

Chapter 11

Socio-Economic Studies and Resettlement & Rehabilitation Plan

11.0 General

The Bedti – Varada link project (Link I & Link II) together diverts 524 MCM from Bedti basin to Tungabhadra for use in its LBC in Raichur district of Karnataka. Detailed study is essential for mapping in detail the socio-economic profile of the concerned region for probable solutions either to mitigate or minimize the adverse impacts, if any of the project related development. Such detailed socio-economic study of the project is proposed to be carried out as part of Comprehensive Environmental Impact Assessment study to be taken up at a later stage. For the present, general description of socio-economic aspects in the project area and proposed approach for socio-economic studies of the link project based on similar studies carried out for other link projects as well as from secondary sources are presented in this chapter.

11.1 Socio-economic profile

The development of water resources project is always a boon for the people of its command area. But, at the same time there are likely to be problems associated with land acquisition and displacement of people due to the construction of the project. Displacement of people is however, not involved in the present Bedti – Varada link proposal because no dam / reservoir has been proposed to be constructed. Weirs/barrage only are proposed to be constructed confining submergence under them only to river bank. As such, no resettlement and rehabilitation (R&R) plan needs to be evolved in the present case. On the other hand, the link project will bring economic prosperity to the acute water short and drought-prone command

area under Tungabhadra LBC. The construction of ponds is expected to improve the ground water condition in the vicinity. These storages can also be developed as tourist spots. The storages are likely to enhance the growth of aquatic life like fish which is expected to increase the fisheries production manifold as pond fishery which is considered as productive will replace the existing riverine fisheries. Fresh water prawns and migratory fish may be cultured in the ponds. There will be an increase in the number of local and migratory birds because of the water fronts of the ponds. Besides, the project will generate immense employment opportunities to the local people during construction and operation phases. The socio-economic aspects of the project are broadly discussed in this chapter based on secondary data. While the head works and conveyance system of the project lie in Uttara Kannada district the target command area under TBLBC lies in Raichur district.

11.1.1 Demography

The 2011 census data recorded the total population of the districts in the project command area as presented in **Table 11.1**.

Table-11.1

District-wise population, density and sex ratio in the link project area

State/ District	Total Popula- -tion	Male		Female		Sex ratio per 1000 males	SC popu- -lation	ST popu- -lation
	No.	No.	%	No.	%	No.	%	%
Karnataka								
Uttara Kannada	1437169	726256	50.53	710913	49.47	979	8.10	2.38
Raichur	1928812	964511	50.01	964301	49.99	1000	20.79	19.03

Source: Census of India, 2011, District Census Handbook, Directorate of Census Operations, Karnataka

It can be seen from the above information, that the male population is slightly above 50% while the female population is nearly 50% in the project area. The female to male sex ratio is seen to vary from 979 to 1000. The SC population is less in Uttara Kannada district while it is considerable in Raichur district. Similar is the case in respect of ST population as well.

11.1.2 Livestock

The 19th Livestock Census-2012 recorded total livestock population in Uttara Kannada and Raichur districts as 498164 and 1470919 respectively. Similarly, the total number of Poultry in these districts is 537037 and 372688 respectively. The Livestock population in the vicinity of the project area is dominated by sheep, cattle, goats and buffalo. The details of Livestock in both the districts are given in **Table 11.2**.

Table 11.2
District-wise Livestock Population in the Link Project Area

Sl. No.	Type of Livestock	Uttara Kannada District	Raichur District
1	Cattle	336955	359124
2	Buffalo	87816	136854
3	Sheep	4783	647549
4	Goats	8961	281710
5	Pigs	1491	14072
6	Rabbits	508	45
7	Dogs	57544	31458
8	Others	106	107
	Total	498164	1470919

Source: 19th Livestock census-2012 Govt. of Karnataka, Commissionerate of Animal Husbandry & Veterinary Services

11.1.3 Agriculture

Agriculture is the main occupation of the people in the command area proposed to be stabilised in Raichur district under Tungabhadra left bank canal. The command area in the region is rich with black soil strips. The principal crops sown in the area are paddy, pulses, maize, jowar, sunflower, groundnut and cotton.

11.1.4 Literacy

Education receives due impetus in the region. State Government has launched many programmes to promote literacy, especially, among the rural masses. The district wise percentage of literacy is presented in **Table 11.3**.

Table 11.3
District wise Percentage Literacy (2011)

Sl. No.	District	Male literacy (%)	Female literacy (%)	Total literacy (%)
1.	Uttara Kannada	89.63	78.39	84.06
2.	Raichur	70.47	48.73	59.56

Source: District Statistical Handbooks, 2018-19, Karnataka.

As could be seen from the above table, the total literacy rate is 84.06% in Uttara Kannada district and 59.56% in Raichur district. The male literacy rate is 89.63% in Uttara Kannada district while it is 70.47% in Raichur district, whereas the respective female literacy rates are 78.39% and 48.73%. The literacy rate in males is comparatively higher than that in female population.

11.1.5 Public health facilities

Hospital facilities such as Primary Health Centres (PHC), dispensaries, sub-centres and hospitals of various methods of medicine

viz., Allopathic, Homeopathic, Ayurvedic & Unani are available at different locations in Uttara Kannada and Raichur districts in and the vicinity of the project area. The details are furnished in the Chapter -10 – ‘Environmental Impact Assessment and Environment Management Plan’.

11.1.6 Educational facilities

All the villages in the vicinity of the project area in Uttara Kannada and Raichur districts have good educational facilities starting from the primary schools to the level of Engineering and Medical colleges.

The district-wise educational facilities available in the project area are given in **Table-11.4**.

Table-11.4

Educational Facilities in the Vicinity of the Link Project

Sl.No.	Details	Uttara Kannada District	Raichur District
1	Primary Schools	1113	899
2	Higher Primary Schools	1150	1254
3	High Schools	370	481
4	Pre-University Colleges	99	174
5	General Degree Colleges	15	14
6	Polytechnics	4	3
7	Engineering Colleges	1	1
8	Medical Colleges	1	1
	Total	2753	2827

Source: *Karnataka State at a glance – Statistical report – 2019-20*

It is seen that the districts have adequate education facilities at all levels. Both the districts have a medical college and an engineering college each besides no. of Polytechnics.

11.1.7 Land use pattern

The land use pattern in and the vicinity of command area for the year 2018-19 was discussed in **Chapter-8: Irrigation Planning and Command Area**. The district wise land use for the same year in the project area is presented in **Table-11.5** to provide a glimpse of the general pattern of land use.

Table-11.5

Land Use in the Project Area

Unit: ha

Sl.No.	Particulars	Uttara Kannada District	Raichur District
1	Reporting area for LUS	1024679	835843
2	Forest	813595	18167
3	Land under non-agricultural uses	34713	20768
4	Barren & uncultivable land	16196	20084
5	Cultivable waste	6450	10712
6	Permanent Pasture	6730	19816
7	Trees & Grooves	2191	13684
8	Current Fallow Land	5946	79900
9	Other Fallow Land	11313	49733
10	Net area sown	127545	602979
11	Area sown more than once	17197	142215
12	Gross area sown	144742	745194

Source: As per Annual Season and Crop Report: 2018-19 taken from Karnataka state at a glance – Statistical report – 2019-20.

It can be observed that Uttara Kannada district, where the project components are located has a forest cover of nearly 80%. On the other hand, Raichur district has a cultivable area of 757008 ha which constitutes to more than 90% of reporting area where the target command area under the link project is proposed.

11.1.8 Source of water for drinking, domestic and other purpose in the project Area

The villagers in the project area fetch drinking water from different sources including bore wells/tube wells, dugwells, handpumps, tanks etc. These sources of water are being used for other purposes also like washing, bathing of cattle and sanitation etc. The drinking water facilities in the project area are presented in **Table 11.6**.

Table 11.6
Drinking Water Facilities in the Project Area
Unit: %

Sl.No.	Facilities	Uttara Kannada District	Raichur District
1	Tap	27.58	61.10
2	Well	60.36	5.27
3	Handpump	2.95	9.53
4	Tubewell	4.26	11.80
5	Tank, Pond, Lake	1.66	4.24
6	Rivers, Canals	1.31	2.30
7	Spring	1.89	1.37
8	Others	0.96	0.84

- Data pertains to the year 2011

Source: Karnataka state at a glance – Statistical report – 2019-20

It can be seen that while Uttara Kannada district mostly depends on wells for its drinking water needs, Raichur district is well endowed with tap facilities.

11.1.9 Power supply

Power supply for domestic uses is available in all villages in and the vicinity of the project area. All villages including hamlets are fully electrified with proper street lighting arrangements.

11.1.10 Transport facility

Transport facility including plying of Govt. and private vehicles is available in all villages. All villages are well connected by a network of bitumen top roads. International Airport of Bengaluru city is the nearest Airport located at a distance of about 300 km from the project area. Nearest domestic Airports are at Hubli , Raichur and Bellary. Haveri and Hubli are the nearest railway stations connecting Bengaluru/ Mumbai to the link project where weirs are located. Bellary, Raichur and Guntakal railway stations are located near to the command area. The National Highway NH 48 connecting Bengaluru to Mumbai, NH 66 connecting Mangaluru to Mumbai and NH 52 connecting Ankola to Hubli are nearby the weir and barrage locations. The NH-50 Chitradurga to Solapur is passing near to the Command area of the project. The State Highway SH 93 connecting Sirsi to Yellapur is also passing through the link project area.

11.1.11 Banking and credit society facilities

There are numerous financial institutions in and around the project area. These helped to develop many establishments like rice mills, cotton mills and other sectors like handicraft, tile, coir etc. Nationalized banks, regional rural banks, Grameen banks and credit societies are major financial

Institutions providing assistance to the farmers for meeting their agricultural expenses, purchase of livestock, acquisition of new lands/farmhouses, improvement of land & drainage and other necessities.

The details of banking and credit societies in Uttara Kannada and Raichur districts where weirs, conveyance system and command area are located are given in **Table 11.7**.

Table 11.7

Details on banking and credit societies in the project area

Sl. No.	Type of bank	Uttara Kannada District	Raichur District
1	Public Sector Banks	180	119
2	Regional Rural Banks	46	67
3	Private Sector Banks	41	41
4	DCC Banks	54	14
5	KSCARD/PLD Banks	25	5
6	Credit Co-operative Societies	298	201
7	Non-Credit Co-operative Societies	596	1072

Source: Directorate of Economics and Statistics, Govt. of Karnataka

11.1.12 Agricultural implements

The use of wooden/iron ploughs with bullock/tractor power for ploughing land is common in the command area. The use of traditional implements is also very common among majority of the farmers.

11.1.13 Marketing facilities

The agricultural activities are the predominant occupation in the command area. These places are developed with enough marketing

facilities to sell their agricultural food and non-food produce. Besides, good number of outlets for the supply of the agricultural inputs like seeds, fertilizers and pesticides to the farmers to meet their requirements exist in the command area.

Adequate marketing facilities are available at Raichur with good transportation facilities. Many co-operative societies are available in the command area to take care of marketing of various agricultural as well as household goods.

11.1.14 Income sources

The major source of income in the project area is from the agriculture based activities such as rice, cotton, groundnut, maize etc., including horticulture and sericulture. The area in the vicinity of the link project is mainly rural with 36.83% of the land holdings being marginal. Nearly 20% of population consist of agriculture labourers. Therefore, the average income is very less. To some extent, processing industries are the other income source to the population in the vicinity of the proposed project.

11.2 Socio-economic survey - Sample design and methodology

A socio-economic survey shall be conducted as part of the proposed Comprehensive Environmental Impact Assessment (CEIA) studies of the project to be taken up by Govt. of Karnataka to facilitate in-depth understanding of the present socio-economic status of people, perception of the people regarding implementation of the project. The socio-economic survey shall be carried out in all the affected villages where land acquisition for the link components is required in Sirsi and Yellapur talukas of Uttara Kannada district as well as the benefited villages in Raichur district. For assessment of present socio-economic status and community profile of the

project area, the information from both primary and secondary sources shall be collected and used. The data from primary sources shall be collected through questionnaire. The village wise information shall be collected by the investigators from villagers and other sources in each village through a village survey schedule covering different socio-economic parameters including demographic profile, land ownership, operational holdings, cropping pattern, agricultural practices, agriculture input pattern, animal husbandry, poultry, employment, income and expenditure, social infrastructure facilities, public health issues, gender, tourism, migration, education etc.

Like wise, the information at household level shall be collected through household interview schedule designed with specific questionnaires to facilitate interviewing the villagers in project affected as well project influenced villages, consisting the variables like family composition, education, housing facilities, drinking water, land holdings, irrigation facilities, sanitation, employment, income, occupation, migration, compensation, participation of the people in implementation of the project, willingness to pay by the users for assured water supply etc. Household level information shall be used to know the personal profile of the respondents and problems being faced/to be faced by them.

11.2.1 Questionnaire

To collect the data on the present socio-economic status of the project affected people, two types of questionnaires shall be developed: one for socio-economic survey of the households and other for village level data and information.

11.3 Impact of Bedti – Varada link project

The Bedti - Varada link project envisages irrigation augmentation in the drought prone Raichur district of Karnataka state under Tungabhadra LBC, to the extent of 104900 ha. This would provide relief to the farmers in the tail end reach of TBLBC as the project is not able to provide the irrigation to its entire command and the link will supplement their water needs with assured supply.

11.3.1 Short term impact of the link project

Construction of the proposed project would invariably create a number of direct employment opportunities. It also provides immense scope for various indirect employment opportunities which in turn would provide great impetus to the economy of the local area. Various types of businesses, such as shops, food-stalls, tea stalls, restaurants, workshops, etc. would invariably come up, which would be run by the more entrepreneurial local residents. Besides, a variety of suppliers, traders, transporters, service providers, etc., are also likely to congregate the project area and likely to benefit immensely, as demand for almost all types of goods and services will increase significantly. The business community as a whole would be benefited. The locals would also avail these opportunities arising from the project and increase their income levels. Job opportunities will significantly improve in this area. At present, most of the population sustains on agriculture and allied activities. The project will open a large number of jobs to the local population during project construction phase.

11.3.2 Long term impact of link project

The setting up of the project will lead to development of additional infrastructure in the area including roads, electrification, water

supply, tourism, fisheries etc which will contribute significantly to the development of the area. Also, a no. of agro-based and other industries are likely to be set up in the region. The labour force involved during construction phases will be replaced by skilled manpower during operation phase. Creation of ponds will make the environment more pleasant which will help develop tourism and water sports facilities such as boating, fishing etc. This will generate additional employment opportunities and trading opportunities for people.

11.3.3 Social impact assessment

The perceived potential impacts as a result of the construction and operation of the proposed Bedti - Varada link project on social aspects of the people are as under:

11.3.3.1 Submergence area

The submergence area at Pattanadahalla weir, Shalamlahalla weir and Suremane barrage are 17.88 ha, 88.53ha and 54.38 ha respectively. The submergence area is confined to river bank only, most of which is forest area barring 6 ha of other land. Also, no railway lines/telephone lines/main power lines, mineral deposits, historical and archaeological monuments are affected by the project proposal.

11.3.3.2 Project affected villages

The project affected villages are those, where either government or private lands or both shall be acquired for construction of the Bedti –Varadalink canal(Link- I and Link -II). Total land of 116 ha of which 78 ha forest land and 38 ha other land is to be acquired for execution of the link canals and borrow areas. These villages situated in Sirsi and Yellapur talukas of Uttara Kannada district will be identified during CEIA study.

11.4 Resettlement and rehabilitation and its cost

Nosubmergence of habitations due to the weirs/barrages is involved, as the water spread area is confined to river banks only. The link alignment is so planned not to pass through thickly populated/developed areas. It passes through rural areas without affecting the existing households/residential area. Hence, displacement of families residing in these areas/villages is not involved.

The exact no. of PAFs shall be assessed during the CEIA study of the link project. As far as acquisition of government land including forest land, compensation would be paid to the concerned government department/agency. The compensation for acquisition of private land would be paid to the respective land owners/ land titleholders within the provisions of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (FCTLARRA-2013). For forest land submergence, double the area of land is to be acquired for compensatory afforestation.

The Clause 26 of FCTLARRA - 2013 defines the method by which market value of the land shall be computed under the proposed law.

According to LARR the minimum amount of compensation has to be multiple of total of ascertained market value plus a solatium. Specifically, the current version of the bill proposes the total minimum compensation to be atleast four times the market value for the land acquired in rural areas. Accordingly, necessary package will be offered for smooth implementation of the link project.

11.4.1 Local area development plan

Further, a local area development plan shall be framed to extend benefits to empower not only the residents of the affected villages, but also the residents of the villages adjoining to project area which are within the study area. The following aspects shall be covered under the Local Area Development Plan.

- Educational Facilities
- Health Care and Medical Facilities
- Infrastructure Development
- Economic Development
- Social and Cultural Development

11.4.2 Monitoring and Evaluation

The successful implementation of Rehabilitation and Resettlement Plan of Project Affected People requires continuous monitoring of the programme at different levels. NRRP - 2007 lays provision for appointment of a Commissioner, Rehabilitation and Resettlement and an Administrator, Rehabilitation and Resettlement to ensure smooth and effective land acquisition, implementation of Rehabilitation and Resettlement measures, monitoring of Rehabilitation and Resettlement operations etc. Appropriate institutional arrangement shall be suggested for effective implementation of the relief measures as would be suggested in the CEIA study of the link project. Besides, government organizations like Department of Revenue, Rural Development, Agriculture, Forest, Horticulture, Rural Industries etc, shall be contacted for dovetailing their programmes for the economic rehabilitation of project affected families.