

**KEN-
BETWA
LINK
PROJECT,
PHASE-I**

**RESETTLEMENT
AND
REHABILITATION
PLAN
(R&R)**

**RESETTLEMENT AND REHABILITATION:
PROJECT AFFECTED FAMILIES
ECONOMIC REHABILITATION PLAN
(PAFERP)**

Submitted to



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COMPREHENSIVE ENVIRONMENT IMPACT ASSESSMENT STUDY OF PROPOSED

KEN-BETWA LINK PROJECT PHASE-I

VOLUME – III

**RESETTLEMENT AND REHABILITATION:
PROJECT AFFECTED FAMILIES ECONOMIC REHABILITATION PLAN (PAFERP)
as per
“The Right to Fair Compensation and Transparency in Land Acquisition,
Rehabilitation and Resettlement Act 2013”.**

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CHAPTER - I

INTRODUCTION

Background

1.01 While the projects are the building blocks for development, the irrigation reservoir projects at times result in submersion of houses and house sites rendering people homeless besides causing loss of valuable agricultural land affecting the over all social fabric of the affected people. Such adverse social impacts due to irrigation projects are generally unavoidable keeping in view the benefits likely to accrue from them. However it is imperative to minimize such adverse affects and for providing alternative sites for resettlements through provision of house sites, housing, infrastructure related to education, roads, drinking water, electricity, hospital, etc and also extending suitable rehabilitation support and thus enabling the adversely affected people to regain at least their former levels of living standards. The same requires careful planning and implementation of the resettlement and rehabilitation management plan with built in monitoring system both by the project managers as well as the affected people.

1.02 The Ministry of Environment and Forests (MoEF) and Central Water Commission (CWC) of the Government of India are the nodal agencies for scrutiny and sanction for the irrigation projects. In addition, requirement for clearance of the project and obtaining permission from the Ministry of Social Justice and Empowerment and Ministry of Tribal Affairs (MoTA) Government of India are also essential. The MoEF is very keen on minimizing and if possible avoiding both direct and indirect adverse impacts while approving such projects. The National Water Development Agency and the Government of Madhya Pradesh are also equally interested in minimizing the adverse/negative impacts on the ground and on population before implementation of the project. Therefore, there is an urgent need for formulation and implementation of a detailed Resettlement and Rehabilitation Plan for minimizing adverse socio-economic environmental impacts and making provisions for alternatives for reducing /avoiding such adverse effects, if any. The present study was carried out for Ken-Betwa Link Project: Phase - I in tune with the above requirements for environmental clearance by the concerned authorities.

Study Area

1.03 Ken and Betwa rivers have their origins in Madhya Pradesh State. The rivers flow through Madhya Pradesh and Uttar Pradesh. Total length of Ken river is 427 km out of which 84 km falls in Uttar Pradesh(UP)., 51 km along the common boundary of UP and Madhya Pradesh (MP) and the rest in MP. The Ken joins river Yamuna in Uttar Pradesh. The origin of Betwa river is in Bhopal district of Madhya Pradesh. It flows for a total length of 590 km (232 km in Madhya Pradesh and 358 km in Uttar Pradesh) till it confluences with Yamuna river in Uttar Pradesh. Thus both are inter state rivers.

1.04 No major irrigation projects were taken up so far in Ken river basin in Madhya Pradesh up to Gangau weir to harness the water to irrigate the backward and drought prone command areas in the districts of Chattarpur, Panna and Tikamgarh of Madhya Pradesh and Jhansi and Mahoba of Uttar Pradesh. Existing projects on upstream of proposed Daudhan Dam in Ken

basin irrigate about 6757 ha under medium irrigation and 31,122 ha under minor irrigation projects which accounts for about 38% of agricultural lands in the catchment area.

1.05 To mitigate the hardships of the farming community, as well as to uplift the socio-economic status of farmers and other farm dependent households in the area, the Government of Madhya Pradesh formulated proposals for Ken Multipurpose Project (KMPP) on Ken river which is also known as Greater- Gangau dam and accordingly prepared a detailed project report in 1982. The proposal was intended to provide annual irrigation to 3.23 lakh hectares besides hydro-power generation with two power houses having installed capacities of 60 MW (3 x 20 MW) and 12 MW (2 x 6 MW).

1.06 The NWDA, after undertaking pre-feasibility and feasibility reports for inter linking Ken and Betwa rivers, formulated Ken-Betwa Link Project. The main objectives of this inter-linking project are as follows:

- Divert 659 MCM water from Ken basin to Betwa basin;
- Provide irrigation to CCA of 2.41 lakh ha in MP and 2.14 lakh ha in UP
- Provide enroute irrigation facility to 0.60 lakh ha CCA in MP and UP with the help of link canal; and
- Utilize the inter-basin transferred water for irrigating 0.62 lakh ha through upper Betwa projects.

1.07 Thus, the Ken-Betwa Link Project, consisted of three main segments of command areas:

- (i) Ken command area which is the area proposed under the earlier KMPP as originally formulated by the Government of Madhya Pradesh in Ken basin with CCA of 2.41 lakh ha and annual irrigation of 3.23 lakh ha.
- (ii) Command area in enroute link canal area to the extent of 0.60 lakh ha CCA in Chhatarpur, Tikamgarh, Mahoba and Jhansi districts.
- (iii) CCA under the four (currently three) projects proposed earlier by the Government of Madhya Pradesh for 102017 ha with annual irrigated area of 1.27 lakh ha known as Upper-Betwa command in Betwa basin. Current identified CCA in Upper-Betwa area is only 42300 ha with annual irrigation of 62230 ha.

1.08 The Ken-Betwa Link Project, Phase - I envisages the following main components.

- i) An earthen cum (or a composite) concrete dam at Daudhan on Ken river at about 2.5 km upstream of the existing Gangau weir with FRL of 288 m and gross storage capacity of 2853 MCM and a total length of 2031 m consisting of 1.929 km long tunnel followed by 218.695 km length of link canal, power house 1 and power house 2.
- ii) Upper Betwa Projects – about 591 MCM of water let into Betwa basin on upstream of Parichha weir will be utilized by way of substitution to provide annual irrigation of 1.27 lakh ha.

1.09 After preparation of Detailed Project Report (DPR) for Ken-Betwa Link Project in December 2008, the DPR was circulated to the Governments of Madhya Pradesh and Uttar Pradesh in February 2009 for their suggestions and observations. Subsequently, the GoMP

suggested an alternative proposal for utilizing the water in Upper Betwa reach according to which the height of the proposed Makodia dam is proposed to be reduced to avoid large scale submergence in the vicinity of Bhopal city and proposed several medium and minor schemes to utilize equivalent quantity of water in Upper Betwa reaches.

1.10 To discuss various issues raised by both the Governments of Madhya Pradesh and Uttar Pradesh, a Secretary level meeting was convened by MoWR on 03.02.2010 at New Delhi between the officials of both the Governments & MoWR. During the meeting, it was opined that the Survey & Investigation of the alternative project / schemes proposed by Madhya Pradesh in Upper Betwa region will take about 2 years time. Therefore, in order to avoid undue delay in implementation of Ken-Betwa Link Project, Phase-I it was decided to reframe the DPR into two separate parts viz., DPR of Ken-Betwa Link Project (Phase-I) comprising components of Daudhan complex and DPR of Ken-Betwa Link Project (Phase-II) comprising Upper Betwa projects. Accordingly, the first part i.e., DPR of Phase-I is prepared including the cost of remodeling / renovation of Bariyarpur weir and Parichha weir.

1.11 The above cited components of the Ken-Betwa Link Project: Phase - I affect the houses and lands, both patta and Government and Forest lands, due to submergence and construction of irrigation infrastructure and such aspects are required to be assessed as per the "The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013".

1.12 The project displaced persons are required to be resettled nearer to project area and are to be rehabilitated as per the provisions of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013. For preparation of this plan, there is a greater need for a socio-economic survey of the affected households and the identification of households eligible for resettlement and rehabilitation as per the R&R policies mentioned above leading to formulation of detailed Resettlement and Rehabilitation Plan for the project affected families under the project. The present report is, therefore, focused at the preparation of the Project Affected Families Economic Rehabilitation Plan (PAFERP). Further, an attempt had been made to enumerate the benefits of the project in this volume.

CHAPTER - II

SOCIO-ECONOMIC STATUS IN COMMAND AREA

Introduction

2.01 The Ken-Betwa Link project, Phase-I envisages the diversion of waters of Ken river to Betwa basin. The total quantity of water for diversion through the link amounts to 1074 Mcum annually. The proposed link canal provides irrigation to the areas of the upper Betwa basin by way of substitution. This will also provide irrigation to the areas enroute the link canal.

2.02 The project envisages the construction of a new dam across the Ken river about 2.50 km upstream of the existing century old Gangau weir. The proposal envisages providing irrigation to about 5.575 lakh ha CCA including 2.136 lakh ha CCA of UP existing under Bariyarpur PUW. Hydro-power generation with two power houses having installed total capacity of 60 MW (2 x 30 MW) and 18 MW (3 x 6 MW) is also contemplated.

2.03 Raisen and Vidisha districts are the part of upper Betwa basin. The Government of Madhya Pradesh have identified four projects under Master Plan viz., i) Barari barrage; ii) Neemkheda dam; iii) Richhan dam; and iv) Kesari dam to irrigate an area of 1.27 lakh ha annually. Later, however, the proposed Richhan dam has been given up.

2.04 These projects were found not feasible because of the water deficiency in the Betwa river basin particularly in the upper reaches of the river. If the proposed projects are implemented with the help of Ken-Betwa link canal by substitution a large population residing in the area will be economically benefited and also it will solve the drinking water problem in the districts of Chhatarpur and Panna in Madhya Pradesh, Mahoba and Jhansi in Bundelkhand region of Uttar Pradesh. Further, Makodia dam was proposed in place of Neemkheda dam. After, detailed assessment the Government of Madhya Pradesh felt that it may not be feasible to complete Makodia dam due to higher submergence area. The socio-economic status prevailing in the command area plays a pivotal role in the successful and planned implementation of the project. Therefore it is necessary to study the socio-economic status prevailing in the command areas of the proposed project.

Command Area

2.05 The Ken-Betwa Link Project: - I constitute two main divisions of command areas. They are as follows:

- a) Ken command area which is the area proposed under the Ken multi-purpose project as originally formulated by the Government of Madhya Pradesh in Ken basin with annual irrigation of 3.23 lakh ha (CCA of 2.413 lakh ha). In addition, the Ken command in UP as existing under Bariyarpur PUW is assessed to be 2.14 lakh ha with an annual irrigation of 2.52 lakh ha; and
- b) Enroute command area of link canal of 60,294 ha CCA, newly proposed in Ken and Betwa basins.

2.06 The command area of Ken-Betwa Link Project: Phase - I and the tahsils in which the area is spread are presented in Table – 2.1.

Table - 2.1 : KEN-BETWA LINK PROJECT					
COMMAND AREA - TAHSILS - IN KEN-BETWA LINK PROJECT: Phase-I					
Area in ha					
Sl. No	Component	CCA	Annual Irrigation	District	Tehsil
1	Ken Command (M.P)	241,306	323,350	Chhattarpur	Gaurihar, Chhattarpur and Laundi, Nowgaon, Rajnagar
				Panna	Ajaygarh
	Ken Command (U.P)	213,610	252,017	Banda	Banda
2	Enroute Command	60,294	60,294	Chhattarpur	Chhattarpur and Nowgaon
				Tikamgarh	Baldeogarh, Jatara, Tikamgarh, Palera and Niwari
				Jhansi (UP)	Mouranipur and Tahrauli
				Mahoba (UP)	Kulpahar
	Total	515,210	635,661		

2.07 The entire command area of Project therefore is spread over three districts of MP and three districts of UP. The total command area of the project under Phase-I is 515210 ha with an annual irrigation of 635661 ha. Thus, the level of irrigation intensity under the project is 1.23.

Methodology and Design

2.08 In order to study the socio-economic status in the command area, necessary schedules were drawn up for collection of secondary data from the various government agencies and the census data about the demographic details, availability of infrastructure at district / block / village level. The generation of the secondary data is considered necessary before the start of the socio-economic survey both for the project affected and project benefited areas.

2.09 The socio-economic survey covered the following aspects:

- * Demographic profile with social categories, number of households / families, type of housing, and education of people, migration pattern, if any
- * Land ownership and operational holding
- * Existing cropping pattern of the project area and the anticipated changes in the cropping pattern
- * Agricultural practices including traditional knowledge on endemic species
- * Agricultural input pattern and economics of cultivation in the command area.
- * Other allied agricultural resources in the command area.
- * Economic profile with sources of income

* Expenditure profile
Sample Design

2.10 The survey covered both project affected (displaced) and project influenced (benefiting areas) households. Samples were distributed between project affected and influenced households on the basis of number of reservoirs and length of main canal and distributaries. The socio-economic status of project beneficiaries is analysed in this chapter whereas the analysis of project affected households' socio-economic status and other details are taken up in subsequent chapters.

2.11 Based on the above methodology, the sample size selected from the command of Daudhan dam, Bariyarpur PUW and enroute link canal is presented in Table – 2.2. Lower number of sample villages were selected in the command area of Bariyarpur PUW since the area is already a developed command.

Sl.No.	Project	No. of Villages	No. of Beneficiaries
1	Ken-Multipurpose	40	1600
2	Enroute command	12	480
3	Bariyarpur	10	400
Total		62	2480

2.12 The district, tahsil and village-wise number of sample beneficiaries are given in Table -2.3. In all 62 villages spread over six command area districts were selected for sample survey. A sample of 40 farm households, which are likely to get the irrigation benefit due to the project, from each of the selected villages, was selected for the study. Thus, a total of 2480 sample households were selected for the study.

Sl No	Project	District	Tahsil	Village	No. of Beneficiaries
1	Ken Multi-Purpose	Chhatarpur	Loundi	Ghur	40
2	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Ataniyah	40
3	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Barayachkhera	40
4	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Brojpura	40
5	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Chand Pura	40
6	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Daloan	40
7	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Gangch	40
8	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Gopalpura	40
9	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Kadari	40
10	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Maharajgung	40
11	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Puch	40
12	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Ramghad	40
13	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Rampur	40
14	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Shyاملu	40
15	Ken Multi-Purpose	Chhatarpur	Chhatarpur	Tara	40
16	Ken Multi-Purpose	Chhatarpur	Loundi	Dharmapur	40
17	Ken Multi-Purpose	Chhatarpur	Loundi	Dev Nagar	40
18	Ken Multi-Purpose	Chhatarpur	Loundi	Devpura	40
19	Ken Multi-Purpose	Chhatarpur	Loundi	Mardava	40
20	Ken Multi-Purpose	Chhatarpur	Loundi	Pratappura	40
21	Ken Multi-Purpose	Chhatarpur	Loundi	Ranipura	40
22	Ken Multi-Purpose	Chhatarpur	Loundi	Ripri	40

Table - 2.3					
District and Village-wise Sample Size					
Sl No	Project	District	Tahsil	Village	No. of Beneficiaries
23	Ken Multi-Purpose	Chhatarpur	Loundi	Runman	40
24	Ken Multi-Purpose	Chhatarpur	Loundi	Shirha	40
25	Ken Multi-Purpose	Chhatarpur	Loundi	Sichie	40
26	Ken Multi-Purpose	Chhatarpur	Loundi	Sumar	40
27	Ken Multi-Purpose	Chhatarpur	Loundi	Tikara	40
28	Ken Multi-Purpose	Panna	Ajaygarh	Bankarari	40
29	Ken Multi-Purpose	Panna	Ajaygarh	Bankhari	40
30	Ken Multi-Purpose	Panna	Ajaygarh	Bheraha	40
31	Ken Multi-Purpose	Panna	Ajaygarh	Devra	40
32	Ken Multi-Purpose	Panna	Ajaygarh	Dhodpur	40
33	Ken Multi-Purpose	Panna	Ajaygarh	Ghandiganj	40
34	Ken Multi-Purpose	Panna	Ajaygarh	Hannath Pur	40
35	Ken Multi-Purpose	Panna	Ajaygarh	Kedry	40
36	Ken Multi-Purpose	Panna	Ajaygarh	Kishan Garh	40
37	Ken Multi-Purpose	Panna	Ajaygarh	Kuwar	40
38	Ken Multi-Purpose	Panna	Ajaygarh	Raypur	40
39	Ken Multi-Purpose	Panna	Ajaygarh	Rajpura	40
40	Ken Multi-Purpose	Panna	Ajaygarh	Singpur	40
	Ken Multi-Purpose				1600
41	Enroute Command	Chhatarpur	Chhatarpur	Purwa	40
42	Enroute Command	Chhatarpur	Nowgaon	Achat	40
43	Enroute Command	Chhatarpur	Nowgaon	Garroli	40
44	Enroute Command	Chhatarpur	Nowgaon	Taprian	40
45	Enroute Command	Jhansi	Mauranipur	Bira	40
46	Enroute Command	Jhansi	Tehraka	Nawada	40
47	Enroute Command	Mahoba	Kulpahar	Ganj	40
48	Enroute Command	Mahoba	Kulpahar	Rajpura	40
49	Enroute Command	Tikamgarh	Baldeogarh	Chhidari	40
50	Enroute Command	Tikamgarh	Niwari	Kuingo	40
51	Enroute Command	Tikamgarh	Niwari	Tila	40
52	Enroute Command	Tikamgarh	Palera	Kinnan Pur	40
	Enroute Command				480
53	Bariyarpur	Banda	Banda	Bijra	40
54	Bariyarpur	Banda	Banda	Chandpur	40
55	Bariyarpur	Banda	Banda	Jari	40
56	Bariyarpur	Banda	Banda	Kanwara	40
57	Bariyarpur	Banda	Banda	Karbai	40
58	Bariyarpur	Banda	Banda	Mawan	40
59	Bariyarpur	Banda	Banda	Nai	40
60	Bariyarpur	Banda	Banda	Patura	40
61	Bariyarpur	Banda	Banda	Semra	40
62	Bariyarpur	Banda	Banda	Tera	40
	Bariyarpur				400
	Grand				2480

Demographic Profile

2.13 The project and reservoir wise details of the population, caste-wise and religion wise data was collected and studied and the same is discussed in the following paragraphs.

Population, sex ratio and average size of the family

2.14 In all 2480 sample households were studied. The total population of these households is 11488, out of which males account for 6010(52.3%) and females account for 5478(47.7%). Thus 911 females

are there per 1000 males. The highest population of the households (7284) falls under Ken Multipurpose project. Sample households in the Enroute command area have a total population of 2069. The average family size of the selected households is 4.63. Among the selected households, Bariyarpur PUW has the highest family size of 5.34 while the lowest is found in the Enroute command area village which is 4.31. The details of the population and the family size of the selected households from the command area of Ken multipurpose project, enroute canal and Bariyarpur PUW are presented in Table – 2.4.

Project	Sample HH	Total Family Members			Females per 1000 Males	Ave. Size of the Family
		Male	Female	Total		
Ken Multi-Purpose	1600	3,763	3,521	7,284	936	4.55
Enroute Command	480	1118	951	2069	851	4.31
Bariyarpur	400	1129	1006	2135	891	5.34
Total	2480	6010	5478	11488	911	4.63

Caste-wise Details

2.15 The caste-wise distribution of the selected households under Ken-multipurpose, Enroute command and Bariyarpur PUW command was studied in detail. The data presented in Table – 2.5 highlights that out of the total population of 2480 selected households, scheduled caste (SC) accounts for 36 percent, the scheduled tribe (ST) population is a mere 1.81 percent, backward class (BC) has the major share accounting for 60.8 percent and Other Caste (OC) account for just 1.09 percent.

Project	Caste				Total
	1-SC	2-ST	3-BC	4-OC	
Ken Multi-Purpose	635	29	930	6	1600
Enroute Command	131	9	335	5	480
Bariyarpur	134	7	243	16	400
Total	900	45	1508	27	2480
% to Total	36.29	1.81	60.81	1.09	100.00

Religion wise Distribution

2.16 The religion wise population in Ken-multipurpose, Enroute command and Bariyarpur weir in selected households of 2480 was analysed. The analysis from the available census data indicated that Hindus contributed the maximum accounting for 98.31 percent, followed by Muslims (1.33%) and Christians were the least with a share of 0.36 percent. The details of the religion wise classification of in the selected households are given in Table – 2.6.

Project	Religion			Total
	1-Hindu	2-Muslim	3-Christian	
Ken Multi-Purpose	1571	23	6	1600
Enroute Command	473	5	2	480
Bariyarpur	394	5	1	400
Total	2438	33	9	2480
% to Total	98.31	1.33	0.36	100.00

Age Group wise Distribution of Household Population

2.17 The total population of the sample households in the command area of Ken multipurpose project, Enroute command and Bariyarpur is 11488 out of which 6010 are males and 5478 are females. According to the survey data, the maximum population among the males is in the age group of 7-17 years (2180), followed by 18-35 years (1536), next comes 36-60 years age group (1134). The male population age group of over 60 is lowest at 215. The male children (0-6 years) accounted for about 15.7% of total male population of sample households. Among the females the 7-17 years age group accounted for the maximum with 1574 while 18-35 years was at second position (1462) followed by 36-60 years (1152), 0-6 years (964) and above 60 years (326). The age-wise distribution of the population is given in Table – 2.7.

SI No	Project	0-6	7-17	18-35	36-60	Above 60	Total
1	Ken Multi-Purpose						
	Male	600	1,363	1,009	627	164	3,763
	Female	646	1,163	904	646	162	3,521
	Total	1,246	2,526	1,913	1,273	326	7,284
2	Enroute Command						
	Male	177	451	261	204	25	1,118
	Female	160	176	253	246	116	951
	Total	337	627	514	450	141	2,069
3	Bariyarpur						
	Male	168	366	266	303	26	1,129
	Female	158	235	305	260	48	1,006
	Total	326	601	571	563	74	2,135
4	Grand Total						
	Male	945	2180	1536	1134	215	6010
	Female	964	1574	1462	1152	326	5478
	Total	1,909	3,754	2998	2286	541	11488

Literacy

2.18 The literate population among the selected households in the Ken-Betwa project in 11488 is 5868 contributing to 61 percent while the remaining 3711 are illiterates accounting for 32.3 percent of total population. The literacy rate among the males is 62 percent while it is only 39 percent among the females. The maximum (64 per cent) literacy is recorded among the households in Ken Multi Purpose Project while the least is 45 percent in Bariyarpur command area. The details of the literacy in the command area of the Ken-Betwa Link project, Phase-I is presented in Table – 2.8

SI No	Project	Illiterate	Primary	Middle	Tenth	10+2	Degree	Post Graduation	Total Literates	Total	% Literacy
1	1-Ken Multi-Purpose										
	Male	772	1,206	707	258	208	8	4	2,391	3136	64
	Female	1,404	774	517	90	85	5	0	1,471	2875	42
	Total	2176	1980	1224	348	293	13	4	3862	6038	64
2	2-Enroute Command										
	Male	253	353	209	66	58	2	0	688	1,118	62
	Female	428	233	47	62	21	0	0	363	951	38
	Total	681	586	256	128	79	2	0	1051	2069	51
3	3-Bariyarpur										
	Male	303	312	226	64	53	3	0	658	1,129	58
	Female	551	191	103	3	0	0	0	297	1,006	30
	Total	854	503	329	67	53	3	0	955	2135	45
4	Grand Total										
	Male	1328	1871	1142	388	319	13	4	3737	6010	62
	Female	2383	1198	667	155	106	5	0	2131	5478	39
	Total	3711	3069	1809	543	425	18	4	5868	11488	51

Housing

2.19 The type of housing in the selected households of the command area under Ken- multipurpose project, the enroute command area and the command of Bariyarpur PUW was studied. The study highlighted that out of the 2480 households, 1896 households own pucca house, 70 have semi-pucca houses and the remaining 514 have kutcha houses. It is seen that bulk of the households has pucca houses. The details of the type of houses are given in Table – 2.9.

Project	Type of Housing			
	1-Pucca	2-Semipucca	3-Kutcha	Total
Ken Multi-Purpose	1381	35	184	1600
Enroute Command	434	17	29	480
Bariyarpur	81	18	301	400
Total	1896	70	514	2480

Electrification

2.20 The total percentage of the selected households electrified is 64.43 percent. The maximum number of houses electrified are in Ken-multipurpose project (1038) followed by enroute command and command of Bariyarpur PUW with 306 and 254 households respectively. The share of electrified houses is in the range of 63.75 per for enroute command area to 64.88 per cent for KMPP command area households. The details are presented in Table – 2.10.

Project	Electrified			
	Yes	No	Total	% Houses Electrified
Ken Multi-Purpose	1038	562	1600	64.88
Enroute Command	306	174	480	63.75
Bariyarpur	254	146	400	63.50
Total	1598	882	2480	64.43

Migration

2.21 The survey indicated that in the command area of Ken-Betwa migration of family members for education and employment is there. For purpose of education 53 members (0.46%) migrated to the other places. For employment only 19 family members (0.16%) of the selected households migrated to other places. As such, the total migration is 0.62 percent of the selected households. The details of migration are presented in Table – 2.11. This migration appears to be relatively low, since the sample households consisted of only land owners. The extent of migration is much higher in landless labour households. This was mainly because the rainfed agriculture does not provide adequate employment opportunities to such households.

Project	Migration of Family Members					
	Education		Employment		Total	
	Nos	%	Nos	%	Nos	%
Ken Multi-Purpose	42	0.57	12	0.16	54	0.74
Enroute Command	6	0.28	4	0.19	10	0.48
Bariyarpur	5	0.23	3	0.14	8	0.37
Total	53	0.46	19	0.16	72	0.62

Land Ownership and Operational Holding

2.22 The land holdings according to the size, the type of farm holdings and area under different type of holdings are given in Table – 2.12. The data presented in the table indicated that the maximum percentage of holdings fall under marginal farmers (44.96%) category. The small holdings accounted for 35.04 percent and the medium for 17.50 percent and the big holdings contributed 2.50 percent of the total number of holdings.

Project	Farmer Holdings, No. of Farmers				
	1-Marginal	2-Small	3-Medium	4-Big	Total
1-Ken Multi-Purpose	705	608	243	44	1600
2-Enroute Command	241	130	99	10	480
3-Bariyarpur	169	131	92	8	400
Total	1515	1178	667	120	3480
Project	Farmer Holdings, % Farmers				
	1-Marginal	2-Small	3-Medium	4-Big	Total
1-Ken Multi-Purpose	44.1	38.0	15.2	2.8	100.0
2-Enroute Command	50.2	27.1	20.6	2.1	100.0
3-Bariyarpur	42.3	32.8	23.0	2.0	100.0
Total	43.5	33.9	19.2	3.4	100.0
Project	Farm Area, ha				
	1-Marginal	2-Small	3-Medium	4-Big	Total
1-Ken Multi-Purpose	535.17	854.75	651.92	282.48	2,324.32
2-Enroute Command	187.18	176.81	269.12	65.59	698.70
3-Bariyarpur	126.84	180.89	223.08	42.11	572.92
Total	1,154.97	1,667.39	1,794.45	715.82	5,332.63
Project	% Farm Area				
	1-Marginal	2-Small	3-Medium	4-Big	Total
1-Ken Multi-Purpose	23.0	36.8	28.0	12.2	100.0
2-Enroute Command	26.8	25.3	38.5	9.4	100.0
3-Bariyarpur	22.1	31.6	38.9	7.4	100.0
Total	21.7	31.3	33.7	13.4	100.0
Project	Average Farm Size, ha				
	1-Marginal	2-Small	3-Medium	4-Big	Total
1-Ken Multi-Purpose	0.76	1.41	2.68	6.42	1.45
2-Enroute Command	0.78	1.36	2.72	6.56	1.46
3-Bariyarpur	0.75	1.38	2.42	5.26	1.43
Total	0.76	1.42	2.69	5.97	1.53

2.23 The average size of the farm holdings in case of marginal farmers is 0.76 ha, small farmers is 1.42 ha, medium farmers is 2.67 ha and big farmers is 5.97 ha.

2.24 The maximum number of marginal farmer holdings are found in Ken multipurpose project (705) and was followed by enroute command area and Bariyarpur PUW command with 241 and 169 land owners in this category respectively.

Agriculture

Existing Cropping Pattern

2.25 Agriculture is the main occupation of the selected households in the command area (3595.94 ha) of the project. The total area under different crops of the selected households in the command area is 2665 ha in khariff season and 1,173 ha in rabi season. During the khariff season, the most important crop is soybean with an area of 685.69 ha. The other important crops grown during the khariff season are Bengal gram (677.06 ha), paddy (669.53 ha) while black gram, sesamum, Chillies and jowar are the other crops. During the rabi season, wheat is the most important crop with an area of 890.85 ha followed by Bengal Gram, Jowar, Paddy, Sugarcane, Sesamum and Maize.

2.26 The area under different crops in the Project command for the selected households and also the percentages of areas under different crops is given in Annexure – II.1.

Agricultural Production and Productivity

2.27 During the khariff season in the command area the highest production during khariff season is recorded in case of paddy (95.68 tonnes). The next crop important in production is soyabean with 55.89 tonnes. During rabi season wheat stands first in production (158.00 tonnes) followed by Bengal gram 21.84 tonnes while negligible production has been recorded under paddy and sugarcane. The crop-wise and season-wise production is given in Annexure – II.2.

2.28 In so far as productivity is concerned during khariff season paddy recorded the highest ranging from 14.85 q/ha in Daudhan reservoir command area to 13.85 q/ha in Bariyarpur PUW command. The productivity in case of soyabean ranged between 6.24 q/ha and 9.15 q/ha in the command area of Ken-Betwa multipurpose project, enroute command and the Bariyarpur PUW command. The yield of pulse crops in general is low among the oilseed crops sesamum is the only crop grown and the productivity is as low as 4.52 q/ha. During the rabi season, productivity of wheat ranged between 16.67 q/ha and 18.24 q/ha under the command in Ken-Betwa multipurpose project, enroute command and Bariyarpur PUW command. The productivity of Bengal gram ranged between 7.51 q/ha and 8.24 q/ha. Rabi jowar recorded yields from 9.97q/ha to 10.98 q/ha. The crop-wise and season-wise productivity is given in Annexure – II.2.

Adoption of Modern Agricultural production technology in the selected households under the command area

2.29 The adoption of modern agricultural production technology in the selected households under the command area of Ken-Betwa multipurpose project, Enroute command as well as the Bariyarpur PUW was analysed. The survey highlighted that the farmers are adopting the modern techniques and practices upto the desired level. The study revealed that about 88.10 percent of the farmers adopted timely sowing, use of organic manure (FYM) ranged between 19.50 percent in Bariyarpur command and 28.54 percent in Enroute command. Adoption of cultural practices indicated that 72.06 percent of the farmers adopted cultural practices in the area of KMPP. While 26.25 percent farmers in the command of Bariyarpur PUW. The adoption of Integrated Nutrient Management in all the selected areas under study was low ranging between 6.75 and 11.19 percent. Similar observation was recorded in case of adoption of Integrated Pest Management, the range of adoption being 7.25 percent to 10.38 percent. The details of the adoption of Modern agricultural production technology in the command area under study are given in Table – 2.13.

Project	Major Agricultural Practices Followed									
	Organic Manure (FYM)		Cultural Practices		Integrated Nutrient Management		Integrated Pest Management		Timely Sowing	
	Nos	%	Nos	%	Nos	%	Nos	%	Nos	%
Ken Multi-Purpose	365	22.81	1153	72.06	179	11.19	166	10.38	1455	90.94
Enroute Command	137	28.54	235	48.96	41	8.54	43	8.96	407	84.79
Bariyarpur	78	19.50	105	26.25	27	6.75	29	7.25	323	80.75
Total	580	23.39	1493	60.20	247	9.96	238	9.60	2185	88.10

Agricultural Input Pattern and Economics of Cultivation in the Command Area

2.30 The cost of cultivation and the economics of important crops like wheat, jowar, bengal gram, soyabean, paddy, black gram and sugar cane in the command area for the selected households was analysed. The analysis indicated that among the cereals gross income in case of wheat was Rs. 19550 per ha, jowar recorded Rs. 7375/ha and Rs. 20525/ha in case of paddy. Among the pulse crops, bengal gram recorded the highest gross income of Rs. 24750 per ha while black gram recorded Rs. 11165 / ha. Sugarcane crop recorded Rs. 66000/ha. Among oilseed crops, the only important crop in the study area is soyabean which recorded a gross income of Rs. 21750 per ha. The total cost of cultivation for each of the crop discussed above was calculated and the details are presented in Annexure – II.3.

Other Allied Agricultural Resources (Cattle, poultry and fish)

2.31 Data relating to subsidiary agricultural resources like cattle raising, poultry breeding and fisheries in the selected households was also collected in respect of the Ken –multipurpose project, the Enroute command area of the project and Bariyarpur, PUW Command. Out of the total 2480 sample houses, cattle raising was practiced by 1686 indicating that 68.0 percent of the sample households are engaged in cattle raising. Poultry farming is being undertaken by 893 sample households indicating 36.0 percent of the households are engaged in this industry. Only 7.0 percent of the sample households, i.e., 181 are engaged in fishing for their additional source of income. The project / reservoir wise details of number and percent of households engaged in cattle raising, poultry farming and fishing are presented in Table – 2.14

Project	Total Sample	Cattle Raising		Poultry		Fish	
		Nos	%	Nos	%	Nos	%
Ken Multi-Purpose	1600	1,095	68.4	612	38.3	116	7.3
Enroute Command	480	320	66.7	148	30.8	33	6.9
Bariyarpur	400	271	67.8	133	33.3	32	8.0
Total	2480	1686	68.0	893	36.0	181	7.0

Employment Profile

2.32 Out of the total population of 9308 in the selected households, 2909 (31.25%) are cultivators, 933 (10.02%) are agricultural labours, 157 (1.69%) are other casual labour, 116 (1.25 %) are involved in livestock, 72 (0.77%) are industrial labour, 224 (2.41%) are in public and private service, 54 (0.58%) are engaged in business and 662 (7.11%) are unemployed. It is observed from the data that 4181 do not form part of labour force in view of their age i.e., below 18 years and above 65 years and these people accounted for 44.92 per cent of total population of these households. The details of employment in the sample population of the study area are presented in Table – 2.15.

Table – 2.15 : Employment Profile of Sample Population in the Command Area										
Project	No. of Persons									
	Culti- vator	Agri. Labour	Other Causal Labour	Live stock	Industrial Labour	Service (Public and Private)	Business	Un empl- oyed	Not in labour force	Total
Ken Multi- Purpose	1814	675	76	63	58	112	31	357	2689	5875
Enroute Command	556	126	35	21	5	34	5	163	716	1661
Bariyarpur	539	132	46	32	9	78	18	142	776	1772
Total	2909	933	157	116	72	224	54	662	4181	9308
Project	% Population									
	Cultivator	Agri. Labour	Other Causal Labour	Live stock	Industrial Labour	Service (Public and Private)	Business	Un employed	Not in labour force	Total
Ken Multi- Purpose	30.88	11.49	1.29	1.07	0.99	1.91	0.53	6.08	45.77	100.00
Enroute Command	33.47	7.59	2.11	1.26	0.30	2.05	0.30	9.81	43.11	100.00
Bariyarpur	30.42	7.45	2.60	1.81	0.51	4.40	1.02	8.01	43.79	100.00
Total	31.25	10.02	1.69	1.25	0.77	2.41	0.58	7.11	44.92	100.00

Income Profile in the Command Area

2.33 The annual average income of the selected households of the command area of all the total three sub-projects viz., Ken multipurpose, Enroute command area and Bariyarpur, PUW command is Rs. 59350. The maximum annual average income of Rs. 65172 is recorded in Bariyarpur reservoir area. The next highest income of Rs. 58330 is in enroute command while Ken-multipurpose is next with an average annual income of Rs. 55853. The maximum source of income is agriculture accounting for 76.6 percent; sale of milk account for 8.22 percent and agricultural labour 6.45 percent. Income from poultry farming, sale of livestock animals and sale of fish account for 3.58 percent, 2.20 percent and 0.91 percent respectively. Among the other sources income from rent is 0.7 percent, small and petty business is 0.70 percent and cottage industries is 0.65 percent. The details of the income profile in the command area are presented in Table – 2.16

Table - 2.16 : Income Profile in the Command Area				
Income	1-Ken Multi-Purpose	2-Enroute Command	3- Bariyarpur	Total Projects
Ave. Income, Rs	55853	58330	65172	59350
% Income				
Agri. Production	67.93	67.18	76.59	76.6
Agri. Labour	5.1	7.08	5.65	6.45
Sale of Milk	13.78	11.92	8.9	8.22
Poultry	5.75	4.96	4	3.58
Sale of Animals	3.55	3.81	2.48	2.2
Sale of Fish	1.4	2.14	0.59	0.91
Rent	1.02	1.36	0.96	0.7
Small business	1.14	1.3	0.68	0.7
Cottage Industries	0.32	0.25	0.15	0.65
Total	100.00	100.00	100.00	100.00

Expenditure and Savings Profile in the Command Area

2.34 The expenditure and savings profile was also surveyed for the selected households in the command area. The data revealed that the average annual expenditure in the selected household is Rs. 50376. Among the sub-projects the maximum expenditure is recorded in Bariyarpur command (Rs.56871) while Enroute command recorded Rs. 53332. In Ken-multipurpose, expenditure of sample households was Rs. 47017. Maximum expenditure was observed on crop production (29.82 %) followed by expenditure on purchase of food grains (23.69%). The expenditure on other items like food items, house rent, education, health, etc. contributed to the remaining expenditure. The item-wise details of expenditure are given in Table – 2.17.

Expenditure	1-Ken Multi-Purpose	2-Enroute Command	3-Bariyarpur	Total Projects
Ave. Expenditure, Rs	47,017	53,332	56,871	50,376
% Expenditure				
Food grains	27.1	22.93	22.38	23.69
Other food	6.54	7.97	7.53	9.35
House rent	0.14	0.35	0.11	0.19
Education	5.5	6.68	7.28	6.12
Health	5.43	5.58	6.55	7.09
Transportation	5.34	5.21	8.15	6.16
Fuel	5.79	5.77	6.53	5.59
Entertainment	4.8	4.8	6.61	3.93
Interest	0.7	0.46	0.15	0.79
Religious functions	9.09	6.93	3.21	7.26
Agri Production	29.58	33.33	31.51	29.82
Total	100	100	100	100
Ave. Income, Rs	55853	58330	65172	58530
Ave. Savings, Rs	8836	4998	8301	8154

Gender Issues

2.35 The promotion of equality is a fundamental need identified in any developmental programme including river valley projects. Within this the gender has special priority. The focus on women is needed for their effective participation in land – based development interventions and other livelihood initiatives. Under the project two sets of gender needs are identified. They are as follows:

- Practical gender Needs; and
- Strategic Gender Needs.

2.36 The practical gender needs are such as which will reduce the burden of women's everyday work by addressing their immediate needs. These might also be first steps in repositioning and empowering women in the family and the community. These needs include

- Drinking water;
- Fuel and fodder;
- Girl Child Education;
- Women's health;
- Child nutrition; and
- Representation in Water Users Association (WUAs).

2.37 Most of the above practical gender needs are being fulfilled directly. Fulfilling the above practical gender needs lay the foundation for strategic gender needs. The strategic gender needs make a real difference in terms of women's decision making and equal participation in family, community and WUA affairs. The following steps are needed towards achieving these gender needs:

- Women should be represented in WUAs;
- They need to be encouraged to be part of the Managing Committees of WUAs through adequate representation and effective participation;
- Measures for reducing drudgery of work of women;
- Leadership of women; and
- Providing options and opportunities to improve their abilities and skills.

Benefits of Ken-Betwa Link Projects

2.38 The economic benefits of irrigation water supply include direct and indirect benefits on the following five main areas:

- Crop production;
- Animal Husbandry;
- Farm Equipment and Input Supplies;
- Ago-Processing; and
- Employment generation

2.39 The manifestation of benefits in these areas will take place in the following manner:

- Value added direct crop production and livestock benefits;
- Value added indirect crop and livestock production in the non-command area irrigated through ground water;
- Value added benefits through backward linkages; and
- Value added through the development of forward linkages.

2.40 The value-added direct crop production in the command area is mainly on account of increased cropping intensity as well as crop productivity. It had been assessed that the cropping intensity in the command area would increase from 105 per cent to about 140 per cent due to the provision of irrigation water both during kharif and rabi seasons. Further, the increase in productivity of crops would be in the range of 18 to 42 per cent depending upon season and crop. With availability of water at critical stages of crop growth, the farmers are always receptive to improved agricultural production technologies. Thus, the availability of water at critical stages of crop growth and the adoption of improved production technology in tandem are found to result in higher harvest and consequently higher returns to farmers.

2.41 Ken-Betwa Link project, Phase-I with over 5.756 lakh ha of command area will create eco-friendly conditions for increase of cattle population. This increase will take place, since some of the small and marginal farmers and agricultural labour households will start animal husbandry activity mainly for dairy purposes in view of increased availability of fodder in the command area. Further, the households, which are involved in animal husbandry, will increase the number of animals with the increased availability of fodder in the command area.

2.42 Livestock production, especially milk is a major part of the agricultural economy in the Bundelkhand region. More farmers in canal command areas keep higher milking cows and buffaloes. The percentage increase in milking cows and buffaloes after the availability of irrigation in canal command areas will be around 18 to 22 per cent.

2.43 The non-command areas in the closer vicinity of the reservoirs and command areas will have better groundwater recharges. This in turn will improve the extent of irrigation with the help of ground water. An area equivalent to 15 per cent of the command area will have improved ground water irrigation. This will contribute for increased cropping intensity and crop productivity. Further, the increased availability of ground water will facilitate raising of cattle for milking purposes.

2.44 The intensive cultivation in command area will increase the demand for backward linkages like the seed requirement, fertilizers and pesticides. This in turn will improve the economy of the backward linkages. Similarly, the demand for services in forward linkages such as marketing facilities, traders and processing facilities will also increase. The increase particularly in agro-processing will be phenomenal. The field visits to the command areas indicated that there are number of rice mills in the area, which are non-functional due to shortage of paddy production. These mills can get reactivated with the commissioning of these irrigation projects contributing for increased paddy production.

Power Generation

2.45 The project also envisages production of Hydro-electricity to the tune of 219.03 MU and this will give additional revenue of Rs. 6570.90 lakhs @ Rs. 3.00/KWH.

Drinking Water Supply

2.46 The project plan to supply drinking water to enroute villages of link canal. Thus, making available water to the water starved villages. The total water to be supplied for drinking water is estimated at 49 MCM. About 14 lakh people will get drinking water supply from the project. This will give additional revenue of Rs. 127.40 lakh @ Rs. 2.6 lakh per MCM.

Tourism

2.47 As far as development of tourism is concerned, the project has got good potential, particularly, because of close proximity of Daudhan dam to Khajurao. Provision for development of tourist huts, picnic spots has been made on the periphery of Daudhan reservoir. The income from tourism is estimated at Rs. 100 lakhs. The link canal offers good scope for tourism development. At the tail end of the canal, the Orcha temple (Jhansi) could become an ideal place for tourist. Therefore, it is proposed to develop tourist's huts and necessary provision has been made thereto.

Fisheries

2.48 The project also envisages development of reservoir fisheries. Necessary provision has been made for development of fisheries and formation of fisherman co-operations for encouraging fisheries. With this development of pisciculture, additional revenue of Rs. 442.00 lakhs is estimated.

Employment Generation

2.49 The Ken-Betwa Project: Phase-I will generate employment at the time of construction and post construction phase. About 4000 – 5000 persons (including skilled and unskilled workers) will get

employment under the project.

2.50 Secondly, with the increase in irrigated area and adoption of increased production techniques, there is good scope for employment generation for the agriculture labour. About 20% increase in requirement of agricultural labour is estimated. This will in turn stop the out migration of labour from the command area in search of wage employment.

Economic and Financial

2.51 An analysis of the economics of the project presented below in Table – 2.18 indicates a B.C. ratio of 1.56:1 with an internal rate of return of 12%.

S. No.	Component	Rs. In lakh
1	Net return from agriculture produce	
	Pre - Project	7704.46
	Post – Project	144703.39
	Total net returns from agriculture produce	136998.98
2	Revenue from Sale of Power @ Rs. 3/- per KWh for 219.03 MU	6570.90
3	Revenue from water supply @ Rs. 2.6 lakh per MCM for 49 MCM	127.40
4	Revenue from Fisheries	442.00
5	Revenue from tourism	100.00
	Total Revenue	144239.23
6	Annual cost of interest, depreciation charges of O & M for command area, head work, etc.	92741.43
	Benefit cost ratio	1.56:1
	Internal rate of return	12%

CHAPTER - III

SOCIO-ECONOMIC ENVIRONMENT IN PROJECT AFFECTED AREA

Introduction

3.01 The construction of one reservoir viz. Daudhan under the project results in submergence of 9000 ha of land. The area of habitations, rivers and water bodies accounted for 17.45 percent of total submergence area of the reservoirs with 1571 ha. This area under submergence is including the area of habitations, rivers and water bodies which are coming under submergence. In addition, about 4,236.37 ha of land is required for excavation of main canals and distributaries and construction of power houses under the project. The dam and canal wise details of patta lands, government lands and forest lands required for the project are given in Table - 3.1.

Table - 3.1 : Details of Lands of the Required for project						
(Area in ha)						
SI No	Type of Land	Land for Submergence of Daudhan Reservoir	Land required for Canals of			Total
			KB LBC	Link Canal	Power House	
1	Patta Lands	2,171.00	1,563.37	2,492.00	11.00	6,237.37
2	Forest Lands	5,169.00		170.00		5,339.00
	Sub Total	7,340.00	1,563.37	2,662.00	11.00	11,576.37
3	Built-up Land	89.00				89.00
4	Water Bodies	1,571.00				1,571.00
	Total	9,000.00	1,563.37	2,662.00	11.00	13,236.37

3.02 The project envisages construction of a dam across Ken River at about 2.50 km upstream of the century old Gangau weir near Daudhan village in Chhattarpur district of Madhya Pradesh. The proposal envisages providing irrigation to 5.57 lakh ha CCA besides 78 MW hydro-power generation with the help of two power houses. The socio economic features of Daudhan reservoir submergence area villages are discussed in the following paragraphs

3.03 The creation of the reservoir results in the submergence of 10 villages. The list of 10 villages coming under submergence due to Daudhan dam is given in Table - 3.2. It can be observed that all the villages coming under submergence due to this project are located in MP only and are spread over one district viz., Chhattarpur. The number of households in these affected villages was in the range of 39 to 512 for Daudhan dam.

Table - 3.2 : List of Villages coming under submergence due to Daudhan Dam							
SI No	Project	State	District	Tahsil	Village	Project Affected Households	
						No	%
1	Daudhan	M.P	Chhattarpur	Bijawar	Basudha	39	2.04
2	Daudhan	M.P	Chhattarpur	Bijawar	Bhorkhuwa	57	2.98

Table - 3.2 : List of Villages coming under submergence due to Daudhan Dam							
SI No	Project	State	District	Tahsil	Village	Project Affected Households	
						No	%
3	Daudhan	M.P	Chhatarpur	Bijawar	Daudhan	132	6.90
4	Daudhan	M.P	Chhatarpur	Bijawar	Ghughari	33	1.73
5	Daudhan	M.P	Chhatarpur	Bijawar	Kharyani	300	15.68
6	Daudhan	M.P	Chhatarpur	Bijawar	Kupi	512	26.76
7	Daudhan	M.P	Chhatarpur	Bijawar	Mainari	75	3.92
8	Daudhan	M.P	Chhatarpur	Bijawar	Palkoha	452	23.63
9	Daudhan	M.P	Chhatarpur	Bijawar	Sahpura	88	4.60
10	Daudhan	M.P	Chhatarpur	Bijawar	Sukwaha	225	11.76
						1913	100.00

3.04 The above mentioned 10 villages in Daudhan dam constitute the study area of this report for the purpose of organizing relief, resettlement and rehabilitation of the affected families. A socio-economic survey has been conducted by the study team in these villages to facilitate an in-depth understanding of the relief and rehabilitation problem so that suitable measures could be proposed to tackle the same in an effective manner with the involvement of the affected persons.

Project Affected Villages

3.05 The Project Affected Village are those villages where the Government lands, private lands or both have to be acquired for construction of the Ken-Betwa Link Irrigation Project: Phase-I. As a result, a part of cultivable land will be lost and some of the households living in these villages will be affected by loss of land or house or both. There are 10 project affected villages and their total geographical area is 5026 ha. The door to door survey of project affected families was undertaken in six villages, since the balance four villages are being rehabilitated by National Tiger Conservation Authority (NTCA). The door to door survey in six villages is supplemented with the data available with NTCA and Census 2011 data. The door to door survey in these villages was not permitted by NTCA and Wildlife division of MP Forest Department.

Demography

3.06 The total population of these 10 villages as per the survey and data from other sources in Daudhan's submergence area is 8339. The number of males is 4432 while that of females is 3907. The sex rate is 882 females per 1000 males in the study area. The maximum sex ratio is found in Ghaghri village i.e. 1135 females per 1000 males and lowest in Basudha village (788). The households' population of project affected families of Daudhan dam is given in Table - 3.3. The female headed families accounted for just 8.00 per cent of total PAFs with about 153 families in this category.

SI No	Particulars	Male	Female	Total	Female per 1000 Males
1	Heads of the Family	1760	153	1913	
2	Head of the family %	92.00	8.00	100	
3	Total number of Members	4432	3907	8339	882
4	Total number of Members %	53.1	46.9	100	

Literacy

3.07 The literacy rate of the study area is 49.6 per cent. The male literacy rate (57.1%) is 16.2 percent higher than the female literacy rate of 40.9 per cent. Among all the villages, Basudha has the highest rate of literacy at 59.85 per cent in Daudhan submergence area. The lowest literacy rate is in the Daudhan village at 34.04 per cent in Daudhan dam's submergence area. The Daudhan Dam submergence area's literacy rate details are furnished in Table - 3.4.

SI No	Project	Literacy Rate									
		Illiterate	Primary	Middle	Tenth	10+2	Degree	Post Graduation	Total Literates	Population Above 6 Years	% Literacy
1	Male	2,314	1,007	808	213	72	16	2	2,118	3,711	57.07
2	Female	2,614	907	340	30	8	7	1	1,293	3,165	40.85
3	Total	4,928	1,914	1,148	243	80	23	3	3,411	6,876	49.61
	%		56.11	33.66	7.12	2.35	0.67	0.09	100.00		

SC and ST affected Households

3.08 The substantial SC and ST population is present in project affected villages of Daudhan dam. The ST households accounted for 33.9 per cent of total project affected households of Daudhan dam, whereas SC households accounted for 14.2 per cent of total affected households. The BC households accounted for maximum (38.4%) of the total PAFs with 735 families. In respect of population, the SC and ST are 1219 (14.62%) and 3387 (40.62%) respectively against total population of 8339. The caste-wise classification of total affected families of Daudhan dam area is given in Table-3.5.

SI No	Particulars	SC	ST	BC	OC	Total
1	No. of Families	271	648	735	259	1,913
2	% to total	14.2	33.9	38.4	13.5	100.0

Occupational Distribution

3.9 The occupational distribution of the workers indicated that the prominent occupation is agricultural labour which accounted for about 55.49 per cent of total workers and is followed by cultivators (38.68%). All other services account for 2.07 per cent ranks as the next important category followed by trade and commerce (1.00%), livestock (0.73%) and industry (0.06%).

3.10 About 63 per cent of the female workers are engaged in agriculture labour while 52 per cent male workers are dependent on it. The percentage of cultivators among the male workers is 41.68 per cent and is higher than the corresponding percentage of 32.84 per cent among female workers. The occupational break-up of the male and female workers is given in Table - 3.6.

Occupational Pattern	Male		Female		Total	
	Nos	%	Nos	%	Nos	%
Workers						
Cultivators	987	41.68	400	32.84	1387	38.68
Share Croppers	93	3.93	37	3.04	130	3.63
Agri Labourers	1223	51.65	767	62.97	1990	55.49
Livestock Rearing	23	0.97	3	0.25	26	0.73
Sheep or Goat rearing	4	0.17	4	0.33	8	0.22
Non-Agri Labour	4	0.17	2	0.16	6	0.17
Carpenter	2	0.08	0	0.00	2	0.06
Gold Smith	6	0.25	1	0.08	7	0.20
Balck Smith	4	0.17	0	0.00	4	0.11
Contractor	0	0.00	1	0.08	1	0.03
Govt. Job	9	0.38	1	0.08	10	0.28
Private. Job	8	0.34	1	0.08	9	0.25
Self Employed	3	0.13	0	0.00	3	0.08
Industrial Worker	2	0.08	0	0.00	2	0.06
Others	0	0.00	1	0.08	1	0.03
Total Workers	2368	100.00	1218	100.00	3586	100.00
Non Workers						
Students and Dependents (Non-Workers)	2064		2689		4753	

Soils

3.11 The soils of the PAVs are mostly mixed red and black followed by red loams, red gravelly and shallow black soils.

Land Use Pattern

3.12 The total geographical area of the 10 villages affected due to Daudhan reservoir based on RS imageries and GIS analysis is 9000 ha. About 24.12 per cent of the area is sown with agricultural crops. Area under scrub forest is 46.31 per cent and under open scrub, dense and open forests are 1.67 per cent, 6.56 per cent and 2.90 per cent respectively. The built-up land constitutes 0.99 per cent and the area under tanks/rivers/streams is 17.46 per cent. The land use pattern in the submergence area of Daudhan Reservoir is presented in Table - 3.7.

Sl.No	Land Use	Area (ha)	%
1	Built up land	89	0.99
2	Agricultural land (Crop land)	2171	24.12
3	Tanks/Rivers/Streams	1571	17.46
4	Open scrub	150	1.67
5	Dense Forest	590	6.56
6	Open Forest	261	2.90
7	Scrub forest	4168	46.31
	Total	9000	100.00

3.13 As indicated above the total number of villages getting submerged due to Daudhan dam is ten. However, the door to door survey was carried out in six villages only, since the balance four villages are falling in Panna Tiger Reserve and the Forest Department did not allow the survey team to carryout survey in these villages. Further, as per the news item in a leading news paper, the Forest Department is planning to rehabilitate all the families in these four villages. The corresponding DFO indicated to the survey team that the household survey in these four villages was already carried out and a rehabilitation package for these four villages was worked out by the National Tiger Reserve Authority. However for the purpose of estimations of the R&R package these four villages are also considered. The four villages identified by the Forests Department, GOMP are Mainari(75), Kharyani(300), Palkoha(452) and Daudhan (132). The total number of households in these villages had been assessed to be 959.

Livestock

3.14 The livestock population of the project area from the 10 villages are computed and furnished in Table -3.8. The project area is dominated by cows and goats with 4.87 and 6.25 animals per household respectively. To a lesser extent it is he-buffaloes (0.13) and sheep (0.18).

Sl No	Type of Livestock	Daudhan submergence villages (10Nos)	Ave / HH
1	Other Cattle	1952	1.00
2	Cows	9317	4.87
3	He-Buffaloes	249	0.13
4	She-Buffaloes	3387	1.77
5	Sheep	345	0.18
6	Goats	11957	6.25
7	Poultry	1378	0.72

Agricultural Implements

3.15 Agricultural implements of the project area mainly consists of Yolks, electrical pumps and diesel pumps. The total of units along with computed number per households is furnished in Table - 3.9.

SI No	Type of Implement	Nos	Ave. per 100 HH
1	Tractors	29	1.51
2	Power tillers	5	0.25
3	Sprayer	53	2.78
4	Yolk	727	37.98
5	Decorticator	34	1.77
6	Duster	19	1.01
7	Bullock Cart	204	10.66
8	Electric Pump	712	37.22
9	Diesel Pump	524	27.38
10	Others	24	1.26

Income and Expenditure

3.16 The average annual gross household income of the project affected families is assessed to be Rs 54,837. The major source of the income for the project affected families is from the Agriculture based activities which accounts nearly 90per cent of the overall income, followed by selling of Minor Forest Produce (8). Similarly the major part of the expenditure was on Food (36.64%) and some sort of recurring costs on Agriculture and livestock (24.63%). It was interesting to note that about 10 per cent of the expenditure was incurred towards health. The income and expenditure patterns of the project area are furnished in Table - 3.10.

SI No.	Income	%	SI No	Expenditure	%
1	Agriculture	59.78	1	Food	36.64
2	Agri Labour	20.16	2	Fuel	0.83
3	Non-Agriculture	0.88	3	Clothes	7.93
4	Livestock	8.47	4	Housing	2.26
5	Business	0.58	5	Education	3.9
6	Sericulture	0.08	6	Health	9.77
7	Minor Forest Produce	7.99	7	Transport	5.86
8	Govt / Private Service	1.4	8	Social Ceremony	7.03
9	Others	0.66	9	Debt Clearance	1.14
			10	Agri and Livestock	24.63
			11	Others	0.01
	Total	100.00			100.00

Housing

3.17 The major part of the project submergence area falls in Semi pucca houses category. This category of housing accounted for about 65 per cent, and covered by tiles and followed by kutcha (huts) houses made of agricultural waste covered roof which accounts to 33 per cent and very small percentage (1.25%) of houses are pucca houses. The housing details of the project area are given below in Table - 3.11.

Type of Housing	No	%
Kutcha	637	33.30
Semi-Pucca	1252	65.45
Pucca	24	1.25
Total	1913	100.00

Project Affected Community

3.18 As indicated above there are 1913 households in 10 Villages which are going to be affected by the construction of Daudhan reservoir. The affected households get their lands or houses or both submerged when the dam is created. In the normal course all the affected households will be compensated for the loss of their land and house. The socio-economic survey of households in affected villages of Daudhan dam was conducted with a view to understand extent of their livelihood loss.

3.19 In case of those whose houses get submerged, such displaced persons will have to be resettled in a new habitation. They will also have to be helped to take up the some or other alternative occupation in the new surroundings.

3.20 PAF is one who losses substantial of his/her holding and is left with less than MEH, after the loss of his/her land and slips Below the Poverty Line (BPL) after acquisition of his/her land. All the displaced persons whose houses get submerged or likely to get submerged are also considered as PAFs.

Demographic Profile

3.21 Using the above indicated definitions, about 1913 PAFs in the Study Area were identified covering 10 villages. These are eligible for assistance under the Economic Rehabilitation Programme (ERP).

Male and Female Population

3.22 The male and female population of the affected households is 8339 in all 10 villages. The number of males is 4432 while that of females is 3907. Thus the sex ratio worked out to be 882 females per 1000 males.

Total Affected Households

3.23 The total number of affected households due to Daudhan dam is 1913 with a household population of 8339. The largest number of PAF houses is in Kuppi (512) village which falls in submergence area of Daudhan reservoir and smallest number of households is in Basudha village (39). The reservoir wise total affected households and population and the average size of households is given in Table - 3.12. On an average there were five members per household in the affected villages.

Table - 3.12						
Total Affected Households and Population						
No. of households			Household Population			Ave Size
Male	Female	Total	Male	Female	Total	
1760	153	1913	4432	3907	8339	4.36

Head of Household

3.24 The households have been identified according to the sex of the head of the household. There are 92per cent male headed households. The number of female headed households is forming 8per cent. The distribution of PAP households by head of household is given in Table - 3.13

Table – 3.13				
Distribution of PAP Households by head of Household in Daudhan Area				
SI No	Particulars	Male Headed	Female Headed	Total
1	Number of Households	1760	153	1913
2	% of Households	92	8	100

Caste

3.25 The affected households mostly belong to binder religion i.e. backward castes about 38per cent while 13per cent belong to other castes. The Scheduled caste and Tribes account to 13.3 and 35.1per cent of the total population. There are 557 scheduled tribe and 209 scheduled caste houses coming under submergence.

3.26 However, the size of SC households is 4.58 as compared to the size of ST 4.55. Among OBCs it is 4.61 and other castes about 4.42 per family. The details of the caste-wise distribution of households, household size and household population are given in Table - 3.14.

Table 3.14					
Caste –Wise Distribution of Affected Households					
SI No	Caste	No. of HH	No. of HH Population	% to Total	Ave. Size of the Family
1	SC	271	1219	14.62	4.50
2	ST	648	3387	40.62	5.23
3	BC	735	2797	33.54	3.81
4	OC	259	936	11.22	3.61
	Total	1913	8339	100.00	4.36

Age Distribution

3.27 The age-distribution of household population of the 8339 affected population (1913 HHs) is presented below in Table - 3.15. Children upto 6 years of age (1463) formed 17.54 percent of the total population while persons above 60 years of age constituted 4.20 percent. Thus the young and old together accounted for 21.74 percent of total population.

Table – 3.15						
Age Group-wise Distribution of Household Population in Daudhan Area						
Particulars	Age Group					Total
	0-6	7-17	18-35	36-60	Above 60	
Population	1463	2299	2026	2201	350	8,339
%	17.54	27.57	24.30	26.39	4.20	100.00

CHAPTER - IV

RESETTLEMENT AND ECONOMIC REHABILITATION PLAN

INTRODUCTION

4.01 On 26th September 2013 the President of Indian Republic accorded assent to the Act of Parliament entitled "The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013". The main aim of the Act is to ensure that cumulative outcome of compulsory acquisition will be that the affected persons become partners in development leading to an improvement in their post acquisition social and economic status. The Act extends to whole of India except for State of Jammu and Kashmir. The provisions of this Act relating to land acquisition, compensation, rehabilitation and resettlement will apply when appropriate Government acquires land for its own use for infrastructure projects. Projects for water harvesting and conservation structures and sanitation are considered as Government infrastructure projects. The provisions of this Act will also apply to projects for Project Affected Families (PAFs).

4.02 The Act shall come into force on such date as the Central Government may notify in the Official Gazette. Further, the Central Government shall appoint such date within three months from the date on which Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Bill 2013 receives the assent of the President. Accordingly, the Department of Land Resources (DoLR), Ministry of Rural Development (MoRD), Government of India (GoI) issued Gazette notification dated 19th December 2013 stating that the 1st day of January, 2014 is the date on which the said Act shall come into force.

4.03 Ken-Betwa Link Project Phase-I is an infrastructure project under the category of water harvesting and conservation structures and sanitation and the public hearing of the project is yet to be organized. Therefore, the R & R Plan of this project may need to be prepared as per the above cited Act.

SOME OF THE RELEVANT DEFINITION

4.04 The Act clearly defined various terms such as Administrator, Affected Area, Affected Families, Agricultural Land, Appropriate Government, Authority, Collector, Commissioner, Cost of Land Acquisition, etc. Some of the relevant definitions in the context of R & R Plan are elaborated in the following paragraphs:

Administrator: An officer appointed for the purpose of rehabilitation and resettlement of affected families is defined as 'Administrator'.

Affected Area: An area that is notified by the appropriate Government for the purpose of land acquisition is defined as 'Affected Area'.

Affected Family: An affected family is defined in six different categories. Affected family includes;

- i. a family whose land or other immovable property has been acquired;
- ii. a family which does not own any land but a member or members of such family may be agricultural labourers tenants including any form of tenancy or holding of usufruct right, share croppers or artisans or who may be working in the affected area for three years prior to the acquisition of the land, whose primary source of livelihood stand affected by the acquisition of land;
- iii. the scheduled Tribes and other traditional forest dwellers who have lost any of their forest rights recognized under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 due to acquisition of land;
- iv. family whose primary source of livelihood for three years prior to the acquisition of the land is dependent on forests or water bodies and includes gatherers of forest produce, hunters, fisher folk and boatmen and such livelihood is affected due to acquisition of land;
- v. a member of the family who has been assigned land by State Government or Central Government under any of its schemes and such land is under acquisition;
- vi. a family residing on any land in urban areas for preceding three years or more prior to the acquisition of the land or whose primary source of livelihood for three years prior to the acquisition of the land is affected by the acquisition of such land;

Agricultural Land: Agricultural land means land used for the purpose of agriculture or horticulture, dairy farming, poultry farming, pisciculture, sericulture, seed farming, breeding of livestock, nursery growing medicinal herbs, raising of crops, trees, grass or garden produce and land used for grazing of cattle.

Displaced Family: Any family, who on account of acquisition of land has to be relocated and resettled from the affected area to the resettlement area is defined as 'displaced family'.

Family: A family includes a person and his or her spouse, minor children, minor brothers and minor sister's dependent on him. Further, a Widows, divorcees and women deserted by families are considered as separate families. An adult of either gender with or without spouse or children or dependent are considered as separate family for the purpose of this Act.

Holding of Land: The total land held by any person as an owner, occupant or tenant or otherwise is defined as 'Holding of Land'.

IDENTIFIED PAFs

4.05 The PAFs of Daudhan dam are located in ten villages. The total number of Project Affected Families in these 10 villages due to Daudhan dam is assessed to be 1913. The caste-wise distribution of the PAFs in the reservoir affected areas is given in Table - 4.1. Scheduled Tribes accounted for 33.9% of the total PAF households with 648 households and Scheduled

Castes accounted for 14.2% (271 HHs). The others include BCs (735 HH) and OCs (259 HH) and with 38.4 and 13.5 percent respectively.

SI No	Caste	PAFs	
		No	%
1	SC	271	14.2
2	ST	648	33.9
3	BC	735	38.4
4	OC	259	13.5
	Total	1913	100.0

4.06 The PAFs are having two categories, they are the households losing only house/house site and losing both land and house/house sites. None of the households are losing only land in the project affected area of Daudhan dam. The village wise distribution PAFs according to this categorization is presented in table 4.2 below.

SI No	District	Tahsil	Village	Project Affected Households		
				Total Families	Loosing Lands and Houses	Loosing only Houses
1	Chhatarpur	Bijawar	Basudha	39	32	7
2	Chhatarpur	Bijawar	Bhorkhuwa	57	37	20
3	Chhatarpur	Bijawar	Daudhan	132	82	50
4	Chhatarpur	Bijawar	Ghughari	33	17	16
5	Chhatarpur	Bijawar	Kharyani	300	254	46
6	Chhatarpur	Bijawar	Kupi	512	325	187
7	Chhatarpur	Bijawar	Mainari	75	49	26
8	Chhatarpur	Bijawar	Palkoha	452	316	136
9	Chhatarpur	Bijawar	Sahpura	88	62	26
10	Chhatarpur	Bijawar	Sukwaha	225	172	53
				1913	1346	567

4.07 As per the explanation provided in the said Act regarding family, an adult of either gender (male or female) with or without spouse or children or dependents shall be considered as separate family for the purpose of this Act. Accordingly, 754 additional PAFs from ten project affected villages have been identified. It could thus be concluded that there are 2667 PAFs (including 1913 Head of PAFs and 754 major children) in the study area. The action plan is prepared for these households for payment of land compensation for the land acquired. Further an economic rehabilitation plan for the identified PAFs of reservoir system indicating the various entitlements as per the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013 is prepared. Various entitlements of the PAFs are as follows:

- i. Provision for housing units in case of displacement.
- ii. Land for Land for ST and SC PAFs

- iii. Offer for developed land
- iv. Choice of Annuity or Employment
- v. Subsistence grant for displaced families for a period of one year
- vi. Transportation cost for displaced families
- vii. Cattle shed /petty shop costs.
- viii. One time grant for Artisans, Small Traders and Certain Others.
- ix. Fishing rights
- x. One time resettlement allowance
- xi. Stamp duty and registration fee waiver

4.07 All the above entitlements have been worked out on the basis of the guidelines contained in the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013.

The Cost

4.08 The cost of relief, resettlement and rehabilitation of the affected households under the Ken-Betwa Link Project Phase-I has been worked out in the accordance with provisions of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013. Broadly, the issue has two major components namely i) land compensation; ii) resettlement and economic rehabilitation of PAFs.

Land Acquisition

4.09 According to the Socio-Economic Survey, a total of 6,380.67 ha of patta land has to be acquired in respect of Daudhan reservoir for submergence (2171.00 ha), K-B Link Canal(2492.32 ha), Ken LBC (1706.36 ha), and Power Houses at Daudhan (11.00 ha). Refer annexure IV.2 and IV.3 for details. In addition about 37.95 ha of land for township and 4.0 ha of land for green belt development may be required. Thus, the total land acquisition required for the project is estimated to be 6,422.62 ha. The project component wise details are provided in Table-4.3 below. As indicated earlier the NTCA prepared action plan for relocation of PAFs of four villages. Also NTCA identified sites for relocation of these PAFs. The displaced persons will be settled in colonies near the areas identified by NTCA for relocation of PAFs of these four villages. Necessary provision has been made for housing plots, infrastructure like schools and other civic amenities.

Extent , ha						
Sl.No.	Particulars	Daudhan (for Submergence)	K-B Link Canal	Ken LBC	Power Houses	Total
1	(a) Irrigated Land	542.00				542.00
	(b) Un-irrigated Land	1,629.00	1,885.32	1,275.51	7.00	4,796.83
	(c) Un-culturable land		240.00	154.35	4.00	398.35
	(d) Land for approach Roads		115.00	117.63		232.63
	(e) Land for Colonies		22.00	15.88		37.88

Table - 4.3 : Extent of Land Acquisition of Canal Networks, Township and Greenbelt						
						Extent , ha
Sl.No.	Particulars	Daudhan (for Submergence)	K-B Link Canal	Ken LBC	Power Houses	Total
	(f) Land required for Canal Structures		230.00	142.99		372.99
2	Township					
a)	Housing plots @ a minimum of 50 sq m or as per Indira Awas Yogana provisions for 1913 households under Daudhan reservoir (About 75 sq m)	14.35				14.35
b)	Housing plots for major Children of 754 members @ a minimum of 50 sq m or as per Indira Awas Yogana provisions (About 75 sq m)	5.66				5.66
c)	Infrastructure and civic amenities including schools, roads, etc. @ 125 percent of (a)	17.94				17.94
3	Green belt	4.00				4.00
	Total proposed for acquisition	2,212.95	2,492.32	1,706.36	11.00	6,422.62
4	Land to land compensation to ST households (648) @ 2.5 acre or 1 ha per HHS	648.00				648.00
5	Land to land compensation to SC households (271) @ 2.5 acre or 1 ha per HHS	271.00				271.00
		919.00	0.00	0.00	0.00	919.00
	Total	3,131.95	2,492.32	1,706.36	11.00	7,341.62

4.10 As per clause 2 of second schedule of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013 land for land is proposed for two categories of farmers. These two categories of farmers and their entitlements are as follows:

<u>Categorisation</u>	<u>Entitlements</u>
a) In case of irrigation projects as far as possible, and lieu of compensation to be paid for land acquired, each affected family owning agricultural land in the affected area and whose land has been acquired or lost or who has as a consequence of acquisition for loss of land been reduced to the status of marginal farmer or landless.	Farmers shall be allotted, in the name of each person included in the record of rights with regard to the affected family, a minimum of one acre land (0.40 ha) in the command area of the project for which the land is acquired.
b) In every project those persons losing land and belonging to SC or ST	Such farmers will be provided land equivalent to land acquired or two and half acres (1.0 ha) whichever is lower.

4.11 Since most of the PAFs prefer to be rehabilitated in the same location and the nearest command area of the project is more than 40 km away from the proposed resettlement colonies, the provision of land to land may not be feasible. Therefore, only cash compensation is proposed

for the entire land loss is proposed. It is proposed to provide land to land compensation to ST and SC PAFs by purchasing the land in the nearby area to rehabilitation colonies of the project from private land owners on mutual negotiation basis. This is proposed since no suitable government land is available in the nearby areas of rehabilitation colonies. The estimated land requirement for this purpose is about 919 ha. However, this land is already included in the 2171 ha estimated under Daudhan submergence area and a provision for compensation is also made. Such provision may be used for purchase of land from private land owners. As such, the cost of land acquisition is estimated for 6,422.62 ha only.

4.12 The average cost (which is arrived from the village level rates) of involuntary acquisition of irrigated land and cultural land at Rs. 371,500 per ha and for unirrigated Rs. 185,000 per ha in Daudhan reservoir submergence area (refer Annexure IV.2 for Component-wise details) and about Rs. 3.71 lakh per ha for culturable land and 1.85 lakh per ha for un-culturable was considered for land for K-B Link canal and LBC system. The Solatium of 100 per cent for compulsory land acquisition, Standing Crop loss, interest, demarcation, legal and establishment charges are given in Table- 4.4. Also lump sum provisions were made towards rent for use of land prior to acquisition, rehabilitation measures, compensation for temporary acquisition of borrow area, provision for branch canals. The total compensation for land acquisition is estimated to be Rs 1,007.07 crore.

Table – 4.4 : Compensation for Land Acquisition

S No	Particulars	(Rs. In lakhs)				
		Daudhan Reservoir	K-B Link Canal	Ken LBC	Power Houses	Total
	Land acquisition (in Ha)					
	(a) Irrigated Land	542.00				542.00
	(b) Un-irrigated Land	1,629.00	1,885.32	1,275.51	7.00	4,796.83
	(c) Un-Culturable land	41.95	240.00	154.35	4.00	440.30
	(d) Land for approach Roads		115.00	117.63		232.63
	(e) Land for Colonies		22.00	15.88		37.88
	(d) Land required for Canal Structures		230.00	142.99		372.99
	Total Land Acquisition (in Ha)	2,212.95	2,492.32	1,706.36	11.00	6,422.62
1	Cost of land acquisition as per Market Value (Refer Annexure IV.2 for details of lands and corresponding prevailing cost taken for estimation)	5,027.18	8,555.85	5,773.47	20.35	19,376.84
2	Maximum factor by which the market value is to be multiplied by for Rural areas (Refer Gazette First Schedule page 37 for compensation to Land owners)	2.00	2.00	2.00	2.00	2.00
3	Net Cost of land acquisition as per Market Value	10,054.36	17,111.69	11,546.93	40.70	38,753.69
4	Value of Assets attached to the land or building (Refer Table 4.5 for details)	1,764.19				1,764.19
5	Solatium charges @ 100% of cost of land acquisition and assets i.e. on item 3 and 4	11,818.55	17,111.69	11,546.93	40.70	40,517.88
6	Standing Crop Loss @ 25% for Agricultural Land included in item 1 only	1,256.80	2,138.96	1,443.37	5.09	4,844.22
7	Interest charges for time lag in taking possession of land for 2 years @ 9% per annum for 25% on item 3, 4 and 5	1,063.67	1,540.05	1,039.22	3.66	3,646.60
8	Legal charges @ 1% of items item 3, 4 and 5	236.37	342.23	230.94	0.81	810.35
9	Demarcation charges @ 1% of items 3 and 5	218.73	342.23	230.94	0.81	792.71
10	Unforeseen and miscellaneous charges @ 3% of	709.11	1,026.70	692.82	2.44	2,431.07

Table – 4.4 : Compensation for Land Acquisition

(Rs. In lakhs)						
S No	Particulars	Daudhan Reservoir	K-B Link Canal	Ken LBC	Power Houses	Total
	items 3, 4 and 5					
11	Establishment charges @ 6.25% (including relocation of roads, power lines, etc) of items 3 and 5	1,477.32	2,138.96	1,443.37	5.09	5,064.74
12	Rent for Use of land prior to acquisition		5.00			5.00
13	Compensation for Temporary acquisition of Borrow area		989.79	736.61		1,726.40
14	Provision for Branch canals		218.39			218.39
15	Cost of connecting canal (2.2 km) from PH-2 to Ken LBC			132.23		132.23
	Total	28,599.10	42,965.69	29,043.36	99.30	100,707.45
No indicative budget has been proposed as land acquisition is not likely to increase any further. However the Value of Assets attached to the land is provided with indicative budget of 5%.						

Compensation to Properties

4.13 Under the R & R, compensation for loss of properties of PAFs like houses and cattle sheds has been provided. In addition to the loss of 1913 houses and an additional 5 per cent budget has been included in the Indicative Budget. Budgetary provision for 2296 productive trees and 96 farm houses has also been made. The total cost for compensation of properties works out to Rs. 17.64 crore as per details given in Table - 4.5 below.

Sl.No	Particulars	Daudhan Dam Area			
		Socio Economic Survey		Indicative Budget @5%	Total Budget
		Number	Lakh Rs	Lakh Rs	Lakh Rs
1	Loss of Houses				
	a) Pucca @ Rs. 1.50 lakh/house	24	36.00	1.80	37.80
	b) Semi pucca @ Rs. 1.0 lakh	1,252	1,252.00	62.60	1,314.60
	c) Kutcha @ 0.50 lakh	637	318.50	15.93	334.43
	Sub Total	1,913	1,606.50	80.33	1,686.83
2	Compensation to productive trees	2,296	68.88	3.44	72.32
3	Compensation for farm houses	96	4.80	0.24	5.04
	Total		1,680.18	84.01	1,764.19

4.14 The implementation of the Ken-Betwa Link Project results in the involuntary displacement of 2667 families including major children in 10 villages as their land and or houses get submerged under Daudhan reservoir. Accordingly, the resettlement is proposed for all the 10 villages and of which four villages are being taken care by National Tiger Conservation Authority during implementation.

Resettlement and Economic Rehabilitation

Elements of Rehabilitation and Resettlement as per Second Schedule of Act

4.15 The Economic Rehabilitation and Resettlement package as per the second schedule of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013 is worked out for 2667 households (which is inclusive of 1913 PAF head households and 754 major children) identified under the SES is estimated to cost about Rs. 209.66 crore. The details of the economic rehabilitation programme are presented in Table - 4.6.

Table 4.6 : Elements of Rehabilitation and Resettlement as per the Second Schedule of Act

S No	Elements of Rehabilitation and Resettlement Entitlements	Nos	Unit Cost (Rs. Lakh)	Amount (Rs. Lakh)	Remarks
1	Provision of housing unit in case of displacement				
	If a house is lost in rural areas	2667	1.50	4,000.50	Provision of Rs 1.50 lakh per house is made as per latest guidelines of Indira Awas Yojna . Further Provisions were made for both head of HH (1913) and major children(754)
	If a house is lost in urban areas	N. A.	-		No homesteads lost in urban areas
	Or				
	If PAF of rural area opts not to take house offered	-	-		Option for cash will be given as per above
	If PAF of urban area opts not to take house offered	N. A.	-		Not applicable
2	Land for Land (in lieu of compensation)	-	-		
	Each affected family owning agricultural land in the affected area and whose land has been acquired or lost, or who has, as a consequence of acquisition or loss of land, been reduced to the status of a marginal farmer or landless, shall be allotted, a minimum of one acre land in command area of the project for which the land is acquired.	-	-		Provisions of Act of 2013 are adopted and accordingly provisions were made in Land acquisition
	Persons losing land and belonging to the S/C & S/T will be provided land equivalent to land acquired or 2.5 acres, whichever is lower				
3	Offer for Developed Land	N.A	N.A	N.A	Not Applicable
4	Choice of Annuity or Employment				
	*Job (training, skill development, etc.) or	-	-	-	Provision has made for Onetime payment of Rs 5.0 lakh per affected family
	* Onetime payment of Rs. 5 lakhs to each affected family or	2667	5.00	13,335.00	
	*Rs. 2000 per month per affected family for 20 years with appropriate indexation	-	-	-	
5	Subsistence grant for displaced families for a period of one year	2667	0.36	960.12	Provisions were made for both head and major children
	In addition SC & ST displaced from Schedule Areas to receive Rs. 50000	919	0.50	459.50	Provisions were made for 271 SC and 648 ST Household Families

S No	Elements of Rehabilitation and Resettlement Entitlements	Nos	Unit Cost (Rs. Lakh)	Amount (Rs. Lakh)	Remarks
6	Transportation cost for displaced families	1913	0.50	956.50	Provision has made @ Rs 50,000 per affected family.
7	Each affected family having cattle or having a petty shop shall get one time financial assistance of such amount as the appropriate Government may, by notification, specify subject to a minimum of twenty five thousand rupees for construction of cattle shed or petty shop as the case may be				
8	a) Cattle Sheds	995	0.25	248.75	Compensation for Cattle sheds @ Rs. 25,000 per shed.
	b) Petty Shops	86	0.25	21.50	Compensation for Cattle sheds @ Rs. 25,000 per shed.
8	One time grant to artisans, small traders and others	111	0.25	27.75	Provision for Grant @ Rs. 25,000 per member of 25 Artisans and 86 small traders
9	Fishing Rights				Would be given to PAFs
10	One-time Resettlement Allowance	1913	0.50	956.50	Provision has made @ Rs 50,000 per affected family.
11	Stamp duty and Registration Fee				Exempt U/S 96 of Act of 2013
	TOTAL			20,966.12	

Provision of Infrastructural Amenities as per the Third Schedule of the Act

4.16 The act specified the minimum facilities and resources for habitable and planned resettlement colonies. The basic infrastructure amenities to be provided by the requisition authority consisted of 25 different items. The listing along with the financial provisions of these facilities is presented in Table 4.7 below. The cost of these infrastructure amenities is assessed to be Rs 27.64 crore.

Table 4.7: Provision of Infrastructural Amenities as per the Third Schedule

S No	Components of infrastructure amenities provided/proposed to be provided by the acquirer of land	Units	Unit cost, Rs Lakhs	Amount of Provision (Rs Lakhs) or Details of infrastructure amenities provided by the acquirer of land
1	Roads within the resettled villages and an all-weather road link to the nearest pucca road, passages and easement rights for all the resettled families be adequately arranged	2667	0.40	1066.80
2	Proper drainage as well as sanitation plans executed before physical resettlement	2667	0.05	133.35
3	One or more assured sources of safe drinking water for each family as per the norms prescribed by the Government of India	2667	0.20	533.40
4	Provision of drinking water for cattle.			
5	Grazing land as per proportion acceptable in the State.	-	-	Reserved
6	Integrated Complex having Fair price shops, Panchayat Ghars, Post Offices Seed cum fertilizer storage facility, Veterinary services etc at one place.	5	20.00	100.00
7	Panchayat Ghars, as appropriate.			Included in S No 6
8	Village level Post Offices, as appropriate with			Included in S No 6

S No	Components of infrastructure amenities provided/proposed to be provided by the acquirer of land	Units	Unit cost, Rs Lakhs	Amount of Provision (Rs Lakhs) or Details of infrastructure amenities provided by the acquirer of land
	facilities for opening saving accounts.			
9	Appropriate seed-cum-fertilizer storage facility if needed.			Included in S No 6
10	Efforts must be made to provide basic irrigation facilities to the agricultural land allocated to the resettled families if not from the irrigation project, then by developing a cooperative or under some Government scheme or special assistance.	Lumpsum	-	500.00
11	All new villages established for resettlement of the displaced persons shall be provided with suitable transport facility which must include public transport facilities through local bus services with the nearby growth centers/urban localities.	-	-	Yes, facilities shall be Ensured. Efforts will be made with concerned like State Road Transport Corporation
12	Burial or cremation ground, depending on the caste- communities at the site and their practices. (about 5 grounds having 2 acres of land @ Rs 1.85 lakhs per acre)	50	1.85	92.50
13	Facilities for sanitation, including individual toilet points.	2667	0.02	53.34
14	Individual single electric connections (or connection through non-conventional sources of energy like solar energy), for each household and for public lighting.	-	-	Yes, as per State Rural Electrification Policy
15	Anganwadi's providing child and mother supplemental nutritional services., Nos	5	5.00	25.00
16	School as per the provisions of the Right of Children to Free, Compulsory Education Act, 2009 (35 of 2009) Nos	5	10.00	50.00
17	Sub-health centre within two kilometres range., Nos	5	5.00	25.00
18	Primary Health Centre as prescribed by the Government of India, Nos	1	20.00	20.00
19	Playground for children., Nos	5	5.00	25.00
20	One community centre for every hundred families, Nos	26	3.00	78.00
21	Places of worship and chowpal/tree platform for every 50 families, Nos	52	1.00	52.00
22	Separate land must be earmarked for traditional tribal institutions	-	-	Will be ensured
23	The forest dweller families must be provided, where possible with their forest rights on non-timber forest produce and common property resources, if available close to the new place of settlement and, in case any such family can continue their access or entry to such forest or common property in the area close	-	-	Yes, shall be provided

S No	Components of infrastructure amenities provided/proposed to be provided by the acquirer of land	Units	Unit cost, Rs Lakhs	Amount of Provision (Rs Lakhs) or Details of infrastructure amenities provided by the acquirer of land
	to the place of eviction, they must continue to enjoy their earlier rights to the aforesaid sources of livelihood.			
24	Appropriate security arrangements must be provided for the settlement, if needed.	-	-	Yes
25	Veterinary service centre as per norms., Nos	2	5.00	10.00
	Total			2764.39

Total Financial Requirement

4.17 The total financial requirement for the implementation of Resettlement and Economic Rehabilitation Plan including cost of land acquisition would be about Rs. 1,256.25 crore as per details given in Table - 4.8.

SI No	Particulars	Daudhan Reservoir			Canal and Power Houses			Total		
		Socio Economic Survey	Indicative Budget @5%	Total Budget	Socio Economic Survey	Indicative Budget @5%	Total Budget	Socio Economic Survey	Indicative Budget @5%	Total Budget
1	Land Compensation	28,599.10		28,599.10	72,108.35		72,108.35	100,707.45		100,707.45
2	Elements of Rehabilitation and Resettlement as per the Second Schedule	20,966.12	1,048.31	22,014.43				20,966.12	1,048.31	22,014.43
3	Provision of Infrastructural Amenities as per the Third Schedule	2,764.39	138.22	2,902.61				2,764.39	138.22	2,902.61
	Total	52,329.61	1,186.53	53,516.14	72,108.35	0.00	72,108.35	124,437.96	1,186.53	125,624.49

Access to on-going Programmes

4.18 While the above are the resettlement and economic rehabilitation support provided, the PAFs may also be provided with access to benefits from the ongoing development programmes and welfare oriented schemes. Further access to programmes of National Rural Livelihood Mission (NRLM) especially Skill Development and Livelihood enhancement will be ensured.

Linkages with other Development Programmes

4.19 The District Rural Development Agency (DRDA) will provide adequate support in implementation of Economic Rehabilitation Programme. The concerned Sub-Collector will be the nodal agency for implementation of the R & R Action Plan. The KVIC & KVIB besides the other agriculture Development agencies will also be involved for ensuring marketing of the milk and other products. Formation of village committees and village action plans through involvement of local NGOs are some of the crucial aspects in the implementation process of ERP Action plan.

CHAPTER - V

TRAINING

Introduction

5.01 Human resource Development is the Primary aspect for development of skills and upgrading the existing skills among the implementing personnel on one side and beneficiaries/ project affected persons on the other, through training of individuals in specific areas depending on the role/involvement of the person. Training is a very crucial component for successful implementation of the EMP having varied components related to different disciplines. The training is also important for the project affected persons for upgradation of their skills to undertake different avocations of their interest. In view of the inter disciplinary nature of the EMP, this chapter is focused on human resources development through adequate training to the implementing personnel as well as the PAPs under the project. The training for implementation of components is at two levels.

- Department level for the implementing personnel
- Project affected persons and beneficiary farmers in the command areas and also NGOs

Training of Irrigation Personnel

5.02 The training of Irrigation Engineers in Environmental Management Plan including Resettlement and Rehabilitation will have the following course content:

- i) Awareness about Environment;
- ii) Environmental Impact Assessment and Impact Statement ;
- iii) Environmental Management Plan;
- iv) The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013.
- v) Preparation of land acquisition schedules, sending proposals for acquisition;
- vi) Preparation of lay outs, providing roads, drinking, water community building, etc;
- vii) Quality control, procurement procedures, accounting procedures, preparation of claims for reimbursement;
- viii) Submission of periodical progress reports;
- ix) Latest methods of monitoring through CPM and PERT.

5.03 They should also be encouraged to participate in seminars, workshops and awareness camps on Resettlement and Rehabilitation.

Training Forest Officers

5.04 The training component for forest officers comprises of the following

- i) Awareness about environment;
- ii) Awareness about impact assessment and impact statement;
- iii) Environmental Management Plan;
- iv) Anti Poaching Laws;
- v) Soil and water conservation measures in the catchment;
- vi) Compensatory afforestation;
- vii) Foreshore Plantation Development; and
- viii) Measures for development of Flora and Fauna.

Training of Agricultural Officials

5.05 The officers from Agriculture Department involved in implementation of EMP may be imparted training in the following areas:

- i) Awareness about Environment
- ii) Environmental Impact Assessment
- iii) Environmental Management Plan
- iv) Soil and water conservation in the catchment area;
- v) Drainage Treatment;
- vi) On-farm Development;
- vii) Treatment of Water Logged areas;
- viii) Agricultural Extension on farm Management;
- ix) Integrated Nutrient Management & Integrated Pest Management; and
- x) Organic farming.

Training of Fisheries Official

5.06 Fisheries officials drawn for Environmental Management require training in the following areas:

- i) Awareness about Environment
- ii) Awareness about Impact Assessment
- iii) Environmental Management Plan
- iv) Reservoir Fisheries Development
- v) Hatchery Management
- vi) Aesthetic aspects of fisheries development

Training R&R Personnel

5.07 The training of the Rehabilitation and Resettlement Personnel require a specific nature of upgrading skills in the different development sectors. Therefore, the training to R&R personnel at the project level comprise the following areas:

- i) Awareness about Environment
- ii) Environmental Impact Assessment
- iii) Environmental Management Plan
- iv) The Right to Fair Compensation and Transparency in Land Acquisition,

- Rehabilitation and Resettlement Act 2013.
- v) Development of Resettlement colonies
 - vi) Infrastructural needs and development of infrastructure
 - vii) R&R entitlements to various PAP categories
 - viii) Income Generation schemes in various sectors, such as Minor Irrigation, Annual Husbandry, Agriculture and ISB including verification of PAPs
 - ix) Identification of development schemes
 - x) Grounding of schemes for creation of assets and giving assets to the beneficiaries
 - xi) Successful and gainful maintenance of assets
 - xii) Establishing forward and back ward linkages
 - xiii) Disbursement of maintenance allowance and cattle maintenance allowance
 - xiv) Formation of women groups for DWACRA type activities under SHG concept.
 - xv) Identifying the beneficiaries for vocational training for self employment or employment elsewhere
 - xvi) Methods of implementation monitoring

Training the PAFs

5.08 The identified PAFs and the members of the PAF households are the ultimate beneficiaries of the PAPERP. The action plan will not be successful without the deep involvement and active participation of the beneficiaries. This requires proper understanding of the Act, imparting knowledge on new skills and upgrading the existing skills including proper maintenance of assets provided. The strategy of training to PAFs and women beneficiaries comprises of the following:

- i) Awareness of aims and objectives of the Act 2013, R&R Policy of the Government and their entitlements under the action plan.
- ii) Co-operating with NGOs and implementation staff for identifying the PAFs for vocational training for which provision of Rs. 5000 per PAF is made in the budget. It also includes choosing of training centres for different trades, attending such trainings and suggesting placement in the respective trades.
- iii) Imparting training to PAPs in selected centres for proper utilization of productive assessment grants for purchase of assets. They should also be encouraged to avail the loan facilities available through banks.
- iv) Women beneficiaries are to be trained in forming SRLM groups and SHGs, selection of suitable activities for women beneficiary for income generation and inculcate thrift culture.
- v) The training to women beneficiaries should be preceded by deputation of the presidents and leaders of their groups, for a weeks training in organizing SHG groups and ensuring their successful implementation.
- vi) Since tribals also exist in the PAF households, training programmes for the benefits of tribals should be organized covering the following aspects:
 - Bee keeping collection of honey and its processing
 - Collection of gum karaya and its processing
 - Collection of forest produce

- Importance of agro-forestry in maintenance of environment
- vii) Training to PAFs will also include lectures, visual aids and visits to near by places where such activities are already taking place
- viii) Knowledge about the entitlements accruing to PAFs through village action plan, etc., would be disseminated to all beneficiaries during the course of training for ensuring transparency.

Financial Requirements

5.09 The cost involved for training departmental staff involved in EMP implementation may be drawn from the normal budgetary provisions of the respective departments. However, the personnel involved in R&R implementation are trained at the project cost. Therefore, the cost involved for training of the staff and the PAFs in particular only has been assessed. The training of beneficiary farmers may also be drawn from the agricultural extension budgetary provisions of agricultural department.

5.10 The cost of training the R & R staff (about 100 members @ Rs 10,000 per member) and PAFs (2667 members @ Rs 5,000 per member) is estimated at Rs 1.43 crore. The year-wise phasing is shown in Table - 5.1

Sl. No.	Details	Number	Total	1 st Year	2 nd Year	3 rd Year
1	R & R Staff Training	100	10.00	5.00	5.00	-
2	PAFs Training	2667	133.35	66.68	33.34	33.34
Total		2767	143.35	71.68	38.34	33.34

CHAPTER - VI

ORGANISATION AND MANAGEMENT

Introduction

6.01 The Environmental Management Plan (EMP) for Ken-Betwa Link Project has the components related to Catchment Area Treatment, Command Area Development, Development of Flora and Fauna, Compensatory afforestation, Public Health, Resettlement and Economic Rehabilitation, etc. involving various line departments like Irrigation, Agriculture, Forests, Public health, Electricity, Panchayat Raj and Rural Development, rural housing etc. for its implementation. The present chapter is focused on the aspects of Organisation and Management for implementation of the Environmental Management Plan (EMP) envisaged in the report.

Institutional setup and functions

a) At the Government Level

- Principal Secretary Water Resources heads the Department of Irrigation with over all control of the administration supported by the others.
- Principal Chief Secretary Environment, Forests, Science and Technology is responsible for implementation of catchment area treatment, compensatory afforestation, foreshore plantations. Under him the Principal Conservator of Forests is responsible for implementation of Anti-poaching laws, protection of forests, flora, fauna and wild life. He is also responsible for implementation of Social Forestry, afforestation in the reserve forests.
- Principal Secretary Agriculture is responsible for implementation of agriculture development programmes, soil and moisture conservation measures, on farm development in the command area drainage plan, extension, crop monitoring, and implementation of contingency plans.
- Besides the above departments there are other departments like Social welfare, Housing, Medical and health, Fisheries, Rural Development, Panchayat Raj, etc. each headed by a Principal Secretary/Secretary.

b) At Department Level

- There is one Engineer-in-chief of Water Resources, Government of Madhya Pradesh.
- There is one Chief Engineer, Engineer Investigation stationed at Bhopal for project preparation and monitoring of medium and major irrigation projects particularly new reservoir schemes. He is responsible for preparation,

implementation, monitoring of EMP for Ken-Betwa Link projects in particular.

- Besides the above, the agriculture department is headed by Director of Agriculture, who will have over all control and monitor the implementation of EMP. The Commissioner, Tribal Welfare is responsible for implementation and monitoring of Tribal Welfare Schemes at Department level. Other departments like Panchayat Raj, Rural Development, housing, medical and health, electricity, public health engineering, etc. are headed by a State Department head in the cadre of Joint Secretary or Secretary of the State Government.

c) At District Level

- At district level the District Collector / District Magistrate as head of the District Administration will ensure inter-action and coordination between different agencies involved in the project and will generally oversee and monitor the effective implementation of the EMP. He is supported by the District heads of development departments related to Agriculture, Horticulture, Forestry, Power, Rural Development, Housing, DRDA, Industry, etc.
- The District Rural Development Agency (DRDA) headed by Project Director is responsible for implementation of ERP under the EMP.
- The other line Departments namely Agriculture headed by Joint Director of Agriculture, Forestry headed by Chief Conservator of Forests, DRDA headed by Project Director, ITDA headed by Project Officer, etc. supporting the District Administration are responsible for implementation of the components related to their area of operation. The involvement of various line departments in implementation of the components of EMP at project level is as follows:

d) At Project Level

- The Engineer-in-chief / General Manager, Water Resources, stationed at Bhopal is exclusively incharge of Construction activities of the project activities supported by Superintending Engineers and Executive Engineer stationed at site, and other supporting staff.
- The Executive Engineer, Incharge of the project is responsible for construction of the present project and also implementation of Resettlement and Economic Rehabilitation Programme in close association with respective line departments.
- The Joint Collector (LA) at the divisional level are responsible for land acquisition, disbursement of compensation deals, identification and provision of alternative site for involuntary resettlement of the displaced persons. The sub-collectors at the sub-divisional level are overall incharge of land acquisition and effecting land compensation measures.

Executing Agency

6.02 The Executive Engineer, Irrigation Department located at the site is the Principal Executive for implementation of the EMP. He would be responsible for allocation of funds for catchment area treatment, command area development and compensatory afforestation and disbursement of the funds to Agriculture and Forest departments. He will also be responsible for implementation of the involuntary Resettlement and Economic Rehabilitation Programme (REAP) in close association with the respective line departments namely PR & RD, housing, ITDA, SC Corporation, DRDA, etc. He will also be responsible for smoothening the process for early disbursement of compensation for the acquisition of assets like houses, house sites, land, irrigation wells, etc. to the affected households. The land for land compensation to the scheduled tribes needs to be tackled in close association with the revenue department. The Economic Rehabilitation Programme for the identified PAPs needs to be meticulously implemented in time in association with District Rural Development Agency (DRDA).

Revenue Department

6.03 The Revenue Department is responsible for identification of the affected persons as per the land records and disbursement of the compensation amounts for the assets acquired from the affected households after careful assessment. The compensations for land, house, house site, etc. need to be paid as per the land acquisition procedure and existing norms. The early disbursement of the compensation for the assets acquired would facilitate smooth implementation of the project. Any delay in clearance of land acquisition deeds and payment of compensation would result in delay in implementation of the project thereby escalating the project cost. The early payment of the compensation to the affected person would reduce the hardship and mental agony and facilitate him to purchase alternative land at the place of his choice. Earnest efforts of the revenue department in land compensation processes would not only help the smooth functioning of the implementation of the project but also help in minimising the mental agony of the affected person to a great extent. The Revenue Department is also responsible for provision of alternative site for resettlement of the affected households and the identified site nearer to the project should be handed over to the Water Resource Department prior to implementation of the project.

Forest Department

6.04 The reservoir submerges about 5258 ha of forest area in Daudhan reservoir and the Water Resource Department, GoMP need to request the Forest Department, for Forest Clearance certificate by allotting suitable alternative land identified for afforestation in their jurisdiction for protecting the ground level forest cover. The Department can take all necessary measures for costing the compensatory afforestation, preparation of implementation plan and ground level implementation of the compensatory afforestation in the alternative site identified and accepted. The implementation of compensatory afforestation would be the sole responsibility of the Forest Department. The Forest Department is also responsible for implementation of Catchment Area Treatment measures in the reserve forest area wherever such measures are suggested. Necessary funds may be drawn from the EMP budgetary allocations of Water Resources. The District Conservator of Forests of respective Districts are responsible for implementation of compensatory afforestation, in the alternative identified land and for undertaking catchment area treatment measures in the reserve forest area.

Fisheries Department

6.05 Though the project does not have much impact on the migratory fisheries, the project has good potential for development of reservoir fisheries. The fisheries department should provide all technical support for implementation of the reservoir fisheries which may be handed over to the co-operative societies of the local beneficiaries particularly the affected persons. The reservoir fisheries would be possible only after adequate storage attained in the reservoir and water depth in the reservoir. Relevant funds for implementation of the reservoir fisheries may be drawn from the EMP funds through Water Resource Department. The Assistant Director of Fisheries in the districts are responsible for drawing suitable plans, identification of the beneficiaries from the affected households, provision of technical support and implementation of the reservoir fisheries programme.

Agriculture Department

6.06 The Agriculture Department is responsible for implementation of Catchment Area Treatment Plans in the agricultural lands on the upstream of the reservoir. The Department is also responsible for implementation of on-farm development in the command area particularly in construction of field channels and field drains. The Department has to deploy the required field staff for timely implementation of the measures proposed for catchment area treatment and command area development. The Joint Director Agriculture of the related districts are responsible for timely implementation of the measures proposed. The Joint Directors are also responsible for providing necessary extension and training support and extending the benefits of ongoing departmental programmes to both the affected households as well as the farmers in the command area to achieve the desired project benefits.

Integrated Tribal Development Agency (ITDA)

6.07 The ITDA, Tribal Department has to provide clearance certificate to the project after being compensated land for land to the tribals preferably in the command area. The Tribal Department has to extend all needed support in smooth processing of compensation and implementation of the economic rehabilitation support meant for scheduled tribes in the area. The Tribal Department has to provide the access to the ongoing development programmes for the affected tribals under the project. The training programmes, formation of women thrift groups, mobilisation of self-help groups, may be organised in the command area as well as among the project affected tribal households. The concerned Tribal Welfare Officer of the Tribal Department will be responsible for successful implementation of the Resettlement and Rehabilitation Programme. Necessary funds for land may be drawn from the budgetary allocations made for EMP by the concerned and suitable sites may be identified if necessary. The affected tribal farmers may be given necessary suggestive and motivational measures for their socio-economic development.

SC Corporation

6.08 The SC Corporation may extend the access to their normal development programmes meant for scheduled castes who are affected under the project. The Department can provide access to their development programmes to the PAPs who may be identified during the course of implementation of R & R. The Director, SC Department is responsible for extending the ongoing development programme benefits to the affected SCs under the project.

Medical and Health Department

6.09 The Department of Medical and Health has to give special attention for curative and preventive measures concerning water borne diseases, viral diseases, etc. during pre-project and post project periods by deploying required para-medical staff for the purpose. The EMP proposed a mobile van to go round the project area for taking necessary prophylactic measures. In case the Department is already having such a mobile medical unit, the same may be deployed to cover the project area also on priority basis. Necessary water samples may be collected periodically and analysed for studying the water contamination to take necessary preventive measures. The Department can provide treatment to the migrant labour during construction phase. The District Medical Officer (DMO) is responsible for implementation of public health programme in the resettlements, construction site and command area villages.

Housing

6.10 The District level Officer for Rural Housing would undertake the construction of resettlement colony in the identified site nearer to the project. The relevant funds for construction of resettlement colony would be channelised through the Water Resource Department from the approved project budget including the Resettlement and Economic Rehabilitation Plan.

District Rural Development Agency(DRDA)

6.11 The District Rural Development Agency (DRDA) headed by the Project Director who is supported by subject matter specialists in the areas of agriculture, animal husbandry, fisheries, sericulture, minor irrigation, etc. has abundant experience in implementation of poverty alleviation programmes under Integrated Rural Development Programme and Human Resources Development by providing training to the eligible youth under TRYSEM and formation of Women Thrift Groups under DWCRA programmes. The DRDA which has the holistic approach in rural upliftment and economic development of the poverty stricken rural poor would be the ideal agency for implementation of the economic rehabilitation programme (ERP) meant for the identified project affected persons in the project area. The ERP components which are having more entitlements over the IRDP entitlements would be adequate enough to a great extent in uplifting the affected lot enabling them to reach higher levels of economic living standards over and above the existing levels. The DRDA would also provide support through TRYSEM and DWCRA programmes for training and formation of women thrift groups. The budgetary requirements designed as per the R & R policy of the State and approved under EMP programme may be utilised for implementation of the ERP. The required funds may be drawn from the Chief Engineer, I/c of the project, who is the Principal Executive for implementation of the ERP.

Electricity

6.12 The Divisional Engineer, Electricity Department provide electricity connections by laying power line and transformer to the resettlements. It also undertakes provision of street lights along approach road to the resettlement. The Department would also lend its support in provision of electricity connections to the rural industry, agriculture and domestic purposes. The required funds for provision of electricity connection to the resettlement and street lights may be drawn from the budgetary allocations made by the Government for EMP.

Employment

6.13 The District Employment Officer would also be involved for according priority to the oustees under the project for local employment. The DEO may extend his support by registering the eligible skilled and unskilled workers in the resettlements and recommend them for local employment.

Industry

6.14 The District Industries Officer (DIO) provides the training to the skilled and unskilled in rural industry. The DIO is also responsible for motivating the local people for group industrial avocations. The DIO may give priority to the PAPs under this normal developmental programme.

Lead Bank

6.15 The District Lead Bank Officer is required to provide separate allocations for the PAPs under the project in the District Credit Plans for provision of credit to the PAPs. The Banks can play a crucial role in the socio-economic upliftment of the PAPs by providing required financial support to the households and group oriented income generating activities.

NGOs

6.16 The Non-Governmental Organisations (NGOs) have a specific role in the EMP. The NGOs play a catalytic role in transforming the affected persons and bringing them to the pre-project levels of economic living standards. The NGOs motivate the PAPs and organise group activities and also participate at various stages of implementation, monitoring and evaluation of EMP. The NGOs can also participate in catchment area treatment, command area development, improvement of drainage system in the command area, foreshore plantation development, health and hygiene, etc.

Grievance Redressal

6.17 Grievance Redressal Mechanism Committee shall include representatives from the project, Government land acquisition agencies, rural development agencies, local NGOs, so as to take care not only of the issues of land acquisition but also provisions and entitlements of all affected households including non-titled and landless persons which go beyond the provisions of the LA act for their economic rehabilitation and resettlement under the project. As prescribed in the institutional arrangement, the Land Acquisition Officer shall be the first agency to attend to the grievances in respect of land valuation and acquisition. The LA Act itself provides for a mandatory grievance redressal in the form of reference to Courts as and when awardees are dis-satisfied about the compensation paid to them by the Land Acquisition Officer. Similarly, the Project Director, District Rural Development Agency and Resettlement and Rehabilitation Officer will form the first level Redressal Mechanism for redressing the grievances of the displaced persons/project affected persons.

CHAPTER - VII

MONITORING AND EVALUATION

Introduction

7.01 The successful implementation of Resettlement and Rehabilitation of Project Affected Families Economic Rehabilitation Plan requires continuous monitoring of the programme at different levels namely project/district and state levels. Currently in MP no committee either at state or district or project level are functioning for any major irrigation projects. Therefore, there will be a need for constituting state level and district/project level monitoring committees for overseeing the implementation of R&R plan of the project. The proposed monitoring system and its frame work are discussed in the following paragraphs. These committees can oversee the implementation of total EMP including R&R plan.

District/Project Level Environmental Management Committee (DLEMC)

7.02 The District Level Environmental Management Committee would be constituted with the following members for implementation of the EMP for the project.

1.	District Collector of Respective District	Chairman
2.	Sub-Collector of Respective Division	Convenor
3.	Executive Engineer, Investigation Division of respective project	Co-Convenor
4.	District Conservator of Forests	Member
5.	Joint Director Agriculture	Member
6.	Assistant Director Fisheries	Member
7.	Assistant Director Ground Water	Member
8.	Project Director DRDA	Member
9.	District Medical Officer	Member
10.	Project Officer, ITDA	Member
11.	Executive Officers of SC, BC, ST Corporations	Members
12.	Divisional Engineer, MPSEB	Member
13.	General Manager, DIC	Member
14.	District Lead Bank Officer	Member
15.	Non-Governmental Organisation	Member
16.	Representation from NWDA	Member

17.	A representative of women residing in the affected area	Member
18.	A representative each of the Scheduled Castes and Scheduled tribes residing in the affected area	Member
19.	A representative of a voluntary organisation	Member
20.	Members of parliament and Members of Legislative Assembly of the area included in the affected area.	Member

Functions

7.03 The functions of District Level Monitoring Committee of the Environmental Management Plan in the project area are as follows:

- i. Guide the implementation of Environmental Management Plan (EMP) including resettlement and economic rehabilitation programme.
- ii. Monitor and review the land acquisition and payment of compensation
- iii. Assist in preparation of resettlement and rehabilitation plan for the displaced/project affected families
- iv. Identify the resettlement sites suitable for establishing resettlement centre
- v. Advise and recommend on the nature of civic amenities to be provided at the resettlements.
- vi. Dovetail the economic rehabilitation plan of the project in the District Annual Credit Plan for necessary funding.
- vii. Attend to the Grievances of the displaced/project affected persons and recommend measures to redress them.
- viii. Provide alternative suitable area for compensatory afforestation and assist in planning and monitoring compensatory afforestation.
- ix. Recommend measures for strict implementation of anti-pouching laws in the reservoir area and recommend measures for foreshore plantations.
- x. Recommend measures for implementation of on-farm development, treatment of drainage lines and treatment of water logged areas.
- xi. Recommend measures for suitable cropping system in irrigated and non-irrigated dry conditions.
- xii. Redress the grievances of Water Users' Associations, if available.
- xiii. Recommend measures for reservoir fisheries and flora and fauna development.
- xiv. Review the implementation of medical and health services provided at the project site during construction phase and post construction phase.

xv. Carryout post implementation social audit; and

xvi. Undertake grievance redressal of project displaced families.

7.04 In addition, an Ombudsmen shall be appointed by the appropriate Government in the manner as may be prescribed for time based disposal of the grievances arising out of the matters covered by the applicable R&R Policy.

State Level EMP Monitoring Committee

7.05 Within the existing frame work of State Level R & R Committee constitution, additional heads of the line departments and state level heads are also included in the EMP Committee.

1.	Principal Secretary, Water Resources	Chairman
2.	Chief Engineer, Major Irrigation	Convenor
3.	Secretary, Finance	Member
4.	Secretary, W & P	Member
5.	Secretary, Revenue	Member
6.	Secretary, Forests	Member
7.	Secretary, Fisheries	Member
8.	Secretary, Agriculture	Member
9.	Chief Engineer, Investigation	Member
10.	District Collector, Concerned	Member
11.	Superintending Engineer/ Executive Engineer of the project	Member

State Level Advisory Committee

7.06 The state R&R Policy of MP, 2002 provides for constitution of state level advisory committee to oversee the implementation of R&R plan. The rights and status of the Advisory Committees at project level and the state level, constituted under the Madhya Pradesh Project ousted individuals (Rehabilitation) Act 1985, are expanded. The committee at the state level will consist of following members and all cases pertaining to bigger projects should be approved by this committee.

1.	Honourable Chief Minister	Chairman
2.	Leader of Opposition Party	Member
3.	Minister of Rehabilitation	Member
4.	Minister of Revenue	Member
5.	Minister of Law	Member
6.	Minister of Concerned Departments	Member
7.	Presidents of Zilla panchayats of Concerned districts	Member

8.	Member of Parliament / Legislative Assembly nominated by State Government	Member
9.	Economists	Member
10.	Social Scientists	Member
11.	Representatives of the project	Member

7.07 The Department of Rehabilitation shall extend all cooperation/service to this committee for which the department should be strengthened.

7.08 Above committee shall from time to time review the implementation of rehabilitation scheme In order to seek approval of rehabilitation schemes and its review pertaining to small scale projects, the following committee at district / divisional level will be constituted.

1.	Minister in Charge	Chairman
2.	President of Zilla Panchayat	Member
3.	Member of Parliament / Legislative Assembly of the affected region, nominated by the state government	Member
4.	President of Janpad Panchayat Concerned	Member

7.09 In case the small project is spread over two divisions/ districts, then the Divisional Commissioner / District Collector along with concerned district officers shall be the members of above committee. In such cases, the Collector of the district of which maximum area is falling under the project, shall be the Convenor and Minister in-charge of concerned district shall be Chairman of the above committee.

Functions of State Level Monitoring Committee

7.10 The Functions of State Level Monitoring Committee are as follows:

- i. Advise in implementation of Resettlement and Economic Rehabilitation Programme
- ii. Monitor and Review the Implementation of EMP including R & R
- iii. Function as a Grievance Redressal Body
- iv. Consider and approve the recommendations of the project level EMP committee
- v. Take policy decisions on specific environmental and resettlement and rehabilitation issues from time to time.
- vi. Provide overall guidance and leadership for smooth implementation of EMP and resettlement and economic rehabilitation programme for the project affected persons.

CHAPTER - VIII

IMPLEMENTATION SCHEDULE

Introduction

8.01 Timely completion of the project is of utmost importance for channelising the anticipated benefits out of the project. Any delay in implementation of irrigation development projects in particular would abnormally escalate the project cost resulting in delayed benefits and the cost of the project could ultimately overtake the benefits accruing from the project. Therefore, proper implementation planning is very essential for periodic monitoring, taking corrective and timely measures with a view to complete the work within the stipulated time frame. The implementation of Environmental Management Plan comprising the components related to compensatory afforestation, flora and fauna development, soil conservation measures in the catchment area, soil treatment, on-farm development in the command area, resettlement and rehabilitation of the displaced and project affected persons requires to be attended to within the given time-frame.

Time Frame

8.02 The Multi Purpose namely Ken-Betwa Link Project, Phase-I is scheduled to be completed over a period of 4 years including the concurrent implementation of the Environmental Management Plan (EMP). Considering the various components under Environmental Management Plan for implementation, the following is the schedule of implementation of the proposed components related to R & R of PAPs, which is planned to be completed by the end of seventh year.

First Year

1. Start land acquisition proceedings for the submergence area, head works and link canal.
2. Starting of construction of resettlement colonies
3. Land acquisition for the submergence area and Link canal
4. Construction of Rehabilitation colonies (model villages)

Second Year

1. Land acquisition of submergence areas, Link canal, ken-left bank Canal system, distributaries and minors.
2. Construction of the Rehabilitation colonies (model villages) for resettlement of the Project affected persons.
3. Land acquisition process for the area of submergence of the reservoir
4. Land acquisition for link canal, Ken left bank canal system in the command area.
5. Construction of rehabilitation colonies for PAPs of submergence area completion and evacuation of villages likely to be submerged upto +252 m elevation.
6. Surveillance of diseases, medical and health of facilities in the Resettlement colonies.
7. Providing infrastructure in the Resettlement Colony.
8. Maintaining of R&R and problems redressal

Third Year

1. Land acquisition for the area likely to be submerged to be continued and will be completed in all respects.
2. Land acquisition for link canal, Ken left bank canal and other canal system in the command area and will be completed in all respects.
3. Evacuation of the villages likely to be submerged upto +280.00 m level and resettling them in the rehabilitation colonies (model villages)
4. Surveillance of diseases, medical and health facilities to be monitored in the resettlement colonies
5. Providing infrastructure in the Resettlement Colonies.
6. Monitoring of LA and R&R and problems redressal.

Fourth Year

1. Evacuation of balance villages likely to be submerged upto +288.00 (FRL) and resettling them in the rehabilitation colonies (model villages)
2. Surveillance of diseases, medical and health facilities, to be monitored in the resettlement colonies.

CHAPTER - IX

PROJECT COST

Introduction

9.01 The Project Affected Families Economic Rehabilitation Plan (PAFERP) proposed for the contemplated Ken-Betwa Link Project. Phase-I is scheduled to be implemented over a period of three years. The present chapter is focussed on the financial requirements for implementation of the proposed PAPERP as envisaged in this report. The salient features of the PAFERP outlay are discussed below.

Resettlement and Economic Rehabilitation

9.02 A major impact of the construction of the Ken-Betwa Link Project. Phase-I relates to the submergence of about 2171 ha in 10 villages under Daudhan dam. The land acquisition is necessary for resettlement colony, greenbelt and others besides submergence. Thus the total land acquisition for the project works is estimated to be 6,422.62 ha excluding forest and government land. Payment of compensation for land acquisition for the project and acquisition of other Properties is estimated at the rates applicable to corresponding submergence area and a solatium of 100 percent, Standing Crop loss, Interest, Legal, Demarcation and Unforeseen and miscellaneous charges etc., adding upto a total cost of about Rs 1,007.07 crore.

9.03 The Economic Rehabilitation and Resettlement package as per the second schedule of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013 is worked out for 2667 households (which is inclusive of 1913 PAF head households and 754 major children) identified under the SES is estimated at a cost of Rs. 209.66 crore. These cost provisions were meant for Provision of housing unit in case of displacement, Choice of Annuity or Employment, Subsistence grant for displaced families for a period of one year, Transportation cost for displaced families, compensation to cattle sheds and petty shops, One time grant to artisans, small traders and others and One-time Resettlement Allowance.

9.04 In addition, a package for provision of Infrastructural Amenities as per the Third Schedule of the Act is also estimated. The act specified the minimum facilities and resources for habitable and planned resettlement colonies. The basic infrastructure amenities to be provided by the requisition authority consisted of 25 different items like roads, Panchayat Ghars, Village level Post Offices, Anganwadis and Schools, seed-cum-fertilizer storage facility, community centers, health centers. The cost of these infrastructure amenities is assessed to be Rs 27.64 crore

9.05 Thus the total cost of all the programmes referred to above comprising Resettlement and Economic Rehabilitation is estimated at about Rs. 1,244.38 crore. This programme is proposed to be implemented in four schedule of the project.

Training

9.03 It is proposed to impart training to the staff dealing with Economic Rehabilitation Programme since it involves an inter-disciplinary approach and coordination with different agencies. It is also proposed to train the PAFs to make them aware of their entitlements and to enable them to take appropriate decisions in choosing the type of economic activity suitable to their skills and family background. The training is also designed to help the PAFs in the efficient use of the productive asset grants sanctioned to them and in the efficient up-keep and maintenance of the equipment. The cost of training the R & R staff (about 100 members @ Rs 10,000 per member) and PAFs (2667 members @ Rs 5,000 per member) is estimated at Rs 1.43 crore. In addition, the other departments dealing with the implementation of the specialised programmes like catchment area treatment, compensatory Afforestation, fisheries development, and command area development will arrange for providing necessary training to their staff in their respective disciplines out of their departmental budgets. The training of R & R staff and PAFs is scheduled to be completed in the first two years.

Involvement of NGO's

9.04 It is proposed to involve Non –Government organisations in the implementation of programmes, particularly those involving Project Affected Families, with a view to ensuring transparency in the disbursement and utilisation of assistance on a large scale. The NGOs could help a great deal in mollifying the feeling of the affected people, dispelling their mis-givings and articulating them about the benefits of various programmes that are being undertaken to resettle and rehabilitate them.

Total Outlay proposed for PAPERP

9.05 The total outlay proposed for the implementation of PAPERP for the Ken-Betwa Link Project, Phase-I amounted to about Rs. 1,245.81 Crore.

Existing Cropping Pattern in the Command Area

Crops	Kharif Area, ha				% Kharif Area			
	1-Ken Multi-Purpose	2-Enroute Command	3-Bariyarpur	Total	1-Ken Multi-Purpose	2-Enroute Command	3-Bariyarpur	Total
Soyabean	413.11	176.87	95.71	685.69	22.82	33.87	28.77	25.73
Paddy	411.87	147.68	109.98	669.53	22.75	28.28	33.06	25.12
Bengal Gram	492.68	184.38	0	677.06	27.21	35.31	0.00	25.40
Black Gram	482.79	0	126.03	608.82	26.67	0.00	37.88	22.84
Maize	2.89	0.58	0.96	4.43	0.16	0.11	0.29	0.17
Tobacco	0	9.83	0	9.83	0.00	1.88	0.00	0.37
Seasamum	6.6	0	0	6.60	0.36	0.00	0.00	0.25
Jowar	0	2.89	0	2.89	0.00	0.55	0.00	0.11
Chillies	0.41	0	0	0.41	0.02	0.00	0.00	0.02
Total Kharif	1,810.35	522.23	332.68	2665.26	100.00	100.00	100.00	100.00
Sample Command	2,324.32	698.7	572.92	3595.94				
%, Kharif	77.89	74.74	58.07	74.12				
Crops	Rabi Area, ha				% Rabi Area			
	1-Ken Multi-Purpose	2-Enroute Command	3-Bariyarpur	Total	1-Ken Multi-Purpose	2-Enroute Command	3-Bariyarpur	Total
Wheat	536.34	164.62	189.89	890.85	75.56	77.03	75.98	75.92
Bengal Gram	169.54	48	59.45	276.99	23.88	22.46	23.79	23.60
Jowar	3.2	0.36	0	3.56	0.45	0.17	0.00	0.30
Paddy	0	0	0.57	0.57	0.00	0.00	0.23	0.05
Sugarcane	0.37	0	0	0.37	0.05	0.00	0.00	0.03
Seasamum	0	0.73	0	0.73	0.00	0.34	0.00	0.06
Maize	0.37	0	0	0.37	0.05	0.00	0.00	0.03
Total Rabi	709.82	213.71	249.91	1173.44	100.00	100.00	100.00	100.00
Sample Command	2,324.32	698.7	572.92	3,595.94				
%, Rabi	30.54	30.59	43.62	32.63				
Total Cropped Area	2,520.17	735.94	582.59	3,838.70				
% CI	108.4	105.3	101.7	106.8				

Existing Crop Production and Productivities in the Command Area

Crops	Kharif Production, q				Kharif Productivity, q/ha		
	1-Ken Multi-Purpose	2-Enroute Command	3-Bariyarpur	Total	1-Ken Multi-Purpose	2-Enroute Command	3-Bariyarpur
Soyabean	3,780	1,212	597	5,588.75	9.15	6.85	6.24
Paddy	5,853	2,193	1,523	9,568.94	14.21	14.85	13.85
Bengal Gram	3,996	1,626		5,621.87	8.11	8.82	
Black Gram	1,695		421	2,115.53	3.51		3.34
Maize	38	8	6	51.46	12.98	13.25	6.52
Tobacco		534		533.67		54.29	
Seasamum	30			29.83	4.52		
Jowar		25		24.68		8.54	
Chillies	3			2.84	6.92		
Total Kharif	15,393	5,597	2,548	23,538			
Crops	Rabi Production, q				Rabi Productivity, q/ha		
	1-Ken Multi-Purpose	2-Enroute Command	3-Bariyarpur	Total	1-Ken Multi-Purpose	2-Enroute Command	3-Bariyarpur
Wheat	9,783	2,744	3,274	15,800.76	18.24	16.67	17.24
Bengal Gram	1,343	396	446	2,184.75	7.92	8.24	7.51
Jowar	32	4		35.86	9.97	10.98	
Paddy			9	8.52			14.95
Sugarcane	66			66.23	179.00		
Seasamum		3		3.01		4.12	
Maize	5			5.12	13.84		
Total Rabi	11,229	3,147	3,729	18,104			

Annexure II.3

Agriculture Input Pattern and Economics of Cultivation in the Command Area													
Particulars		Wheat			Jowar			Bengal Gram			Soyabean		
		Qty	Rate(Rs.)	Amount(Rs.)	Qty	Rate(Rs.)	Amount(Rs.)	Qty	Rate(Rs.)	Amount(Rs.)	Qty	Rate(Rs.)	Amount(Rs.)
I	Output												
	1 Main Product (q)	17.5	1,100	19,250	8.5	750	6,375	8.3	3,000	24,750	7.5	2,900	21,750
	2 By-Product (q)	3.0	100	300	4.0	250	1,000			0			0
	Gross Income			19,550			7,375			24,750			21,750
	Cost of Cultivation												
a)	Labour(nos.)	25.0	50	1,250	8.0	50	400	15.0	50	750	15.0	50	750
	Bullock(nos.)	12.0	200	2,400	5.0	200	1,000	10.0	200	2,000	10.0	200	2,000
	Machine Hours			0									
b)	Seeds (kg)												
	(i) Main crop (s)	150.0	18	2,700	5.0	30	150	20.0	35	700	12.0	50	600
	(ii) Subsidiary crop (s)			0			0			0			
	(iii) Border crop (s)			0			0			0			
c)	Organic Manure (tones)												
	(i) FYM	3.0	650	1,950	1.0	700	700	2.0	700	1,400	3.0	700	2,100
	(ii) Vermi Compost			0			0			0			
	(iii) Green Manure			0			0			0			
d)	Fertiliser (bags)												
	Urea	3.0	280	840	1.0	280	280	2.0	280	560	1.9	280	540
	DAP	2.0	490	980	0.8	490	368	2.0	490	980	2.0	490	980
	Potash			0			0			0			

Annexure II.3

Agriculture Input Pattern and Economics of Cultivation in the Command Area													
Particulars		Wheat			Jowar			Bengal Gram			Soyabean		
		Qty	Rate(Rs.)	Amount(Rs.)	Qty	Rate(Rs.)	Amount(Rs.)	Qty	Rate(Rs.)	Amount(Rs.)	Qty	Rate(Rs.)	Amount(Rs.)
	17-17-17			0			0			0			
	20-20-20			0			0			0			
	18-18-18			0			0			0			
	12-32-16			0			0			0			
e)	PP Chemicals (kg)			0			0	2.0	280	560	2.0	280	570
f)	Irrigation Charges			1,200			800			900			1,000
g)	Misc. Charges (Electricity)			350			300			450			
h)	Harvesting Expenses	40.0	60	2,400	5.0	60	300	37.0	60	2,220	35.0	60	2,100
i)	Repairs & Maintenance of Agri. Implements			250			200			250			204
	Total Cost			14,320			4,498			10,770			10,844
	Net Income			5,230			2,878			13,980			10,906

Annexure II.3

Agriculture Input Pattern and Economics of Cultivation in the Command Area											
Particulars		Paddy			Black Gram			Sugarcane			
		Qty	Rate(Rs.)	Amount(Rs.)	Qty	Rate(Rs.)	Amount(Rs.)	Qty	Rate(Rs.)	Amount(Rs.)	
I	Output										
	1	Main Product (q)	19.5	950	18,525	3.9	2,900	11,165	55.0	1,200	66,000
	2	By-Product (q)	10.0	200	2,000			0			0
		Gross Income			20,525			11,165			66,000
		Cost of Cultivation									
	a)	Labour (nos.)	40.0	45	1,800	10.0	45	450	50.0	50	2,500
		Bullock (nos.)	8.0	250	2,000	8.0	200	1,600	20.0	300	6,000
		Machine Hours	2.0	550	1,100			0			0
	b)	Seeds (kg)									
	(i)	Main crop (s)	50.0	17	850	20.0	45	900	8.0	1,200	9,600
	(ii)	Subsidiary crop (s)			0			0			0
	(iii)	Border crop (s)			0			0			0
	c)	Organic Manure(tonnes)									
	(i)	FYM	2.0	700	1,400			0	8.0	700	5,600
	(ii)	Vermi Compost			0			0			0
	(iii)	Green Manure			0			0			0
	d)	Fertiliser (bags)									
		Urea	2.5	265	663			0	8.0	265	2,120
		DAP	2.0	510	1,020	1.0	510	510	7.0	510	3,570

Annexure II.3

Agriculture Input Pattern and Economics of Cultivation in the Command Area											
Particulars			Paddy			Black Gram			Sugarcane		
			Qty	Rate(Rs.)	Amount(Rs.)	Qty	Rate(Rs.)	Amount(Rs.)	Qty	Rate(Rs.)	Amount(Rs.)
		Potash			0			0	4.0	260	1,040
		17-17-17			0			0			0
		20-20-20	2.0	385	770			0			0
		18-18-18			0			0	5.0	380	1,900
		12-32-16			0			0			0
e)		PP Chemicals(kg)	1.5	400	600			0	4.5	500	2,250
f)		Irrigation Charges			0			0			3,500
g)		Misc. Charges (Electricity)			0			0			800
h)		Harvesting Expenses	25.0	45	1,125	25.0	45	1,125	60.0	75	4,500
i)		Repairs & Maintenance of Agri. Implements			250			350			2,600
		Total Cost			11,578			4,935			45,980
		Net Income			8,948			6,230			20,020

Demography Populaion of Project Affected Families

SI No	Project	State	District	Tahsil	Village	Families			Total Members			Female per 1000 Males	Ave Size
						Male	Female	Total	Male	Female	Total		
1	DAUDHAN	M.P	CHHATARPUR	BIJAWAR	BHORKHUA	56	1	57	157	153	310	975	5.44
2	DAUDHAN	M.P	CHHATARPUR	BIJAWAR	GHAGHRI	29	4	33	89	101	190	1,135	5.76
3	DAUDHAN	M.P	CHHATARPUR	BIJAWAR	KUPPI	466	46	512	1,141	1,064	2,205	933	4.31
4	DAUDHAN	M.P	CHHATARPUR	BIJAWAR	SHAHPURA	75	13	88	190	165	355	868	4.03
5	DAUDHAN	M.P	CHHATARPUR	BIJAWAR	SUKWAHA	215	10	225	605	545	1,149	901	5.11
6	DAUDHAN	M.P	CHHATARPUR	BIJAWAR	VASUDHA	35	4	39	85	67	152	788	3.90
7	DAUDHAN	M.P	CHHATARPUR	BIJAWAR	MAINARI	72	3	75	202	182	383	901	5.11
8	DAUDHAN	M.P	CHHATARPUR	BIJAWAR	KHARYANI	280	20	300	659	544	1,203	825	4.01
9	DAUDHAN	M.P	CHHATARPUR	BIJAWAR	PALKOHA	411	41	452	983	828	1,811	842	4.01
10	DAUDHAN	M.P	CHHATARPUR	BIJAWAR	DODHAN	121	11	132	322	259	581	804	4.40
					Sub Total	1760	153	1,913	4432	3907	8339	882	4.36

Castewise distribution of Households and its population in the project submergence areas

SI No	Village	Head of the Family					Total Family Members					Ave. Members per Family				
		1-SC	2-ST	3-BC	4-OC	Total	1-SC	2-ST	3-BC	4-OC	Total	1-SC	2-ST	3-BC	4-OC	Total
1	BHORKHUA		29	22	6	57	3	171	112	24	310		5.90	5.09	4.00	5.44
2	GHAGHRI		33			33		185	3	2	190		5.61			5.76
3	KUPPI	101	165	171	75	512	343	746	755	361	2,205	3.40	4.52	4.42	4.81	4.31
4	SHAHPURA		13	61	14	88		169	172	14	355			2.82	1.00	4.03
5	SUKWAHA	38	178	9		225	154	792	51	152	1,149	4.05	4.45	5.67		5.11
6	VASUDHA		20	11	8	39		100	34	18	152		5.00	3.09	2.25	3.90
7	MAINARI			72	3	75	51.25	264	52	16	383			0.72	5.25	5.11
8	KHARYANI	27	110	129	34	300	84	487	517	115	1,203	3.11	4.43	4.01	3.38	4.01
9	PALCOHA	105	26	215	106	452	584	208	862	157	1,811	5.56	8.00	4.01	1.48	4.01
10	DAUDHAN		74	45	13	132		265	195	121	581		3.58	4.33	9.31	4.40
	Sub Total	271	648	735	259	1,913	1,219	3387	2753	980	8,339	4.50	5.23	3.75	3.78	4.36
	%	14.17	33.87	38.42	13.54	100.0	14.62	40.62	33.01	11.75	100.00					

Details of Land acquisition for DAUDHAN Reservoir

Sl. No.	Item	Qty.	Unit	Rate (Rs/ha)	Amount (Rs.lakhs)
1	i) Irrigated land	542	ha	371,500	2013.53
2	ii) Un-Irrigated land	1629	ha	185,000	3013.65
	Sub-total	2171	ha		5027.18

Details of Land acquisition for K-B LINK CANAL

Sl. No.	Item	Qty.	Unit	Rate (Rs/ha)	Amount (Rs.lakhs)
(a)	Land Required for Canal				
	(i) Forest land	170	ha	Considered in Compensatory Afforestation	
	(ii) Culturable land	1885.32	ha	371,500	7003.95
	(iii) Unculturable land	240	ha	185,000	444.00
	(iv) Land for approach Roads	115	ha	185,000	212.75
	(v) Land for Colonies	22	ha	185,000	40.70
(b)	Land Required for Canal Structures				
	(i) 10% of Item (a)(i&ii)	206	ha	371,500	765.29
	(i) 10% of Item (a)(iii)	24	ha	371,500	89.16
	Sub-total	2492.32	ha		8555.85

Details of Land acquisition for Power House -1 & 2

Sl. No.	Item	Qty.	Unit	Rate (Rs/ha)	Amount (Rs.lakhs)
1	Culturable land within holdings	7	ha	185,000	12.95
2	Un-culturable land within holding	4	ha	185,000	7.40
	Sub-total	11	ha		20.35

Details of Land acquisition required for Ken LBC System

A	Land required for canal	Link Canal	Mukna Lift	Kurraha Lift	Lugasi Lift	Satna Lift	Urmil RBC (Contour Canal)	Urmil RBC (Ridge Canal)	Total
	i) Culturable land within holdings	499.00	30.96	189.39	316.87	54.63	42.61	142.05	1275.51
	ii) Un-culturable land within holding	55.00	3.44	21.04	35.21	6.07	17.81	15.78	154.35
	iii) Land for approach road	33.00	1.62	26.00	24.99	4.50	12.55	14.97	117.63
	iv) Land required for colonies & work area	5.00	0.20	2.83	2.80	1.01	2.02	2.02	15.88
B	Land required for strutures								
	i) 10% of item 1 a (i)	49.90	3.10	18.94	31.69	5.46	4.26	14.21	127.55
	ii) 10% of item 1 a (ii)	5.50	0.34	2.10	3.52	0.61	1.78	1.58	15.44
	Sub-total	647.40	39.66	260.30	415.08	72.28	81.03	190.60	1706.36

A	Land required for canal	Rate, Rs lakh per ha	Total ha	Rs Lakhs
	i) Culturable land within holdings	3.715	1275.51	4738.52
	ii) Un-culturable land within holding	1.850	154.35	285.55
	iii) Land for approach road	1.850	117.63	217.62
	iv) Land required for colonies & work area	1.850	15.88	29.38
B	Land required for strutures			
	i) 10% of item 1 a (i)	3.715	127.55	473.85
	ii) 10% of item 1 a (ii)	1.850	15.44	28.55
	Sub-total	14.830	1706.36	5773.47