Yes 2 ☐ No

iv) If yes, No. of labourers.....

v) How much per person you pay for a day :.....(a) Cash.....(b) Kind.....

9. (b) In case lift appliance is used for availing irrigation water :

i) Does respondent possess a pumpset : 1 ☐ Diesel 2 ☐ Electric 3 ☐ No

ii) If so, is it owned : 1 ☐ Singly, 2 ☐ Shared

iii) If shared number of co sharers.....No.

iv) H. P. of the engine.....H.P.

v) How far is your land from project site.....Meters.

vi) Are there any problems in sharing the pump.....

vii) Mode of sharing : 1 ☐ Order of nearness of land 2 ☐ Frequency 3 ☐ Any other (Specify)

viii) If not owned, do you hire the pump : 1 ☐ Yes 2 ☐ No

ix) If yes, at what rate Rs.....per hour.....

x) Is rate in (i) above inclusive cost of diesel : 1 ☐ Yes 2 ☐ No

xi) Are charges..... 1 ☐ Reasonable 2 ☐ High 3 ☐ Too High

9. c. i) How channels and outlets are constructed : 1 ☐ Part of Project 2 ☐ By Beneficiary 3 ☐ Jointly by Beneficiaries 4 ☐ Gram Panchayat 5 ☐ Anyother [specify].....

ii) If maintenance of tank done by : 1 ☐ Project holder 2 ☐ Jointly by Beneficiaries 3 ☐ Gram Panchayat 5 ☐ Any other [specify].....

iii) Whether maintenance is : 1 ☐ When required 2 ☐ Season-wise 3 ☐ Annually 4 ☐ Not maintained 5 ☐ Not required 6 ☐ Any other [specify].....

10. **Impact of additional income on socio-economic life**

i) Has income of the respondent been raised with FFW : 1 ☐ Yes 2 ☐ No

ii) If yes by how much per year : 1 ☐ Rs. 50 2 ☐ Rs. 75 3 ☐ Rs. 100 4 ☐ Rs.101-200 5 ☐ Rs. 201-400 6 ☐ Rs. 401-600 7 ☐ Rs. 600 above

iii) With (ii) above could you add to your assets : 1 ☐ Yes 2 ☐ No

iv) If yes, what items added : 1 ☐ Extension of house 2 ☐ Renovation of house 3 ☐ Purchase of house plot 4 ☐ Purchase of agriculture land 5 ☐ Agricultural Implements 6 ☐ Cooking utensils 7 ☐ Milch cattle 8 ☐ Bullocks 9 ☐ Jewellery 10 ☐ Wrist watch 11 ☐ Radio/Transisters 12 ☐ Bicycle 13 ☐ Stove 14 ☐ Table 15 ☐ Bed 16 ☐ Others [specify].....

v) Value of assets added : Assets added (1).....(2).....(3).....(4).....(5).....

Value Rs. (1).....(2).....(3).....(4).....(5).....

10.2. Could respondent perform social functions better with additional income :

1 ☐ Yes 2 ☐ No

10.3. Could respondent arrange with ease : 1 ☐ Marriage of dependents 2 ☐ Go on pilgrimage 3 ☐ Repay old debts 4 ☐ Celebrate festive occasions 5 ☐ Have more social contacts 6 ☐ Others [specify].....

10.4. i) Does respondent feel improvement in nutritional level of the family 1 ☐ Yes 2 ☐ No

ii) If yes, how observed : 1 ☐ Less incidence of illness 2 ☐ Growth of children normal 3 ☐ Others [specify].....

10.5. a) Do you consider there has been some change in your consumption pattern :

1 ☐ Yes 2 ☐ No

b) If yes ; what is the nature of change : 1 ☐ Consume more food 2 ☐ Use more clothing 3 ☐ Drink moremilk 4 ☐..... 5 ☐.....

Assets Owned

Does the worker possess any of these assets :

Live Stock	Numbers	Other Assets	
Buffaloes	.....	Bicycle	1 ☐
Cows	.....	Wristwatch	2 ☐
Goat/Sheeps	.....	Jewellery Gold	3 ☐
Bullock	.....	Jewellery Silver	4 ☐
Pigs	.....	Stove	5 ☐
Others [specify].....	.....	Radio	6 ☐
		Chair	7 ☐
		Table	8 ☐
		Brass/Steel Utensils	9 ☐
		Vessels	10 ☐
		Sewing Machine	11 ☐
		Bed	12 ☐

11. Problems of Beneficiary :

11.1 What are the problems of the respondent :

i) Availability of water throughout the season : 1 ☐ Yes 2 ☐ No

ii) Volume of water : 1 ☐ Inadequate 2 ☐ Adequate

iii) Shortage of diesel : 1 ☐ Yes 2 ☐ No

iv) Shortage of electricity : 1 ☐ Yes 2 ☐ No

v) Seepage of water in water channels : 1 ☐ High 2 ☐ Normal

vi) Water wastage in upper reaches : 1 ☐ Frequent 2 ☐ Normal

vii) Channels not cleared of weeds/grass : 1 ☐ Yes 2 ☐ Sometimes 3 ☐ No problem

11.2. Is land of the respondent at the tail end of the channels : 1 ☐ Yes 2 ☐ No

ii) If yes, do you experience any difficulty in irrigating your land : 1 ☐ Yes 2 ☐ No

iii) If yes, nature of the difficulty.....

11.3. Any other observation/suggestion regarding the Programme :

.....

.....

Name of the Respondent :..... Date :.....

Name of the Investigator :..... Checked by.....