

## **Chapter 12**

### **Socio-Economic Studies and Resettlement and Rehabilitation Plan**

#### **12.0 Introduction**

Water is a prime natural resource and is an essential element in all the development activities of all the living kind as well as for sustenance of the environment. Therefore, there is an imminent necessity for water to be harnessed and utilised in the most scientific manner. The main source of water in India is through precipitation which is unevenly distributed both in space and time. India receives most of its annual rainfall during monsoon months from June to October. Due to uneven occurrence of rainfall, some parts of the country receive abundant rainfall leading to floods while at the same time other parts of the country receive meagre rainfall leading to serious drought conditions. Many areas in the country reel under acute drinking water shortage during summer. In order to ensure the availability of water throughout the year for meeting various requirements, it is essential to create storage reservoirs to facilitate impounding of flood waters during monsoon. As such, construction of dams across various rivers for storage of water during the period of its availability is absolutely necessary.

Thus, river valley projects are the building blocks for nation's development. But, at the same time these projects often result in submergence of agriculture and forest land and human habitations leading to involuntary displacement of the population residing in the area. Such adverse social impacts due to these projects which are generally unavoidable should be fairly acceptable in the broader perspective, keeping in view the immense benefits likely to be accrued in the region from them. However, it is imperative to minimize such adverse effects and take appropriate measures to provide alternative sites for resettlement through provision of house sites, dwellings, infrastructure related to education, communication, road, drinking water, sanitation, electricity, hospital, community centre etc. and also extending suitable rehabilitation support enabling the project affected people to lead and enjoy a better quality living. Therefore, an in-depth 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 of the project related development. Further, the Social Impact Assessment Report depicting the present scenario will have to be prepared which

shall include detailed Rehabilitation and Resettlement Plan in order to ameliorate the ill effects of displacement of people due to creation of the storages/ reservoirs.

Accordingly, the Environmental Impact Assessment Studies of Wainganga (Gosikhurd)-Nalganga (Purna Tapi) link project including Socio-economic surveys and preparation of Rehabilitation and Resettlement Plan will be taken up by Govt. of Maharashtra 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.

## **12.1 Socio-Economic Profile and Survey**

The proposed Wainganga (Gosikhurd) - Nalganga (Purna Tapi) intra-state link project envisages diversion of 1772 Mm<sup>3</sup> from the existing Gosikhurd (Indira Sagar) project on Wainganga river in Pranhita sub-basin of Godavari basin for extending irrigation, domestic and industrial water supply benefits in six districts of water short Vidarbha region of Maharashtra State viz., Nagpur, Wardha, Amravati, Yeotmal, Akola and Buldhana before out falling into Nalganga project on Nalganga river of Tapi basin. The farmers in the command area of the project depend mainly on rainfall and ground water for irrigation as the region lags behind the rest of the state in irrigation infrastructure. The link canal will immensely benefit the Vidarbha region by envisaging to bring additional areas to an extent of 371277 ha under irrigation. In addition, the link will provide domestic water supply to the tune of 32 Mm<sup>3</sup> in the command area. It is also planned to supply 397 Mm<sup>3</sup> to meet the demands of various industries in the region. The link canal proposes to serve the command areas lying in upland areas through pumping and feeding about 40 enroute storages/tanks, which otherwise could not possibly be served through conventional projects. The canal top/bank solar power generation is also planned along the link alignment, which will add to the clean energy development in the region. The link project will thus bring economic prosperity to the acute water short and drought-prone command area lying in the vicinity of the link project in the Vidarbha region.

The construction of enroute storages 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 reservoir fishery which is considered as productive will replace the existing riverine fisheries. Fresh water prawns and migratory fish may be cultured in the storages. There will be an increase in the number of local and migratory birds because of the water fronts of the storages. Besides, the project will generate immense employment opportunities to the local people during construction and operation phases.

Creation of 31 new storages and raising six existing reservoirs out of the 40 storages enroute the link alignment would affect 109 villages (26 villages fully and 83 villages partly). The affected villages are located in Nagpur, Wardha, Amravati, Yeotmal, Akola and Buldhana districts of Maharashtra state.

### **12.1.1 Regional Profile from the Available Secondary Data**

The Wainganga (Gosikhurd)-Nalganga (Purna Tapi) link project is located in Nagpur, Wardha, Amravati, Yeotmal, Washim, Akola and Buldhana districts of Maharashtra state.

The link off-takes from the Gosikhurd reservoir across river Wainganga, utilises Lower Wardha reservoir on Wardha river and Katepurna reservoir on Katepurna river as balancing reservoirs and finally outfalls into Nalganga reservoir on Nalganga river, which are all existing projects. However, since the proposed diversion from Gosikhurd is only during monsoon period from July to September, about 38 medium sized enroute storages/tanks (besides Lower Wardha and Katepurna) are planned for storing the link waters and utilising the same during post-monsoon.

The Gosikhurd dam (Indirasagar project), a major multi purpose project across Wainganga river in Godavari basin is located at latitude of 20° 52' 15" N and longitude of 79° 37' 00" E near Gosikhurd village in Pauni tahsil of Bhandara district. Bhiwapur is the nearest town and railway station to the project.

The Nalganga is a medium multi-purpose project constructed across river Nalganga, a left bank tributary of river Purna Tapi of Tapi basin. The project is located between latitude of 20° 45' 00" to 20° 53' 00" N and longitude of 76° 11' 00" to 76° 20' 00" E downstream of village Sanglad in Motala tahsil of Buldhana district. Malkapur is the nearest railway station to the project.

On its path, the 426.54 km long link canal crosses a no. of major rivers such as Amb, Veena, Krishna nala, Bor, Panchadhara, Dham, Wardha, Vidarbha, Pinjar, Katepurna, Gyanganga and Viswaganga through major cross drainage works. The link canal integrates the existing Lower Wardha reservoir across Wardha river and existing Katepurna reservoir across Katepurna river as balancing reservoirs. The Lower Wardha project is situated across river Wardha, a right bank tributary of river Wainganga in Godavari basin at latitude of 20° 52' 30" N and longitude of 78° 15' 30" E near village Dhanodi in Arvi tahsil of Wardha district. Amravati/ Badnera is the nearest railway station, about 55 km from the project. The Katepurna project is located at latitude of 20° 28' 53" N and longitude of 77° 09' 24" E near village Mahan in Barshitakli tahsil of Akola district. Akola is the nearest railway station, about 37 km from the project site.

Besides Lower Wardha and Katepurna, the link feeds about 38 existing and proposed enroute storages in the command area. The command area of the link project is spread in Nagpur, Wardha, Amravati, Akola, Buldhana and Yeotmal districts. The link project falls between latitudes 20° 24' and 21° 05' N; and longitudes 76° 10' and 79° 40' E. Nagpur is the nearest airport to the project area.

### 12.1.1.1 Demography

The total population (as per census of 2011) of the districts in the Project area of Wainganga (Gosikhurd)-Nalganga (Purna Tapi) link project is presented in **Table – 12.1**.

**Table – 12.1**  
**Demographic Details in the Project Area of Wainganga (Gosikhurd)-Nalganga (Purna Tapi) Link Project**

| District      | Total Population | Male Population |       | Female Population |       | Sex Ratio (no. of females /1000 males) | SC Population |       | ST Population |      |
|---------------|------------------|-----------------|-------|-------------------|-------|--|---------------|-------|---------------|------|
|               |                  | Number          | %     | Number            | %     |  | Number        | %     | Number        | %    |
| <b>Nagpur</b> | 4653570          | 2384975         | 51.25 | 2268595           | 48.75 | 951                                    | 876713        | 18.65 | 437571        | 9.40 |

|                 |         |         |       |         |       |     |        |       |        |       |
|-----------------|---------|---------|-------|---------|-------|-----|--------|-------|--------|-------|
| <b>Wardha</b>   | 1300774 | 668385  | 51.38 | 632389  | 48.62 | 946 | 188830 | 14.52 | 149507 | 11.49 |
| <b>Amravti</b>  | 2888445 | 1480768 | 51.27 | 1407677 | 48.73 | 951 | 506374 | 17.53 | 404128 | 13.99 |
| <b>Yeotmal</b>  | 2772348 | 1419965 | 51.22 | 1352383 | 48.78 | 952 | 328518 | 11.85 | 514057 | 18.54 |
| <b>Akola</b>    | 1813906 | 932334  | 51.40 | 881572  | 48.60 | 946 | 364059 | 20.07 | 100280 | 5.53  |
| <b>Buldhana</b> | 2586258 | 1337560 | 51.72 | 1248698 | 48.28 | 934 | 470895 | 18.21 | 124837 | 4.83  |

Source: District Census Hand books, 2011

It can be seen from the above table that the male population is about 51-52% and female population is about 48-49% in all the six districts. The Sex Ratio varies from 934 to 952. The Scheduled Caste (SC) population varies from 11.85% in Yeotmal district to just above 20% in Akola district while the Scheduled Tribe (ST) population varies from 4.83% in Buldhana district to 18.54% in Yeotmal district.

### 12.1.1.2 Livestock and Poultry

The livestock population and poultry in the districts of the project area as per Nineteenth Livestock Census – 2012 is presented in **Table 12.2**.

**Table – 12.2**  
**Livestock Population and Poultry in the Project Area of Wainganga (Gosikhurd)-Nalganga (Purna Tapi) Link Project**

| <b>Particulars</b>          | <b>Nagpur</b> | <b>Wardha</b> | <b>Yeotmal</b> | <b>Amravati</b> | <b>Akola</b> | <b>Buldhana</b> |
|-----------------------------|---------------|---------------|----------------|-----------------|--------------|-----------------|
| <b>LIVESTOCK POPULATION</b> |               |               |                |                 |              |                 |
| <b>Cattle</b>               |               |               |                |                 |              |                 |
| <b>(i) Indigenous</b>       | 369145        | 257867        | 698365         | 489421          | 253876       | 426680          |
| <b>(ii) Exotic</b>          | 99762         | 46492         | 21836          | 46605           | 15467        | 52978           |
| <b>Buffaloe</b>             | 84007         | 48793         | 96220          | 125116          | 49455        | 119618          |
| <b>Sheep</b>                |               |               |                |                 |              |                 |
| <b>(i) Indigenous</b>       | 7427          | 1634          | 24492          | 68503           | 4182         | 104505          |

|                                      |                |               |                |                |               |               |
|--------------------------------------|----------------|---------------|----------------|----------------|---------------|---------------|
| <b>(ii) Exotic</b>                   | 286            | 51            | 169            | 1709           | 475           | 1113          |
| <b>Goats</b>                         | 265340         | 130342        | 299257         | 292007         | 134681        | 263606        |
| <b>Pigs</b>                          |                |               |                |                |               |               |
| <b>(i) Indigenous</b>                | 5913           | 2603          | 3389           | 5008           | 5789          | 8456          |
| <b>(ii) Exotic</b>                   | 980            | 207           | 337            | 673            | 371           | 1747          |
| <b>Horses &amp; Ponies</b>           | 278            | 58            | 816            | 633            | 438           | 395           |
| <b>Mules</b>                         | 2              | 0             | 0              | 7              | 0             | 16            |
| <b>Donkeys</b>                       | 321            | 83            | 362            | 2033           | 1177          | 1760          |
| <b>Camels</b>                        | 0              | 0             | 0              | 1              | 2             | 2             |
| <b>Total Livestock</b>               | <b>833461</b>  | <b>488130</b> | <b>1145243</b> | <b>1031716</b> | <b>465913</b> | <b>980876</b> |
| <b>Density (Nos./km<sup>2</sup>)</b> | 84             | 78            | 85             | 84             | 86            | 101           |
| <b>POULTRY</b>                       |                |               |                |                |               |               |
| <b>Backyard Fowls</b>                | 272199         | 121734        | 445009         | 202586         | 64606         | 195854        |
| <b>Ducks</b>                         | 669            | 142           | 90             | 91             | 11            | 120           |
| <b>Turkey</b>                        | 163            | 0             | 102            | 2              | 0             | 0             |
| <b>Quails</b>                        | 137            | 0             | 0              | 0              | 11            | 0             |
| <b>Other Poultry</b>                 | 1692           | 55            | 91             | 17             | 18            | 0             |
| <b>Birds in Farms/ Hatcheries</b>    | 766113         | 145247        | 194799         | 461828         | 12870         | 74884         |
| <b>Total Poultry</b>                 | <b>1040973</b> | <b>267178</b> | <b>640091</b>  | <b>664524</b>  | <b>77516</b>  | <b>270858</b> |
| <b>Density (Nos./km<sup>2</sup>)</b> | 106            | 42            | 47             | 54             | 14            | 28            |

Source: Nineteenth Livestock Census – 2012

It can be seen from the above table that Yeotmal district has the highest number of livestock and Akola district has the least number. However, Buldhana district has the highest density of livestock while Wardha district has the lowest density of livestock. The live stock in the project area is dominated by cattle, goats, buffaloes and sheep. Nagpur and Akola have the highest and lowest poultry respectively. The poultry mainly consists of backyard fowls and birds in farms and hatcheries.

### 12.1.1.3 Agriculture

The population inhabiting in and around the project area is mainly dependent on agriculture. Cotton, soyabean, tur, vegetables and wheat are the dominant crops grown in the command area. Jowar, chillies, turmeric, safflower, sunflower, pulses, paddy and flowers are also grown in limited area. The agriculture in most of the areas is under rain fed as the irrigation facilities are limited.

### 12.1.1.4 Literacy

The district-wise literacy status as per the census 2011 is given in **Table–12.3**.

**Table – 12.3**  
**Literacy Rate in the Project Area of Wainganga (Gosikhurd)-Nalganga (Purna Tapi) Link Project**

| District        | Male literacy |       | Female literacy |       | Total literacy |       |
|-----------------|---------------|-------|-----------------|-------|----------------|-------|
|                 | Number        | %     | Number          | %     | Number         | %     |
| <b>Nagpur</b>   | 1959220       | 92.09 | 1714588         | 84.51 | 3673808        | 88.39 |
| <b>Wardha</b>   | 552617        | 91.92 | 466841          | 81.81 | 1019458        | 86.99 |
| <b>Amravti</b>  | 1207104       | 91.46 | 1044771         | 83.10 | 2251875        | 87.38 |
| <b>Yeotmal</b>  | 1115980       | 89.41 | 906594          | 75.93 | 2022574        | 82.82 |
| <b>Akola</b>    | 758977        | 92.34 | 652304          | 83.54 | 1411281        | 88.05 |
| <b>Buldhana</b> | 1048892       | 90.54 | 830982          | 75.84 | 1879874        | 83.40 |

Source: District Census Hand books, 2011

It is observed from the above table that the total literacy rate varies from 82.82% in Yeotmal district to 88.39% in Nagpur district. The male literacy rate varies from 89.41% in Yeotmal district to 92.34% in Akola district, whereas the female literacy rate varies from 75.84% in Buldhana district to 84.51% in Nagpur district.

### **12.1.2 Salient Features of the Link**

The Wainganga – Nalganga link canal is envisaged to divert 1772 Mm<sup>3</sup> of surplus waters of Wainganga river to the deficit areas lying towards west of Vidarbha region in Maharashtra. The link canal takes off from the Gosikhurd reservoir with FSL 241.00 m and traverses a distance of 426.54 km before outfalling into Nalganga reservoir with FSL 310.53 m. The link canal traverses in Kuhi, Umred, Nagpur and Hingna talukas of Nagpur district, Seloo, Arvi and Wardha talukas of Wardha district, Dhamangaon, Chandur railway and Nandgaon Khandeswar talukas of Amravati district, Karanja taluka of Washim district, Murtizapur, Akola, Barshi Takali and Patur talukas of Akola district, Khamgaon, Nandura and Motala talukas of Budhana district.

The link proposal involves a total static lift of 155 m in six stages. On its way, the link canal will feed 40 storages/tanks enroute, out of which 31 are proposed tanks and nine are existing tanks (six will be raised to accommodate the link waters). The existing Lower Wardha and Katepurna projects are proposed to be integrated as balancing reservoirs in the project. In the initial reach of 167.9 km from Gosikhurd to Lower Wardha, 13 tanks in Nagpur district and 10 tanks in Wardha district are proposed to be integrated, while in the middle reach of 130.7 km from Lower Wardha to Katepurna, eight storages in Amravati district (including existing Lower Wardha), two in Yeotmal district including existing Bembla and one in Akola district will be fed by the link canal. Further, in the last reach of 127.9 km from Katepurna to Nalganga four storages in Akola district (including Katepurna) and two storages in Buldhana district are proposed to be integrated with the link canal. Finally, the link will also supplement the water requirement of the tail end Nalganga reservoir, which is located in Buldhana district. A total command of 371277 ha will be brought under irrigation from the link project. Besides, the link also envisages to provide domestic and industrial water supply benefits in the command to the tune of 32 Mm<sup>3</sup> and 397 Mm<sup>3</sup> respectively.



The estimated canal top/bank solar power potential of the link project is about 1884 MW. A total of 109 villages will be affected by submergence with 26 being fully affected, 3 partly submerged and only land pertaining to 80 villages coming under submergence. A population of 15640 as per census-2011 is likely to be affected due to the link project. The total submergence under the storage tanks is 19818 ha which includes 241 ha of forest land.

### **12.1.3 Sample Design and Methodology**

Total 109 villages (26 fully and 83 partly) are likely to be affected due to creation of proposed 31 new storages and raising of six existing storages enroute the link alignment. The Socio-economic survey shall be carried out in all these affected villages. 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, rehabilitation and resettlement options, rehabilitation and resettlement package, location preference, 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.

### **12.1.3.1 Selection of Villages**

Creation of 31 new storages and raising of six existing storages enroute the link alignment will affect 109 villages (26 fully and 83 partly). The details of tank wise submergence area, villages affected (partly and fully) and population to be displaced are presented in **Annexure 11.3 of Chapter 11: EIA &EMP**. Socio-economic survey shall be carried out in all these 109 villages.

### **12.1.3.2 Selection of Households**

All the households in all the 109 villages likely to be affected due to the project shall be covered in the socio-economic survey.

### **12.1.4 Questionnaire**

To collect the data on the present socio-economic status of the Project Affected People, two types of questionnaire shall be developed: one for Socio-economic survey of the households and other for village level data and information.

### **12.1.5 Profile of the Study Area**

As already discussed in earlier paras, Wainganga (Gosikhurd)-Nalganga (Purna Tapi) link project envisages construction of 31 new storages apart from raising of six existing storages in order to store the link waters during monsoon period and utilise the same in their respective commands, mostly during post monsoon. Due to creation of these storages, 109 villages (26 fully and 83 partially) are likely to be affected. The affected villages are located in Kuhi, Umred, Hingna and Nagpur talukas of Nagpur district, Seloo, Arvi and Wardha talukas of Wardha district, Dhamangaon and Nandgaon Khandeswar talukas of Amravati district, Ner taluka of Yeotmal district, Barshi Takali and Akola talukas of Akola district and Shegaon taluka of Buldhana district in Maharashtra. About 19818 ha area will come under submergence of the above 37 (31 new + 6 raising) storages. While the 29 fully/partly affected proper villages need to be rehabilitated, only land in the other partially affected 80 villages is coming under submergence of the proposed storages. District wise details are given in **Tables 12.4 to 12.9** respectively.

**Table 12.4****Villages Likely to be Affected due to Enroute Storages in Nagpur District**

| <b>Sl. No.</b> | <b>Storage</b>            | <b>Village</b> | <b>Taluka</b> | <b>Fully / Partially</b> |
|----------------|---------------------------|----------------|---------------|--------------------------|
| 1              | Satara                    | Musalgaon      | Kuhi          | Fully                    |
|                |                           | Chipadi        |               | Partially                |
|                |                           | Satara         |               | Partially                |
|                |                           | Murmi          |               | Partially                |
|                |                           | Bhatra         |               | Partially                |
| 2              | Pandegaon                 | Pandegaon      |               | Partially                |
| 3              | Sawargaon                 | Sawargaon      |               | Partially                |
|                |                           | Kobana         |               | Partially                |
| 4              | Deori Khurd<br>Khursapur  | Sawarkheda     |               | Fully                    |
|                |                           | Deori Khurd    |               | Partially                |
|                |                           | Khursapur      | Partially     |                          |
|                |                           | Bhikund        | Partially     |                          |
|                |                           | Deori kalan    | Partially     |                          |
| 5              | Saiky<br>(Existing)       | Saiky          | Umred         | Partially                |
|                |                           | Dawho          |               | Partially                |
|                |                           | Dudha          |               | Partially                |
|                |                           | Umra           |               | Partially                |
| 6              | Makardhokda<br>(Existing) | Makardhokda    |               | Partially                |
|                |                           | Pipardol       |               | Partially                |
|                |                           | Amgaon         |               | Partially                |
|                |                           | Devli          |               | Partially                |
|                |                           | Tambe khani    |               | Partially                |
| 7              | Pandharbori<br>(Existing) | Junoni         |               | Fully                    |
|                |                           | Tel Kawadsi    | Fully         |                          |
|                |                           | Kumbhari       | Partially     |                          |
|                |                           | Dhunkhera      | Partially     |                          |
|                |                           | Mohpa          | Partially     |                          |
|                |                           | Godhani        | Partially     |                          |
|                |                           | Lohara         | Partially     |                          |
| 8              | Thana<br>(Existing)       | Shivapur       | Partially     |                          |
|                |                           | Mangrul        | Partially     |                          |

|    |           |                 |        |           |
|----|-----------|-----------------|--------|-----------|
| 9  | Khairgaon | Sarandi         |        | Fully     |
|    | Kargaon   | Khairgaon       |        | Partially |
| 10 | Khalsana  | Waregaon        | Kuhi   | Partially |
| 11 | Vadgaon I | Datala          | Hingna | Fully     |
|    |           | Vadgaon         |        | Partially |
| 12 | Bhansuli  | Asola           |        | Fully     |
|    |           | Ghodeghat       |        | Fully     |
|    |           | Sawangi         |        | Fully     |
|    |           | Bhansuli        |        | Partially |
| 13 | Mangli    | Mangli          | Nagpur | Partially |
|    |           | Dudha           |        | Partially |
|    |           | Navegaon(Rithi) |        | Partially |

Out of total 43 villages, 9 villages fully and 34 villages partly will be affected under the 13 enroute storages in Nagpur district.

**Table 12.5**

**Villages Likely to be Affected due to Enroute Storages in Wardha District**

| Sl. No. | Storage              | Village        | Taluka | Fully / Partially |
|---------|----------------------|----------------|--------|-------------------|
| 1       | Seldoh               | Somalgadh      | Seloo  | Fully             |
|         |                      | Seldoh         |        | Partially         |
|         |                      | Vadgaon        |        | Partially         |
| 2       | Juwadi Khairy        | Juwadi         |        | Fully             |
|         |                      | Menkhat        |        | Fully             |
|         |                      | Dhanoli        |        | Partially         |
|         |                      | Khairi         |        | Partially         |
|         |                      | Nandbardi      |        | Partially         |
| 3       | Borkhedi Kalan (LIS) | Borkhedi Kalan |        | Partially         |
| 4       | Tamaswada            | Tamaswada      |        | Fully             |
| 5       | Sukali (Existing)    | Pimpalgaon     | Arvi   | Fully             |
|         |                      | Sukli          |        | Partially         |
|         |                      | Natal          |        | Partially         |
|         |                      | Anjangaon      |        | Partially         |
|         |                      | Dighi          |        | Partially         |

|    |                          |            |        |           |
|----|--------------------------|------------|--------|-----------|
|    |                          | Panodi     |        | Partially |
| 6  | Vai/Malatpur             | Vai        |        | Partially |
|    |                          | Pimpalgaon |        | Partially |
| 7  | Khurzadi                 | Khurzadi   |        | Partially |
| 8  | Vaiphad                  | Vaiphad    |        | Partially |
|    |                          | Dorli      |        | Partially |
|    |                          | Lonsavli   |        | Partially |
| 9  | Dahigaon                 | Dhamangaon |        | Fully     |
|    |                          | Wathoda    |        | Fully     |
| 10 | Rota I& II<br>(Existing) | Umri       | Wardha | Partially |

Out of total 25 villages, 7 villages fully and 18 villages partly will be affected under the 10 enroute storages in Wardha district.

**Table 12.6**

**Villages Likely to be Affected due to Enroute Storages in Amravati District**

| Sl. No. | Storage          | Village       | Taluka                 | Fully / Partially |
|---------|------------------|---------------|------------------------|-------------------|
| 1       | Wadgaon Dipori   | Wadgaon       | Dhamangaon             | Partially         |
|         |                  | Dipori        |                        | Partially         |
| 2       | Yerandgaon       | Wakpur        | Nandgaon<br>Khandeswar | Fully             |
|         |                  | Dadapur       |                        | Fully             |
|         |                  | Yerandgaon    |                        | Partially         |
|         |                  | Vadgaon       |                        | Partially         |
| 3       | Nandgaon Complex | Nandgaon      |                        | Partially         |
|         |                  | Satargaon     |                        | Partially         |
|         |                  | Kanjara       |                        | Partially         |
| 4       | Shelgund         | Shelgund      |                        | Partially         |
|         |                  | Hinglaspur    |                        | Partially         |
|         |                  | Vatpur        |                        | Partially         |
| 5       | Takali Kannad    | Takali Kannad |                        | Partially         |
|         |                  | Dhanora Phasi |                        | Partially         |
| 6       | Papal-I          | Papal         |                        | Partially         |
|         |                  | Meha          |                        | Partially         |
|         |                  | Rampur        |                        | Partially         |

|   |        |                    |  |           |
|---|--------|--------------------|--|-----------|
|   |        | Bondevadi          |  | Partially |
|   |        | Tighra             |  | Partially |
| 7 | Kharbi | Undirkhed          |  | Fully     |
|   |        | Pimpri<br>Pochchha |  | Fully     |
|   |        | Kharbi             |  | Partially |
|   |        | Lohagaon           |  | Partially |
|   |        | Ganeshpur          |  | Partially |

Out of total 24 villages, 4 villages fully and 20 villages partly will be affected under seven enroute storages in Amravati district.

**Table 12.7**

**Villages Likely to be Affected due to Enroute Storages in Yeotmal District**

| Sl. No. | Storage  | Village  | Taluka | Fully / Partially |
|---------|----------|----------|--------|-------------------|
| 1       | Khandala | Khandala | Ner    | Partially         |
|         |          | Walki    |        | Partially         |
|         |          | Marwadi  |        | Partially         |

In total, 3 villages will be partially affected under one enroute storage in Yeotmal district.

**Table 12.8**

**Villages Likely to be Affected due to Enroute Storages in Akola District**

| Sl. No. | Storage            | Village     | Taluka | Fully / Partially  |
|---------|--------------------|-------------|--------|--------------------|
| 1       | Lower<br>Katepurna | Rahit       | Barshi | Fully              |
|         |                    | Sahit       | Takali | Fully              |
|         |                    | Nimbi khurd |        | Fully              |
|         |                    | Nimbi Bk.   |        | Fully              |
|         |                    | Kherda      |        | Partially(Village) |
| 2       | Yelwan             | Yeranda     |        | Fully              |
|         |                    | Paranda     |        | Fully              |
|         |                    | Yelwan      |        | Partially          |
| 3       | Sisa Udegaon       | Wizora      | Akola  | Partially(Village) |

|   |            |                 |  |           |
|---|------------|-----------------|--|-----------|
|   |            | Sisa<br>Udegaon |  | Partially |
| 4 | Chikalgaon | Chikalgaon      |  | Partially |

Out of total 11 villages, 6 villages fully and 5 villages partly will be affected under four enroute storages in Akola district.

**Table 12.9**

**Villages Likely to be Affected due to Enroute Storages in Buldhana District**

| Sl. No. | Storage | Village | Taluka  | Fully / Partially   |
|---------|---------|---------|---------|---------------------|
| 1       | Kolori  | Pimpri  | Shegaon | Partially (Village) |
|         |         | Kolori  |         | Partially           |
| 2       | Shelodi | Shelodi |         | Partially           |

Three villages will be affected partially under two enroute storages in Buldhana district.

The affected families from 29 (26 fully and 3 partly) affected villages are to be rehabilitated and resettled. 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 Maharashtra in these villages to facilitate in-depth understanding of the present socio-economic status of people, perception of the people regarding implementation of the project and also their attitude towards Rehabilitation and Resettlement of the affected families, so that suitable Rehabilitation and Resettlement measures can be suggested to minimise the adverse impact of the project on the project affected families. For the present DPR, the Socio-economic profile of the 29 affected villages of the project area based on the available information in the District Census Hand Books-2011 is described in the following paragraphs:

**12.1.5.1 Nagpur District**

**i) Demography:** In Nagpur district, nine villages are fully affected under six storages. Total population of all the 9 villages is 4614 spread over 1094

households. Thus, the average number of members per household is about 4. Population of males in affected villages is 2385, while that of the females is 2229. The average sex ratio in the affected area is 935. Details are given in **Table 12.10**.

**Table 12.10**  
**Demographic Details in the Affected Villages in Nagpur District**

| Sl. No.      | Storage                 | Village    | Taluka | No. of House Holds | Household Members |             |             | Sex Ratio (no. of Females / 1000 Males) |
|--------------|-------------------------|------------|--------|--------------------|-------------------|-------------|-------------|---|
|              |                         |            |        |                    | Male              | Female      | Total       |   |
| 1            | Satara                  | Musalgaon  | Kuhi   | 181                | 420               | 392         | 812         | 933                                     |
| 2            | Deorikhurd<br>Khursapur | Sawarkheda |        | 38                 | 71                | 68          | 139         | 958                                     |
| 3            | Pandharbori             | Junoni     | Umred  | 85                 | 191               | 162         | 353         | 848                                     |
|              |                         | Telkawadsi |        | 35                 | 77                | 72          | 149         | 935                                     |
| 4            | Khairgaon<br>Kargaon    | Sarandi    |        | 162                | 329               | 342         | 671         | 1040                                    |
| 5            | Vadgaon I               | Datala     | Hingna | 50                 | 109               | 99          | 208         | 908                                     |
| 6            | Bhansuli                | Asola      |        | 247                | 560               | 522         | 1082        | 932                                     |
|              |                         | Ghodeghat  |        | 144                | 298               | 258         | 556         | 866                                     |
|              |                         | Sawangi    |        | 152                | 330               | 314         | 644         | 952                                     |
| <b>Total</b> |                         |            |        | <b>1094</b>        | <b>2385</b>       | <b>2229</b> | <b>4614</b> | <b>935</b>                              |

*Source: District Census Hand Book -2011, Nagpur*

**ii) Caste:** The number of Schedule Caste (SC) and Scheduled Tribe (ST) population in the project affected villages are 558 and 600 respectively. Details are given in **Table 12.11**.



**Table 12.11**  
**SC and ST Population in the Affected Villages in Nagpur District**

| Sl. No.      | Storage              | Village    | Taluka | Population |            |             |
|--------------|----------------------|------------|--------|------------|------------|-------------|
|              |                      |            |        | SC         | ST         | Total       |
| 1            | Satara               | Musalgaon  | Kuhi   | 180        | -          | 180         |
| 2            | Deorikhurd Khursapur | Sawarkheda |        | 79         | 4          | 83          |
| 3            | Pandharbori          | Junoni     | Umred  | 68         | -          | 68          |
|              |                      | Telkawadsi |        | -          | 19         | 19          |
| 4            | Khairgaon Kargaon    | Sarandi    |        | 68         | 137        | 205         |
| 5            | Vadgaon I            | Datala     | Hingna | 2          | -          | 2           |
| 6            | Bhansuli             | Asola      |        | 110        | 184        | 294         |
|              |                      | Ghodeghat  | Hingna | 22         | 189        | 211         |
|              |                      | Sawangi    | Hingna | 97         | 86         | 183         |
| <b>Total</b> |                      |            |        | <b>558</b> | <b>600</b> | <b>1158</b> |

Source: District Census Hand Book -2011, Nagpur

**iii) Literacy:** The total literacy rate in the nine affected villages varies from 57% to 75%. The male literacy rate is higher than that of female literacy rate. While the male literacy rate varies from 63% to 82%, the female literacy rate ranges from 51% to 71%. Details are given in **Table 12.12**.

**Table 12.12**  
**Literacy Rate in the Affected Villages in Nagpur District**

| Sl. No. | Storage              | Village    | Taluka | Male Literacy |    | Female Literacy |    | Total Literacy |    |
|---------|----------------------|------------|--------|---------------|----|-----------------|----|----------------|----|
|         |                      |            |        | Number        | %  | Number          | %  | Number         | %  |
| 1       | Satara               | Musalgaon  | Kuhi   | 300           | 71 | 239             | 61 | 539            | 66 |
| 2       | Deorikhurd Khursapur | Sawarkheda |        | 58            | 82 | 41              | 60 | 99             | 71 |
| 3       | Pandharbori          | Junoni     | Umred  | 156           | 82 | 110             | 68 | 266            | 75 |
|         |                      | Telkawadsi |        | 59            | 77 | 44              | 61 | 103            | 69 |
| 4       | Khairgaon Kargaon    | Sarandi    |        | 250           | 76 | 239             | 70 | 489            | 73 |
| 5       | Vadgaon I            | Datala     | Hingna | 85            | 78 | 68              | 69 | 153            | 74 |
| 6       | Bhansuli             | Asola      |        | 351           | 63 | 264             | 51 | 615            | 57 |

|  |           |     |    |     |    |     |    |
|--|-----------|-----|----|-----|----|-----|----|
|  | Ghodeghat | 239 | 80 | 170 | 66 | 409 | 74 |
|  | Sawangi   | 252 | 76 | 223 | 71 | 475 | 74 |

Source: District Census Hand Book -2011, Nagpur

**iv) Educational Facilities:** All the nine affected villages have one primary school each. Villages Musalgaon, Asola, Ghodeghat and Sawangi have one middle school each and this facility for Junoni, Sarandi and Datala villages is available within 5 km distance, and for Sawarkheda and Telkawadsi villages, it is available at a distance of between 5 to 10 km. In only Sawangi, there is a secondary school, while Asola has this facility within 5 km distance. Three villages have a secondary school in a distance between 5 to 10 km, where as four other villages will have to go beyond 10 km to reach a secondary school. The average distance of college from all the villages is reported to be more than 10 km. Details are given in **Table 12.13**.

**Table 12.13**

**Details of Schools Available in the Affected Villages in Nagpur District**

| Sl. No. | Village    | Taluka | No. of Schools/facility within |            |            | Distance of College (km) |
|---------|------------|--------|--------------------------------|------------|------------|--------------------------|
|         |            |        | Primary                        | Middle     | Secondary  |                          |
| 1       | Musalgaon  | Kuhi   | 1                              | 1          | 5 to 10 km | >10 km                   |
| 2       | Sawarkheda |        | 1                              | 5 to 10 km | 5 to 10 km | >10 km                   |
| 3       | Junoni     | Umred  | 1                              | <5 km      | >10 km     | >10 km                   |
| 4       | Telkawadsi |        | 1                              | 5 to 10 km | >10 km     | >10 km                   |
| 5       | Sarandi    |        | 1                              | <5 km      | >10 km     | >10 km                   |
| 6       | Datala     | Hingna | 1                              | <5 km      | >10 km     | >10 km                   |
| 7       | Asola      |        | 1                              | 1          | <5 km      | >10 km                   |
| 8       | Ghodeghat  |        | 1                              | 1          | 5 to 10 km | >10 km                   |
| 9       | Sawangi    |        | 1                              | 1          | 1          | >10 km                   |

Source: District Census Hand Book -2011, Nagpur

**v) Land Use Pattern:** Total geographical area of all 9 villages affected due to storages in Nagpur district is about 4007 ha, out of which 62% area is agriculture land, 12% is forest land and remaining 26% land belongs to other categories like permanent pastues, current and other fallows, culturable waste land etc. Details are given in **Table- 12.14**.

**Table- 12.14**  
**Land Use Pattern in the Affected Villages in Nagpur District**

| Sl. No.           | Storge                  | Village    | Taluka | Land Use (ha) |            |             |             |
|-------------------|-------------------------|------------|--------|---------------|------------|-------------|-------------|
|                   |                         |            |        | Agriculture   | Forest     | Others      | Total       |
| 1                 | Satara                  | Musalgaon  | Kuhi   | 433           |            | 69          | 502         |
| 2                 | Deorikhurd<br>Khursapur | Sawarkheda |        | 313           | 288        | 64          | 665         |
| 3                 | Pandharbori             | Junoni     | Umred  | 163           | 73         | 15          | 251         |
|                   |                         | Telkawadsi |        | 176           | 21         | 117         | 314         |
| 4                 | Khairgaon<br>Kargaon    | Sarandi    |        | 416           |            | 70          | 486         |
| 5                 | Vadgaon I               | Datala     | Hingna | 142           | 12         | 33          | 187         |
| 6                 | Bhansuli                | Asola      |        | 286           | 50         | 344         | 680         |
|                   |                         | Ghodeghat  |        | 338           | 19         | 160         | 517         |
|                   |                         | Sawangi    |        | 235           |            | 170         | 405         |
| <b>Total</b>      |                         |            |        | <b>2502</b>   | <b>463</b> | <b>1042</b> | <b>4007</b> |
| <b>Percentage</b> |                         |            |        | <b>62</b>     | <b>12</b>  | <b>26</b>   | <b>100</b>  |

*Source: District Census Hand Book -2011, Nagpur*

**vi) Sources of Water:** Seven out of nine villages except sawarkheda and Datala have tap water facility. Wells are available in all the nine villages. Hand pumps are also available in all the villages except 'Junoni'. In addition, only Sarandi village has Tube well/bore well facility. All these sources of water are being used by the villagers for other purposes also like sanitation, washing utensils, bathing of cattle etc. Rivers/tanks/ponds/lakes are not available in any of the villages. Details are given in **Table-12.15**.

**Table- 12.15**  
**Sources of Water in the Affected Villages in Nagpur District**

| Sl. No. | Village    | Taluka | Source of Water for Drinking and Other Purposes |           |       |                |
|---------|------------|--------|---|-----------|-------|----------------|
|         |            |        | Tap   | Hand pump | Wells | Tube/Bore well |
| 1       | Musalgaon  | Kuhi   | ✓   | ✓         | ✓     | X              |
| 2       | Sawarkheda | Kuhi   | X   | ✓         | ✓     | X              |
| 3       | Junoni     | Umred  | ✓   | X         | ✓     | X              |
| 4       | Telkawadsi | Umred  | ✓   | ✓         | ✓     | X              |
| 5       | Sarandi    | Umred  | ✓   | ✓         | ✓     | ✓              |
| 6       | Datala     | Hingna | X   | ✓         | ✓     | X              |
| 7       | Asola      | Hingna | ✓   | ✓         | ✓     | X              |
| 8       | Ghodeghat  | Hingna | ✓   | ✓         | ✓     | X              |
| 9       | Sawangi    | Hingna | ✓   | ✓         | ✓     | X              |

*Source: District Census Hand Book -2011, Nagpur*

**vii) Power Supply:** Power supply in seven villages except Sawarkheda and Junoni is available for domestic, agricultural and all other purposes. In Sawarkheda, power supply is available only for domestic purpose while in Junoni, the same is available for domestic and agricultural purposes. Details are given in **Table 12.16**.

**Table 12.16**  
**Power Supply in the Affected Villages in Nagpur District**

| Sl. No. | Village    | Taluka | Power Supply for |              |               |             |
|---------|------------|--------|------------------|--------------|---------------|-------------|
|         |            |        | Domestic         | Agricultural | Other Purpose | All Purpose |
| 1       | Musalgaon  | Kuhi   | ✓                | ✓            | ✓             | ✓           |
| 2       | Sawarkheda | Kuhi   | ✓                | X            | X             | X           |
| 3       | Junoni     | Umred  | ✓                | ✓            | X             | X           |
| 4       | Telkawadsi | Umred  | ✓                | ✓            | ✓             | ✓           |
| 5       | Sarandi    | Umred  | ✓                | ✓            | ✓             | ✓           |
| 6       | Datala     | Hingna | ✓                | ✓            | ✓             | ✓           |
| 7       | Asola      | Hingna | ✓                | ✓            | ✓             | ✓           |
| 8       | Ghodeghat  | Hingna | ✓                | ✓            | ✓             | ✓           |
| 9       | Sawangi    | Hingna | ✓                | ✓            | ✓             | ✓           |

Source: District Census Hand Book -2011, Nagpur

**viii) Health Facilities:** Primary Health Centres, Allopathic Hospital facilities and Maternity and Child Welfare Centres are available for four villages at a distance between 5 to 10 km, while the same are available for the remaining five villages at more than 10 km. Details are given in **Table- 12.17**.

**Table- 12.17**  
**Details of Hospitals in the Affected Villages in Nagpur District**

| Sl. No. | Village    | Taluka | Medical Facilities Available |                                    |                       |
|---------|------------|--------|------------------------------|------------------------------------|-----------------------|
|         |            |        | Allopathic Hospital          | Maternity and Child Welfare Centre | Primary Health Centre |
| 1       | Musalgaon  | Kuhi   | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 2       | Sawarkheda |        | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 3       | Junoni     | Umred  | >10 km                       | >10 km                             | >10 km                |
| 4       | Telkawadsi |        | >10 km                       | >10 km                             | >10 km                |
| 5       | Sarandi    |        | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 6       | Datala     | Hingna | >10 km                       | >10 km                             | >10 km                |
| 7       | Asola      |        | >10 km                       | >10 km                             | >10 km                |

|   |           |  |            |            |            |
|---|-----------|--|------------|------------|------------|
| 8 | Ghodeghat |  | 5 to 10 km | 5 to 10 km | 5 to 10 km |
| 9 | Sawangi   |  | >10 km     | >10 km     | >10 km     |

Source: District Census Hand Book -2011, Nagpur

**ix) Post and Telephones:** The villages Musalgaon and Sawangi have post offices. Four out of the remaining villages have the facility within 5 km while three other villages have the same beyond 10 km. Except the villages Sawarkheda, Datala and Ghodeghat, all other villages have Telephone (Landline) facility. In these three villages, the facility of telephone is available within 5 to 10 km distance. Details are given in **Table 12.18**.

**Table 12.18**  
**Post Office and Telephone Facilities in the Affected Villages in Nagpur District**

| Sl. No. | Village    | Taluka | Facilities Available (Within Range in km) |           |
|---------|------------|--------|---|-----------|
|         |            |        | Post Office                               | Telephone |
| 1       | Musalgaon  | Kuhi   | ✓   | ✓         |
| 2       | Sawarkheda | Kuhi   | >10                                       | 5 to 10   |
| 3       | Junoni     | Umred  | <5  | ✓         |
| 4       | Telkawadsi | Umred  | <5  | ✓         |
| 5       | Sarandi    | Umred  | >10                                       | ✓         |
| 6       | Datala     | Hingna | <5  | 5 to 10   |
| 7       | Asola      | Hingna | >10                                       | ✓         |
| 8       | Ghodeghat  | Hingna | <5  | 5 to 10   |
| 9       | Sawangi    | Hingna | ✓   | ✓         |

Source: District Census Hand Book -2011, Nagpur

**x) Transport Facility:** Transport facility including plying of private/ government buses is available in all the villages except Datala and Ghodeghat, where this facility is available within 5 km . The nearest railway station is more than 10 km away to all the villages except Musalgaon, from which the nearest railway station is about 5-10 km. Two villages Asola and Sawangi are connected to State Highway (SH), while Sawarkheda is connected to major district road (MDR). Five other villages are connected to other district roads (ODR). Details are given in **Table 12.19**.

**Table 12.19****Details of Transport Facilities in the Affected Villages in Nagpur District**

| Sl. No | Village    | Taluka | Transport facilities |         |              |              |
|--------|------------|--------|----------------------|---------|--------------|--------------|
|        |            |        | Bus (Privat/ Public) | Railway | Connected to | Nearest town |
| 1      | Musalgaon  | Kuhi   | ✓                    | 5-10 km | ODR          | Nagpur       |
| 2      | Sawarkheda |        | ✓                    | > 10 km | MDR          |              |
| 3      | Junoni     | Umred  | ✓                    | > 10 km | ODR <5 km    | Umred        |
| 4      | Telkawadsi |        | ✓                    | > 10 km | ODR          |              |
| 5      | Sarandi    |        | ✓                    | > 10 km | ODR          |              |
| 6      | Datala     | Hingna | < 5 km               | > 10 km | ODR          | Nagpur       |
| 7      | Asola      |        | ✓                    | > 10 km | SH           |              |
| 8      | Ghodeghat  |        | < 5 km               | > 10 km | ODR          |              |
| 9      | Sawangi    |        | ✓                    | > 10 km | SH           |              |

Source: District Census Hand Book -2011, Nagpur

**xi) Banking and Credit Societies Facilities:** Banks /ATMs are not available in all the affected villages. For banking purpose, people go to different banks which are situated at an average distance of more than 10 km. Agriculture credit societies are also located at an average distance of more than 10 km for all the villages, except for Datala for which the same is at a distance of 5 to 10 km. Details are given in **Table 12.20**.

**Table 12.20****Banking and Credit Society Facilities in the Affected Villages in Nagpur District**

| Sl. No. | Village    | Taluka | Banking / Credit Society Facilities Available (Within Range in km) |                      |      |
|---------|------------|--------|--|----------------------|------|
|         |            |        | Banking  | Agri. Credit Society | ATMs |
| 1       | Musalgaon  | Kuhi   | >10  | >10                  | >10  |
| 2       | Sawarkheda |        | >10  | >10                  | >10  |

|   |            |        |     |         |     |
|---|------------|--------|-----|---------|-----|
| 3 | Junoni     | Umred  | >10 | >10     | >10 |
| 4 | Telkawadsi |        | >10 | >10     | >10 |
| 5 | Sarandi    |        | >10 | >10     | >10 |
| 6 | Datala     | Hingna | >10 | 5 to 10 | >10 |
| 7 | Asola      |        | >10 | >10     | >10 |
| 8 | Ghodeghat  |        | >10 | >10     | >10 |
| 9 | Sawangi    |        | >10 | >10     | >10 |

Source: District Census Hand Book -2011, Nagpur

### 12.1.5.2 Wardha District

**i) Demography:** In Wardha district, seven villages are fully affected under five storages. Total population of all the 7 villages is 3119 spread over 782 households. Thus, the average number of members per household is about 4. Population of males in affected villages is 1617, while that of the females is 1502. The average sex ratio in the affected villages is 929. Details are given in **Table 12.21**.

**Table 12.21**

#### Demographic Details in the affected villages in Wardha District

| Sl. No. | Storage         | Village        | Taluka | No. of House Holds | Household Members |        |       | Sex Ratio (no. of Females / 1000 Males) |
|---------|-----------------|----------------|--------|--------------------|-------------------|--------|-------|---|
|         |                 |                |        |                    | Male              | Female | Total |   |
| 1       | Seldoh          | Somalgad       | Seloo  | 4                  | 9                 | 8      | 17    | 889                                     |
| 2       | Juwadi Khairy   | Juwadi         |        | 177                | 359               | 341    | 700   | 950                                     |
|         |                 | Khairi Menkhat |        | 63                 | 148               | 135    | 283   | 912                                     |
| 3       | Tamaswada       | Tamaswada      |        | 109                | 223               | 201    | 424   | 901                                     |
| 4       | Sukhali Raising | Pimpalgaon     | Arvi   | 86                 | 183               | 168    | 351   | 918                                     |
| 5       | Dahigaon        | Dhaman         |        | 257                | 513               | 491    | 1004  | 957                                     |



|              |  |         |  |            |             |             |             |            |
|--------------|--|---------|--|------------|-------------|-------------|-------------|------------|
|              |  | gaon    |  |            |             |             |             |            |
|              |  | Wathoda |  | 86         | 182         | 158         | 340         | 868        |
| <b>Total</b> |  |         |  | <b>782</b> | <b>1617</b> | <b>1502</b> | <b>3119</b> | <b>929</b> |

Source: District Census Hand Book -2011, Wardha

**ii) Caste:** The number of Schedule Caste (SC) and Scheduled Tribe (ST) population in the project affected villages are 430 and 1018 respectively. Details are given in **Table 12.22**.

**Table 12.22**  
**SC and ST Population in the affected villages in Wardha District**

| Sl. No.      | Storage            | Village           | Taluka | Population |             |             |
|--------------|--------------------|-------------------|--------|------------|-------------|-------------|
|              |                    |                   |        | SC         | ST          | Total       |
| 1            | Seldoh             | Somalgad          | Seloo  | -          | 15          | 15          |
| 2            | Juwadi<br>Khairy   | Juwadi            | Arvi   | 105        | 196         | 301         |
|              |                    | Khairi<br>Menkhat |        | 16         | 238         | 254         |
| 3            | Tamaswada          | Tamaswada         |        | 100        | 232         | 332         |
| 4            | Sukhali<br>Raising | Pimpalgaon        | Arvi   | 7          | 110         | 117         |
| 5            | Dahigaon           | Dhaman<br>gaon    |        | 147        | 201         | 348         |
|              |                    | Wathoda           |        | 55         | 26          | 81          |
| <b>Total</b> |                    |                   |        | <b>430</b> | <b>1018</b> | <b>1448</b> |

Source: District Census Hand Book -2011, Wardha

**iii) Literacy:** The total literacy rate in the seven affected villages varies from 47% to 78%. The male literacy rate is higher than that of female literacy rate, in all the villages except Somalgad. While the male literacy rate varies from 44% to 84%, the female literacy rate ranges from 50% to 71%. Details are given in **Table 12.23**.

**Table 12.23**  
**Literacy Rate in the Affected Villages in Wardha District**

| Sl. No. | Storage | Village  | Taluka | Male Literacy |    | Female Literacy |    | Total Literacy |    |
|---------|---------|----------|--------|---------------|----|-----------------|----|----------------|----|
|         |         |          |        | Number        | %  | Number          | %  | Number         | %  |
| 1       | Seldoh  | Somalgad |        | 4             | 44 | 4               | 50 | 8              | 47 |

|   |                 |             |       |     |    |     |    |     |    |
|---|-----------------|-------------|-------|-----|----|-----|----|-----|----|
| 2 | Juwadi          | Juwadi      | Seloo | 294 | 82 | 236 | 69 | 530 | 76 |
|   | Khairy          | Kh. Menkhat |       | 113 | 76 | 87  | 64 | 200 | 71 |
| 3 | Tamaswada       | Tamaswada   |       | 147 | 66 | 109 | 54 | 256 | 60 |
| 4 | Sukhali Raising | Pimpalgaon  | Arvi  | 154 | 84 | 119 | 71 | 273 | 78 |
| 5 | Dahigaon        | Dhamangaon  |       | 375 | 73 | 313 | 64 | 688 | 69 |
|   |                 | Wathoda     |       | 137 | 75 | 107 | 68 | 244 | 72 |

Source: District Census Hand Book -2011, Wardha

**iv) Educational Facilities:** There is a primary school in five villages while the other two villages viz Somalgad and Khairi Menkhat have access to a primary school within five km distance. Villages Juwadi and Dhamnagaon have a middle school each and this facility for Khairi Menkhat, Tamaswada, Pimapalgaon and Wathoda villages is available within 5 km distance, and for Somalgad at a distance between 5 to 10 km. Secondary school is within the range of 5-10 km distance for all villages except Tamaswada for which it is within 5 km. College education is available for Somalgad inhabitants within a range of 5-10 km, while other villagers have to go beyond 10 km to reach a college. Details are given in **Table 12.24**.

**Table 12.24**

**Details of Schools available in the Affected Villages in Wardha District**

| Sl. No. | Village        | Taluka | No. of Schools/facility within |            |            | Distance of College (km) |
|---------|----------------|--------|--------------------------------|------------|------------|--------------------------|
|         |                |        | Primary                        | Middle     | Secondary  |                          |
| 1       | Somalgad       | Seloo  | < 5 km                         | 5 to 10 km | 5 to 10 km | 5 to 10 km               |
| 2       | Juwadi         |        | 1                              | 1          | 5 to 10 km | > 10 km                  |
| 3       | Khairi Menkhat |        | < 5 km                         | < 5 km     | 5 to 10 km | > 10 km                  |
| 4       | Tamaswada      |        | 1                              | < 5 km     | < 5 km     | > 10 km                  |
| 5       | Pimpalgaon     | Arvi   | 1                              | < 5 km     | 5 to 10 km | > 10 km                  |
| 6       | Dhamangaon     |        | 1                              | 1          | 5 to 10 km | > 10 km                  |

|   |         |  |   |        |            |         |
|---|---------|--|---|--------|------------|---------|
| 7 | Wathoda |  | 1 | < 5 km | 5 to 10 km | > 10 km |
|---|---------|--|---|--------|------------|---------|

Source: District Census Hand Book -2011, Wardha

v) **Land Use Pattern:** Total geographical area of all seven villages affected due to storages in Wardha district is about 4060 ha, out of which 54% area is agriculture land, 28% is forest land and remaining 18% land belongs to other categories like permanent pastues, current and other fallows, culturable waste land etc. Details are given in **Table 12.25**.

**Table 12.25**  
**Land Use Pattern in the Affected Villages in Wardha District**

| Sl. No.           | Storge             | Village           | Taluka | Land Use (ha) |             |            |             |
|-------------------|--------------------|-------------------|--------|---------------|-------------|------------|-------------|
|                   |                    |                   |        | Agriculture   | Forest      | Others     | Total       |
| 1                 | Seldoh             | Somalgad          | Seloo  | 210           | 86          | 37         | 333         |
| 2                 | Juwadi             | Juwadi            |        | 246           | 173         | 66         | 485         |
|                   | Khairy             | Khairi<br>Menkhat |        | 381           | 329         | 149        | 859         |
| 3                 | Tamaswada          | Tamaswada         |        | 427           | 349         | 81         | 857         |
| 4                 | Sukhali<br>Raising | Pimpalgaon        | Arvi   | 191           | 67          | 152        | 410         |
| 5                 | Dahigaon           | Dhamangaon        |        | 448           | 106         | 101        | 655         |
|                   |                    | Wathoda           |        | 258           | 54          | 149        | 461         |
| <b>Total</b>      |                    |                   |        | <b>2161</b>   | <b>1164</b> | <b>735</b> | <b>4060</b> |
| <b>Percentage</b> |                    |                   |        | <b>54</b>     | <b>28</b>   | <b>18</b>  | <b>100</b>  |

Source: District Census Hand Book -2011, Wardha

vi) **Sources of Water:** Four villages out of the seven affected, have tap water facility. Wells are available in all the seven villages. Hand pumps are also available in all the villages except Somalgad. Further, Pimpalgaon and Wathoda villages only have Tube well/bore well facility. All these sources of water are being used by the villagers for other purposes also like sanitation, washing utensils, bathing of cattle etc. River/canal water is available in Khairi Menkhat village only. Water from tank/pond/lake is available to the villagers of Pimpalgaon. Details are given in **Table 12.26**.

**Table 12.26**  
**Sources of Water in the Affected Villages in Wardha District**

| Sl. No. | Village        | Taluka | Source of Water for Drinking and Other Purposes |       |           |                |
|---------|----------------|--------|---|-------|-----------|----------------|
|         |                |        | Tap   | Wells | Hand pump | Tube/Bore well |
| 1       | Somalgad       | Seloo  | X   | ✓     | X         | X              |
| 2       | Juwadi         |        | ✓   | ✓     | ✓         | X              |
| 3       | Khairi Menkhat |        | X   | ✓     | ✓         | X              |
| 4       | Tamaswada      |        | X   | ✓     | ✓         | X              |
| 5       | Pimpalgaon     | Arvi   | ✓   | ✓     | ✓         | ✓              |
| 6       | Dhamangaon     |        | ✓   | ✓     | ✓         | X              |
| 7       | Wathoda        |        | ✓   | ✓     | ✓         | ✓              |

*Source: District Census Hand Book -2011, Wardha*

**vii) Power Supply:** Somalgad village does not have any power supply. Four villages except Wathoda & Khairi Menkhat have power supply for all purposes. These two villages have power supply for domestic and agricultural purposes only. Details are given in **Table 12.27**.

**Table 12.27**  
**Power Supply in the Affected Villages in Wardha District**

| Sl. No. | Village    | Taluka | Power Supply for |              |               |             |
|---------|------------|--------|------------------|--------------|---------------|-------------|
|         |            |        | Domestic         | Agricultural | Other Purpose | All Purpose |
| 1       | Somalgad   | Seloo  | X                | X            | X             | X           |
| 2       | Juwadi     |        | ✓                | ✓            | ✓             | ✓           |
| 3       | Khairi     |        | ✓                | ✓            | X             | X           |
| 4       | Tamaswada  |        | ✓                | ✓            | ✓             | ✓           |
| 5       | Pimpalgaon | Arvi   | ✓                | ✓            | ✓             | ✓           |
| 6       | Dhamangaon |        | ✓                | ✓            | ✓             | ✓           |
| 7       | Wathoda    |        | ✓                | ✓            | X             | X           |

*Source: District Census Hand Book -2011, Wardha*

**viii) Health Facilities:** Primary Health Centres, Allopathic Hospital facilities and Maternity and Child Welfare Centres are available within 5 km distance for Tamaswada villagers, beyond ten kilometre for Somalgad villagers and within a range of 5-10 km distance for the residents of other five villages. Details are given in **Table 12.28**.

**Table 12.28**  
**Details of Hospitals in the Affected Villages in Wardha District**

| Sl. No. | Village        | Taluka | Medical Facilities Available |                                    |                       |
|---------|----------------|--------|------------------------------|------------------------------------|-----------------------|
|         |                |        | Allopathic Hospital          | Maternity and Child Welfare Centre | Primary Health Centre |
| 1       | Somalgad       | Seloo  | > 10 km                      | > 10 km                            | > 10 km               |
| 2       | Juwadi         |        | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 3       | Khairi Menkhat |        | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 4       | Tamaswada      |        | < 5 km                       | < 5 km                             | < 5 km                |
| 5       | Pimpalgaon     | Arvi   | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 6       | Dhamangaon     |        | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 7       | Wathoda        |        | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |

Source: District Census Hand Book -2011, Wardha

**ix) Post and Telephones:** The villages Juwadi and Dhamangaon have both post office and telephone facilities. While Somalgad has a post office within 5 km, Tamaswada, Pimpalgaon and Wathoda have access to this facility in a distance of 5-10 km. Villagers of Khairi Menkhat have access to this facility beyond 10 km. Khairi Menkhat and Pimpalgaon villages have telephone facility, while Tamaswada and Wathoda villages have this facility within 5 km. For Somalgad villagers, it is 5-10 km away. Details are given in **Table 12.29**.

**Table 12.29**  
**Post Office and Telephone Facilities in the Affected Villages in Wardha District**

| Sl. No. | Village        | Taluka | Facilities Available (Within Range in km) |            |
|---------|----------------|--------|---|------------|
|         |                |        | Post Office                               | Telephone  |
| 1       | Somalgad       | Seloo  | < 5 km                                    | 5 to 10 km |
| 2       | Juwadi         |        | Yes                                       | Yes        |
| 3       | Khairi Menkhat |        | > 10 km                                   | Yes        |

|   |            |      |            |       |
|---|------------|------|------------|-------|
| 4 | Tamaswada  |      | 5 to 10 km | <5 km |
| 5 | Pimpalgaon | Arvi | 5 to 10 km | Yes   |
| 6 | Dhamangaon |      | Yes        | Yes   |
| 7 | Wathoda    |      | 5 to 10 km | <5 km |

Source: District Census Hand Book -2011, Wardha

**x) Transport Facility:** Transport facility including plying of private/ government buses is available in five villages and it is within five kilometres for Somalgad and Khairi Menkhat villages. The nearest railway station is more than 10 km away to all the villages. Khairi Menkhat is connected to State Highway while Pimpalgaon has access to SH within a range of 5-10 km. Tamaswada and Wathoda villagers have access to MDRs within 5 km. Somalgad, Juwadi & Dhamnagaon are connected to ODRs. Details are given in **Table 12.30**.

**Table 12.30**

**Details of Transport Facilities in the Affected Villages in Wardha District**

| Sl. No. | Village        | Taluka | Transport facilities |         |               |              |
|---------|----------------|--------|----------------------|---------|---------------|--------------|
|         |                |        | Bus (Privat/ Public) | Railway | Connected to  | Nearest town |
| 1       | Somalgad       | Seloo  | < 5 km               | > 10 km | ODR           | Wardha       |
| 2       | Juwadi         |        | ✓                    | > 10 km | ODR           |              |
| 3       | Khairi Menkhat |        | < 5 km               | > 10 km | SH            |              |
| 4       | Tamaswada      |        | ✓                    | > 10 km | MDR < 5 km    |              |
| 5       | Pimpalgaon     | Arvi   | ✓                    | > 10 km | 5 < SH <10 km |              |
| 6       | Dhamangaon     |        | ✓                    | > 10 km | ODR           |              |
| 7       | Wathoda        |        | ✓                    | > 10 km | MDR < 5 km    |              |

Source: District Census Hand Book -2011, Wardha

**xi) Banking and Credit Societies Facilities:** Juwadi and Khairi Menkhat have access to banks & ATMs within a range of 5 -10 km, while other villages have these facilities beyond 10 km. While Dhamnagaon has an agricultural coop credit society, Juwadi and Khairi Menkhat have access to it within a range of 5 – 10 km.

Other four villages have it beyond ten kilometres. Details are given in **Table 12.31**.

**Table 12.31****Banking and Credit Society Facilities in the Affected Villages in Wardha District**

| Sl. No. | Village        | Taluka | Banking / Credit Society Facilities Available<br>(Within Range in km) |                      |            |
|---------|----------------|--------|---|----------------------|------------|
|         |                |        | Banking   | Agri. Credit Society | ATMs       |
| 1       | Somalgad       | Seloo  | > 10 km   | > 10 km              | > 10 km    |
| 2       | Juwadi         |        | 5 to 10 km  | 5 to 10 km           | 5 to 10 km |
| 3       | Khairi Menkhat |        | 5 to 10 km  | 5 to 10 km           | 5 to 10 km |
| 4       | Tamaswada      |        | > 10 km   | > 10 km              | > 10 km    |
| 5       | Pimpalgaon     | Arvi   | > 10 km   | > 10 km              | > 10 km    |
| 6       | Dhamangaon     |        | > 10 km   | Yes                  | > 10 km    |
| 7       | Wathoda        |        | > 10 km   | > 10 km              | > 10 km    |

Source: District Census Hand Book -2011, Wardha

**12.1.5.3 Amravati District**

**i) Demography:** In Amravati district, four villages are fully affected under two storages. Total population of all the 4 villages is 369 spread over 100 households. Thus, the average number of members per household is about 4. Population of males in affected villages is 195, while that of the females is 174. The average sex ratio in the affected area is 892. Details are given in **Table 12.32**.

**Table 12.32****Demographic Details in the Affected villages in Amravati District**

| Sl. No.      | Storage    | Village         | Taluka     | No. of House Holds | Household Members |            |            | Sex Ratio (no. of Females / 1000 Males) |
|--------------|------------|-----------------|------------|--------------------|-------------------|------------|------------|---|
|              |            |                 |            |                    | Male              | Female     | Total      |   |
| 1            | Yerandgaon | Wakpur          | Nandgaon   | 14                 | 36                | 24         | 60         | 667                                     |
|              |            | Dadapur         | Khandeswar | 37                 | 70                | 64         | 134        | 914                                     |
| 2            | Kharbi     | Undir Kheda     | Khandeswar | 14                 | 18                | 22         | 40         | 1222                                    |
|              |            | Pimpri Pochchha |            | 35                 | 71                | 64         | 135        | 901                                     |
| <b>Total</b> |            |                 |            | <b>100</b>         | <b>195</b>        | <b>174</b> | <b>369</b> | <b>892</b>                              |

Source: District Census Hand Book -2011, Amravati

**ii) Caste:** The number of Schedule Caste (SC) and Scheduled Tribe (ST) population in the project affected villages are 161 and 46 respectively. Details are given in **Table 12.33**.

**Table 12.33****SC and ST Population in the Affected villages in Amravati District**

| Sl. No.      | Storage    | Village         | Taluka     | Population |           |            |
|--------------|------------|-----------------|------------|------------|-----------|------------|
|              |            |                 |            | SC         | ST        | Total      |
| 1            | Yerandgaon | Wakpur          | Nandgaon   | 9          | 46        | 55         |
|              |            | Dadapur         | Khandeswar | 89         | -         | 89         |
| 2            | Kharbi     | Undir Kheda     | Khandeswar | 40         | -         | 40         |
|              |            | Pimpri Pochchha |            | 23         | -         | 23         |
| <b>Total</b> |            |                 |            | <b>161</b> | <b>46</b> | <b>207</b> |

Source: District Census Hand Book -2011, Amravati

**iii) Literacy:** The total literacy rate in the four affected villages varies from 52% to 83%. The male literacy rate is higher than that of female literacy rate. While the male literacy rate varies from 53% to 84%, the female literacy rate ranges from 50% to 81%. Details are given in **Table 12.34**.



**Table 12.34**  
**Literacy Rate in the Affected Villages in Amravati District**

| Sl. No. | Storage    | Village         | Taluka     | Male Literacy |    | Female Literacy |    | Total Literacy |    |
|---------|------------|-----------------|------------|---------------|----|-----------------|----|----------------|----|
|         |            |                 |            | Number        | %  | Number          | %  | Number         | %  |
| 1       | Yerandgaon | Wakpur          | Nandgaon   | 19            | 53 | 12              | 50 | 31             | 52 |
|         |            | Dadapur         | Khandeswar | 59            | 84 | 52              | 81 | 111            | 83 |
| 2       | Kharbi     | Undir Kheda     |            | 15            | 83 | 16              | 73 | 31             | 78 |
|         |            | Pimpri Pochchha |            | 54            | 76 | 50              | 78 | 104            | 77 |

*Source: District Census Hand Book -2011, Amravati*

**iv) Educational Facilities:** Two of the four affected villages viz. Dadapur and Pimpri Pochchha have one primary school each, while the other two villages has this facility within 5 km. Pimpri Pochchha has a middle school within 5 km whereas other villages have a middle school between 5 to 10 km. While a secondary school is available to other three villages between 5 to 10 km, for Pimpri Pochchha, a secondary school is away by more than 10 km. However, this village has a degree college within 5 km where as other villages are more than 10 km away from a degree college. Details are given in **Table 12.35**.

**Table 12.35**  
**Details of Schools available in the Affected Villages in Amravati District**

| Sl. No. | Village     | Taluka                 | Number of Schools |            |            | Distance of College (km) |
|---------|-------------|------------------------|-------------------|------------|------------|--------------------------|
|         |             |                        | Primary           | Middle     | Secondary  |                          |
| 1       | Wakpur      | Nandgaon<br>Khandeswar | <5 km             | 5 to 10 km | 5 to 10 km | >10 km                   |
| 2       | Dadapur     |                        | 1                 | 5 to 10 km | 5 to 10 km | >10 km                   |
| 3       | Undir Kheda |                        | <5 km             | 5 to 10 km | 5 to 10 km | >10 km                   |

|   |                    |  |   |       |        |       |
|---|--------------------|--|---|-------|--------|-------|
| 4 | Pimpri<br>Pochchha |  | 1 | <5 km | >10 km | <5 km |
|---|--------------------|--|---|-------|--------|-------|

Source: District Census Hand Book -2011, Amravati

v) **Land Use Pattern:** Total geographical area of all the 4 villages affected due to storages in Amravati district is about 1237 ha, out of which 87% area is agriculture land and remaining 13% land belongs to other categories like permanent pastues, current and other fallows, culturable waste land etc. Details are given in **Table- 12.36**.

**Table- 12.36**  
**Land Use Pattern in the Affected Villages in Amravati District**

| Sl. No.           | Storge     | Village         | Taluka     | Land Use (ha) |          |            |             |
|-------------------|------------|-----------------|------------|---------------|----------|------------|-------------|
|                   |            |                 |            | Agriculture   | Forest   | Others     | Total       |
| 1                 | Yerandgaon | Wakpur          | Nandgaon   | 238           | 3        | 13         | 254         |
|                   |            | Dadapur         | Khandeswar | 289           |          | 16         | 305         |
| 2                 | Kharbi     | Undir Kheda     |            | 225           |          | 21         | 246         |
|                   |            | Pimpri Pochchha |            | 318           |          | 114        | 432         |
| <b>Total</b>      |            |                 |            | <b>1070</b>   | <b>3</b> | <b>164</b> | <b>1237</b> |
| <b>Percentage</b> |            |                 |            | <b>87</b>     |          | <b>13</b>  | <b>100</b>  |

Source: District Census Hand Book -2011, Amravati

vi) **Sources of Water:** Only Pimpri Pochchha village has the tap water facility. Wells and Hand pumps are available in all the four villages. In addition, Undir Kheda village has Tube well/bore well facility. All these sources of water are being used by the villagers for other purposes also like sanitation, washing utensils, bathing of cattle etc. Rivers/tanks/ponds/lakes are not available in any of the villages. Details are given in **Table-12.37**.

**Table- 12.37****Sources of Water in the Affected Villages in Amravati District**

| Sl. No. | Village         | Taluka     | Source of Water for Drinking and Other Purposes |           |       |                |
|---------|-----------------|------------|---|-----------|-------|----------------|
|         |                 |            | Tap   | Hand pump | Wells | Tube/Bore well |
| 1       | Wakpur          | Nandgaon   | X   | ✓         | ✓     | X              |
| 2       | Dadapur         | Khandeswar | X   | ✓         | ✓     | X              |
| 3       | Undir Kheda     |            | X   | ✓         | ✓     | ✓              |
| 4       | Pimpri Pochchha |            | ✓   | ✓         | ✓     | X              |

Source: District Census Hand Book -2011, Amravati

**vii) Power Supply:** Power supply in three villages except Wakpur is available for domestic, agricultural and all other purposes. In Wakpur, power supply is available only for domestic and agricultural purposes. Details are given in **Table 12.38**.

**Table 12.38****Power Supply in the Affected Villages in Amravati District**

| Sl. No. | Village         | Taluka     | Power Supply for |              |               |             |
|---------|-----------------|------------|------------------|--------------|---------------|-------------|
|         |                 |            | Domestic         | Agricultural | Other Purpose | All Purpose |
| 1       | Wakpur          | Nandgaon   | ✓                | ✓            | X             | X           |
| 2       | Dadapur         | Khandeswar | ✓                | ✓            | ✓             | ✓           |
| 3       | Undir Kheda     |            | ✓                | ✓            | ✓             | ✓           |
| 4       | Pimpri Pochchha |            | ✓                | ✓            | ✓             | ✓           |

Source: District Census Hand Book -2011, Amravati

**viii) Health Facilities:** Primary Health Centres, Allopathic Hospital facilities and Maternity and Child Welfare Centres are available for Pimpri Pochchha village within 5 km distance, while the same are available for the remaining three villages in a distance between 5 to 10 km. Details are given in **Table- 12.39**.

**Table- 12.39****Details of Hospitals in the Affected Villages in Amravati District**

| Sl. No. | Village         | Taluka                 | Medical Facilities Available |                                    |                       |
|---------|-----------------|------------------------|------------------------------|------------------------------------|-----------------------|
|         |                 |                        | Allopathic Hospital          | Maternity and Child Welfare Centre | Primary Health Centre |
| 1       | Wakpur          | Nandgaon<br>Khandeswar | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 2       | Dadapur         |                        | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 3       | Undir Kheda     |                        | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 4       | Pimpri Pochchha |                        | <5 km                        | <5 km                              | <5 km                 |

Source: District Census Hand Book -2011, Amravati

**ix) Post and Telephones:** All the four villages have post offices within 5 km. Only Pimpri Pochchha village has Telephone (Landline) facility. For Dadapur the facility of telephone is available within 5 km whereas for Wakpur and Undir Kheda, the same is available within 10 km distance. Details are given in **Table 12.40**.

**Table 12.40****Post Office and Telephone Facilities in the Affected Villages in Amravati District**

| Sl. No. | Village         | Taluka                 | Facilities Available (Within Range in km) |            |
|---------|-----------------|------------------------|---|------------|
|         |                 |                        | Post Office                               | Telephone  |
| 1       | Wakpur          | Nandgaon<br>Khandeswar | <5 km                                     | 5 to 10 km |
| 2       | Dadapur         |                        | <5 km                                     | <5 km      |
| 3       | Undir Kheda     |                        | <5 km                                     | 5 to 10 km |
| 4       | Pimpri Pochchha |                        | <5 km                                     | ✓          |

Source: District Census Hand Book -2011, Amravati

**x) Transport Facility:** Transport facility including plying of private/ government buses is available in three villages except Undir Kheda within 5 km. The bus facility for Undir Kheda is available within 5-10 km distance. The nearest railway station is more than 10 km away to all the villages. Within 5 km, while Pimpri Pochchha is connected to a major district road (MDR), Undir Kheda is connected to Other District Road. Wakpur and Dadapur villages are connected to other district roads (ODR) beyond 10 km. Details are given in **Table 12.41**.

**Table 12.41****Details of Transport Facilities in the Affected Villages in Amravati District**

| Sl. No. | Village         | Taluka                 | Transport facilities     |         |              |              |
|---------|-----------------|------------------------|--------------------------|---------|--------------|--------------|
|         |                 |                        | Bus (Private/<br>Public) | Railway | Connected to | Nearest town |
| 1       | Wakpur          | Nandgaon<br>Khandeswar | < 5 km                   | > 10 km | ODR > 10 km  | Amravati     |
| 2       | Dadapur         |                        | < 5 km                   | > 10 km | ODR > 10 km  |              |
| 3       | Undir Kheda     |                        | 5-10 km                  | > 10 km | ODR <5 km    |              |
| 4       | Pimpri Pochchha |                        | < 5 km                   | > 10 km | MDR <5 km    | Amravati     |

*Source: District Census Hand Book -2011, Amravati*

**xi) Banking and Credit Societies Facilities:** Agriculture credit societies and Banks are not available in any of the affected villages. In order to avail these facilities, people in Undir Kheda and Pimpri Pochchha have to go for 5 to 10 km while people in Wakpur and Dadapur have to travel for more than 10 km. ATMs are also located at an average distance of more than 10 km from all the villages. Details are given in **Table 12.42**.

**Table 12.42**  
**Banking and Credit Society Facilities in the Affected Villages in**  
**Amravati District**

| Sl. No. | Village         | Taluka     | Banking / Credit Society Facilities Available (Within Range in km) |                      |        |
|---------|-----------------|------------|--|----------------------|--------|
|         |                 |            | Banking  | Agri. Credit Society | ATMs   |
| 1       | Wakpur          | Nandgaon   | >10 km   | >10 km               | >10 km |
| 2       | Dadapur         | Khandeswar | >10 km   | >10 km               | >10 km |
| 3       | Undir Kheda     |            | 5 to10 km  | 5 to10 km            | >10 km |
| 4       | Pimpri Pochchha |            | 5 to10 km  | 5 to10 km            | >10 km |

*Source: District Census Hand Book -2011, Amravati*

#### 12.1.5.4 Yeotmal District

No proper village is fully/partly submerged or affected in the district due to the proposed storage 'Khandala'.

#### 12.1.5.5 Akola District

**i) Demography:** In Akola district, eight villages are affected (six fully & two part villages) under three storages. Total affected population in all the 8 villages is 7238 spread over 1679 households. Thus, the average number of members per household is about 4. Population of males in affected villages is 3712, while that of the females is 3526. The sex ratio is in favour of females in Nimbi Bk at 1006 while the same in other villages varies from 845 to 993. The average sex ratio in the affected area is 950. Details are given in **Table 12.43**.

**Table 12.43**  
**Demographic Details in the Affected villages in Akola District**

| Sl. No. | Storage         | Village       | Taluka        | No. of House holds     | Household Members      |                        |                        | Sex Ratio<br>(no. of Females / 1000 Males) |
|---------|-----------------|---------------|---------------|------------------------|------------------------|------------------------|------------------------|--|
|         |                 |               |               |                        | Male                   | Female                 | Total                  |  |
| 1       | Lower Katepurna | Sahit         | Barshi Takali | 219                    | 503                    | 443                    | 946                    | 881  |
|         |                 | Rahit         |               | 308                    | 717                    | 685                    | 1402                   | 955  |
|         |                 | Nimbi. Kh     |               | 158                    | 362                    | 338                    | 700                    | 934  |
|         |                 | Nimbi. Bk     |               | 178                    | 361                    | 363                    | 724                    | 1006                                       |
|         |                 | Kherda (Part) |               | 26<br>(13)             | 58<br>(27)             | 49<br>(23)             | 107<br>(50)            | 845  |
| 2       | Yelwan          | Yeranda       |               | 386                    | 885                    | 836                    | 1721                   | 945  |
|         |                 | Paranda       |               | 217                    | 449                    | 446                    | 895                    | 993  |
| 3       | Sisa Udegaon    | Wizora (Part) | Akola         | 429<br>(200)           | 991<br>(408)           | 952<br>(392)           | 1943<br>(800)          | 961  |
|         |                 |               |               | <b>1921<br/>(1679)</b> | <b>4326<br/>(3712)</b> | <b>4112<br/>(3526)</b> | <b>8438<br/>(7238)</b> | <b>951<br/>(950)</b>                       |

Source: District Census Hand Book -2011, Akola; Figures in brackets represent likely to be affected souls and households due to the storages.

**ii) Caste:** The number of Schedule Caste (SC) and Scheduled Tribe (ST) population in the project affected villages are 1500 and 99 respectively. Details are given in **Table 12.44**.

**Table 12.44**  
**SC and ST Population in the Affected villages in Akola District**

| Sl. No. | Storage         | Village       | Taluka        | Population |           |            |
|---------|-----------------|---------------|---------------|------------|-----------|------------|
|         |                 |               |               | SC         | ST        | Total      |
| 1       | Lower Katepurna | Sahit         | Barshi Takali | 219        | 0         | 219        |
|         |                 | Rahit         |               | 551        | 2         | 553        |
|         |                 | Nimbi. Kh     |               | 25         | 0         | 25         |
|         |                 | Nimbi. Bk     |               | 70         | 0         | 70         |
|         |                 | Kherda (Part) |               | 26<br>(12) | 20<br>(9) | 46<br>(21) |
| 2       | Yelwan          | Yeranda       |               | 146        | 32        | 178        |

|              |              |                  |       |                              |                           |                              |
|--------------|--------------|------------------|-------|------------------------------|---------------------------|------------------------------|
|              |              | Paranda          |       | 140                          | 48                        | 188                          |
| 3            | Sisa Udegaon | Wizora<br>(Part) | Akola | 818<br>(337)                 | 20<br>(8)                 | 838<br>(345)                 |
| <b>Total</b> |              |                  |       | <b>1995</b><br><b>(1500)</b> | <b>122</b><br><b>(99)</b> | <b>2117</b><br><b>(1599)</b> |

Source: District Census Hand Book -2011, Akola; Figures in brackets represent likely to be affected SC & ST souls due to the storages.

**iii) Literacy:** The total literacy rate in the eight affected villages varies from 71% to 81%. The male literacy rate is higher than that of female literacy rate. While the male literacy rate varies from 75% to 86%, the female literacy rate ranges from 66% to 77%. Details are given in **Table 12.45**.

**Table 12.45**  
**Literacy Rate in the Affected Villages in Akola District**

| Sl. No. | Storage         | Village       | Taluka | Male Literacy |    | Female Literacy |    | Total Literacy |    |
|---------|-----------------|---------------|--------|---------------|----|-----------------|----|----------------|----|
|         |                 |               |        | Number        | %  | Number          | %  | Number         | %  |
| 1       | Lower Katepurna | Sahit         | Barshi | 424           | 84 | 339             | 77 | 763            | 81 |
|         |                 | Rahit         | Takali | 585           | 82 | 504             | 74 | 1089           | 78 |
|         |                 | Nimbi. Kh     |        | 293           | 81 | 250             | 74 | 543            | 78 |
|         |                 | Nimbi. Bk     |        | 291           | 81 | 253             | 70 | 544            | 75 |
|         |                 | Kherda (Part) |        | 50<br>(23)    | 86 | 33<br>(16)      | 67 | 83<br>(39)     | 78 |
| 2       | Yelwan          | Yeranda       |        | 664           | 75 | 552             | 66 | 1216           | 71 |
|         |                 | Paranda       |        | 378           | 84 | 317             | 71 | 695            | 78 |
| 3       | Sisa Udegaon    | Wizora (Part) | Akola  | 803<br>(331)  | 81 | 654<br>(269)    | 69 | 1457<br>(600)  | 75 |

Source: District Census Hand Book -2011, Akola; Figures in brackets represent likely to be affected male and female literates due to storages.

**iv) Educational Facilities:** There are primary schools in all the villages except Kherda, for which a primary school is available within 5 km. There are middle



schools in five villages except Sahit, Nimbi Kh and Kherda for which middle school is available within 5 km. Rahit, Paranda and Wizora have secondary schools while Sahit, Nimbi Kh and Yeranda villages have this facility within 5 km. Nimbi Bk and Kherda villages have access to secondary schools within 5 to 10 km. The nearest college is at a distance of 5- 10 km for the residents of Nimbi Kh., Kherda & Nimbi Bk. but beyond 10 km for the rest of the villages. Details are given in **Table 12.46**.

**Table 12.46****Details of Schools Available in the Affected Villages in Akola District**

| Sl. No. | Village   | Taluka           | No. of Schools/facility within |        |           | Distance of College (km) |
|---------|-----------|------------------|--------------------------------|--------|-----------|--------------------------|
|         |           |                  | Primary                        | Middle | Secondary |                          |
| 1       | Sahit     | Barshi<br>Takali | 2                              | < 5 km | < 5 km    | > 10km                   |
| 2       | Rahit     |                  | 1                              | 2      | 1         | > 10km                   |
| 3       | Nimbi. Kh |                  | 1                              | < 5 km | < 5 km    | 5 – 10 km                |
| 4       | Nimbi. Bk |                  | 1                              | 1      | 5 – 10 km | 5 – 10 km                |
| 5       | Kherda    |                  | < 5 km                         | < 5 km | 5 – 10 km | 5 – 10 km                |
| 6       | Yeranda   |                  | 2                              | 1      | < 5 km    | > 10 km                  |
| 7       | Paranda   |                  | 1                              | 2      | 1         | > 10 km                  |
| 8       | Wizora    | Akola            | 1                              | 3      | 1         | > 10 km                  |

Source: District Census Hand Book -2011, Akola

**v) Land Use Pattern:** Total geographical area of all eight villages affected due to storages in Akola district is about 4077 ha, out of which 78% area is agriculture land, 5% is forest land and remaining 17% land belongs to other categories like permanent pastues, current and other fallows, culturable waste land etc. Details are given in **Table 12.47**.

**Table 12.47**  
**Land Use Pattern in the Affected Villages in Akola District**

| Sl. No.           | Storage         | Village   | Taluka | Land Use (ha) |             |            |             |
|-------------------|-----------------|-----------|--------|---------------|-------------|------------|-------------|
|                   |                 |           |        | Forest        | Agriculture | Others     | Total       |
| 1                 | Lower Katepurna | Sahit     | Barshi | 49            | 285         | 138        | 472         |
|                   |                 | Rahit     | Takali |               | 520         | 56         | 576         |
|                   |                 | Nimbi. Kh |        |               | 320         | 46         | 366         |
|                   |                 | Nimbi. Bk |        |               | 180         | 33         | 213         |
|                   |                 | Kherda    |        |               | 187         | 3          | 190         |
| 2                 | Yelwan          | Yeranda   |        | 90            | 930         | 126        | 1146        |
|                   |                 | Paranda   |        | 5             | 261         | 145        | 411         |
| 3                 | Sisa Udegaon    | Wizora    | Akola  | 50            | 506         | 147        | 703         |
| <b>Total</b>      |                 |           |        | <b>194</b>    | <b>3189</b> | <b>694</b> | <b>4077</b> |
| <b>Percentage</b> |                 |           |        | <b>5</b>      | <b>78</b>   | <b>17</b>  | <b>100</b>  |

Source: District Census Hand Book -2011, Akola

**vi) Sources of Water:** Four villages viz Rahit, Yeranda, Paranda & Wizora have tap water facility. Wells and Hand Pumps are available in all the eight villages. None of the villages have Tube well/bore well facility. All these sources of water are being used by the villagers for other purposes also like sanitation, washing utensils, bathing of cattle etc. River/lake water is available in four villages viz Sahit, Rahit, Nimbi Kh and Nimbi Bk. Details are given in **Table 12.48**.

**Table 12.48**  
**Sources of Water in the Affected Villages in Akola District**

| Sl. No. | Village   | Taluka        | Source of Water for Drinking and Other Purposes |       |           |                |
|---------|-----------|---------------|---|-------|-----------|----------------|
|         |           |               | Tap   | Wells | Hand pump | Tube/Bore well |
| 1       | Sahit     | Barshi Takali | X   | ✓     | ✓         | X              |
| 2       | Rahit     |               | ✓   | ✓     | ✓         | X              |
| 3       | Nimbi. Kh |               | X   | ✓     | ✓         | X              |
| 4       | Nimbi. Bk |               | X   | ✓     | ✓         | X              |

|   |         |       |   |   |   |   |
|---|---------|-------|---|---|---|---|
| 5 | Kherda  |       | X | ✓ | ✓ | X |
| 6 | Yeranda |       | ✓ | ✓ | ✓ | X |
| 7 | Paranda |       | ✓ | ✓ | ✓ | X |
| 8 | Wizora  | Akola | ✓ | ✓ | ✓ | X |

Source: District Census Hand Book -2011, Akola

**vii) Power Supply:** Power supply for all purposes viz. domestic, agricultural & other purposes is available in all the eight villages. Details are given in **Table 12.49**.

**Table 12.49**  
**Power Supply in the Affected Villages in Akola District**

| Sl. No. | Village   | Taluka        | Power Supply for |              |               |             |
|---------|-----------|---------------|------------------|--------------|---------------|-------------|
|         |           |               | Domestic         | Agricultural | Other Purpose | All Purpose |
| 1       | Sahit     | Barshi Takali | ✓                | ✓            | ✓             | ✓           |
| 2       | Rahit     |               | ✓                | ✓            | ✓             | ✓           |
| 3       | Nimbi. Kh |               | ✓                | ✓            | ✓             | ✓           |
| 4       | Nimbi. Bk |               | ✓                | ✓            | ✓             | ✓           |
| 5       | Kherda    |               | ✓                | ✓            | ✓             | ✓           |
| 6       | Yeranda   |               | ✓                | ✓            | ✓             | ✓           |
| 7       | Paranda   |               | ✓                | ✓            | ✓             | ✓           |
| 8       | Wizora    | Akola         | ✓                | ✓            | ✓             | ✓           |

Source: District Census Hand Book -2011, Akola

**viii) Health Facilities:** Primary Health Centres, Allopathic Hospital facilities and Maternity and Child Welfare Centres are available within a range of 5 to 10 km distance for villagers of Nimbi. Kh, Nimbi. Bk, Kherda and Paranda, while the people of the remaining four villages have to go beyond 10 km for availing similar facilities. Details are given in **Table 12.50**.

**Table 12.50****Details of Hospitals in the Affected Villages in Akola District**

| Sl. No. | Village   | Taluka        | Medical Facilities Available |                                    |                       |
|---------|-----------|---------------|------------------------------|------------------------------------|-----------------------|
|         |           |               | Allopathic Hospital          | Maternity and Child Welfare Centre | Primary Health Centre |
| 1       | Sahit     | Barshi Takali | > 10 km                      | > 10 km                            | > 10 km               |
| 2       | Rahit     |               | > 10 km                      | > 10 km                            | > 10 km               |
| 3       | Nimbi. Kh |               | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 4       | Nimbi. Bk |               | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 5       | Kherda    |               | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 6       | Yeranda   |               | > 10 km                      | > 10 km                            | > 10 km               |
| 7       | Paranda   |               | 5 to 10 km                   | 5 to 10 km                         | 5 to 10 km            |
| 8       | Wizora    | Akola         | > 10 km                      | > 10 km                            | > 10 km               |

Source: District Census Hand Book -2011, Akola

**ix) Post and Telephones:** Both post office and telephone (Landline) are available in the villages of Rahit & Wizora, while only telephone facility is available in Sahit, Nimbi Kh., Nimbi Bk, Yeranda and Paranda. A post office is available within five km to the people of Sahit, Yeranda & Paranda. Nimbi Kh, Nimbi Bk and Kherda have access to post office within a distance of 5 to 10 km. Kherda has telephone facility within 5 km. Details are given in **Table 12.51**.

**Table 12.51****Post Office and Telephone Facilities in the Affected Villages in Akola District**

| Sl. No. | Village | Taluka        | Facilities Available (Within Range in km) |           |
|---------|---------|---------------|---|-----------|
|         |         |               | Post Office                               | Telephone |
| 1       | Sahit   | Barshi Takali | < 5 km                                    | Yes       |
| 2       | Rahit   |               | Yes                                       | Yes       |

|   |          |       |            |        |
|---|----------|-------|------------|--------|
| 3 | Nimbi Kh |       | 5 to 10 km | Yes    |
| 4 | Nimbi Bk |       | 5 to 10 km | Yes    |
| 5 | Kherda   |       | 5 to 10 km | < 5 km |
| 6 | Yeranda  |       | < 5 km     | Yes    |
| 7 | Paranda  |       | < 5 km     | Yes    |
| 8 | Wizora   | Akola | Yes        | Yes    |

Source: District Census Hand Book -2011, Akola

**x) Transport Facility:** Transport facility including plying of private/ government buses is available to five villages. Nimbi Kh has this facility within 5 km while Kherda and Nimbi Bk have the same within the range of 5 to 10 km. Railways facility is available to Kherda within 5 to 10 km while for the remaining villages, it is beyond 10 km. Yeranda & Wizora are connected to MDR. Sahit, Rahit, Kherda & Paranda are connected to ODR. Nimbi Kh. has MDR within 5 km, whereas Nimbi Bk is connected to MDR within a range of 5 to 10 km. Details are given in **Table 12.52**.

**Table 12.52**

**Details of Transport Facilities in the Affected Villages in Akola District**

| Sl. No. | Village   | Taluka        | Transport facilities   |         |                 |              |
|---------|-----------|---------------|------------------------|---------|-----------------|--------------|
|         |           |               | Bus (Private / Public) | Railway | Connected to    | Nearest town |
| 1       | Sahit     | Barshi Takali | ✓                      | > 10 km | ODR             | Akola        |
| 2       | Rahit     |               | ✓                      | > 10 km | ODR             | Akola        |
| 3       | Nimbi. Kh |               | < 5 km                 | > 10 km | MDR < 5 km      | Akola        |
| 4       | Nimbi. Bk |               | 5-10 km                | > 10 km | 5 < MDR < 10 km | Akola        |
| 5       | Kherda    |               | 5-10 km                | 5-10 km | ODR             | Akot         |
| 6       | Yeranda   |               | ✓                      | > 10 km | MDR             | Akola        |
| 7       | Paranda   |               | ✓                      | > 10 km | ODR             | Akola        |
| 8       | Wizora    | Akola         | ✓                      | > 10 km | MDR             | Akola        |

Source: District Census Hand Book -2011, Akola

**xi) Banking and Credit Societies Facilities:** Kherda has access to banks/ATMs and agri credit societies within a range of 5 to 10 km. Nimbi Bk has the access to banks and agri credit societies within the same range but ATMs are away by 10 km. All other villages have access to all these facilities beyond 10 km. Details are given in **Table 12.53**.

**Table 12.53**  
**Banking and Credit Society Facilities in the Affected Villages in Akola District**

| Sl. No. | Village   | Taluka        | Banking / Credit Society Facilities Available (Within Range in km) |                      |           |
|---------|-----------|---------------|--|----------------------|-----------|
|         |           |               | Banking  | Agri. Credit Society | ATMs      |
| 1       | Sahit     | Barshi Takali | > 10 km  | > 10 km              | > 10 km   |
| 2       | Rahit     |               | > 10 km  | > 10 km              | > 10 km   |
| 3       | Nimbi. Kh |               | > 10 km  | > 10 km              | > 10 km   |
| 4       | Nimbi. Bk |               | 5 - 10 km  | 5 - 10 km            | > 10 km   |
| 5       | Kherda    |               | 5 - 10 km  | 5 - 10 km            | 5 - 10 km |
| 6       | Yeranda   |               | > 10 km  | > 10 km              | > 10 km   |
| 7       | Paranda   |               | > 10 km  | > 10 km              | > 10 km   |
| 8       | Wizora    | Akola         | > 10 km  | > 10 km              | > 10 km   |

Source: District Census Hand Book -2011, Akola

#### **12.1.5.6 Buldhana District**

**i) Demography:** In Buldhana district, habitations of one village viz. Pimpri Gawali are partially affected under Kolori storage. Total population of the village is 3371 spread over 766 households, with 1740 males and 1631 females. The average number of members per household is about 4. The sex ratio in the village is 937. As per the information received from WRD, Akola, about 300 people in

70 households of the village are likely to be affected due to the storage, of which males and females on proportionate basis would be 155 and 145 respectively.

**ii) Caste:** The number of Schedule Caste (SC) and Scheduled Tribe (ST) population in the village are 456 and 234 respectively. The affected of population of these communities due to the storage would be 41 and 21 respectively.

**iii) Literacy:** The total literates in the village are 2559 comprising of 1437 males and 1122 females. The corresponding total literacy rate is 76%. While the male literacy rate is 83%, female literacy rate is 69%. The no. of literates that may get affected due to the storage would be 228 of which 128 will be males and the remaining 100 will be females.

**iv) Educational Facilities:** Pimpri Gawali has two primary schools, two middle schools and a secondary school. The village has a degree college at a distance of more than 10 km.

**v) Land Use Pattern:** Total geographical area of the village is 899 ha. Out of which, 850 ha (95%) is agriculture land and remaining 49 ha (5%) belongs to other categories like permanent pastues, current and other fallows, culturable waste land etc.

**vi) Sources of Water:** Pimpri Gawali has tap water facility. Wells, Hand pumps and Tube/Bore wells are also available in the village. In addition, the village has river/lake facility. All these sources of water are being used by the villagers for other purposes also like sanitation, washing utensils, bathing of cattle etc.

**vii) Power Supply:** Power supply for all purposes, viz. domestic, agricultural and other purposes is available in the village.

**viii) Health Facilities:** The village has good medical facilities. It has a Primary Health Centre, an Allopathic Hospital and a Maternity and Child Welfare Centre.

**ix) Post and Telephones:** Pimpri Gawali village has both post office and telephone (Landline) facility.

**x) Transport Facility:** Transport facility including plying of private/ public buses is available in the village. The nearest railway station is more than 10 km away to the village. The village is connected to Other District Road. Nearest town to the village is Malkapur.

**xi) Banking and Credit Societies Facilities:** Agriculture credit societies and Banks are available in the village. However, ATMs are located at a distance of more than 10 km from the village.

### **12.1.6 Perception about the Project**

During field topographical surveys and other investigations of the link project, it was found that all the households in the project area are well aware about Wainganga (Gosikhurd)-Nalganga (Purna Tapi) link project. They are enthusiastic about the commencement of the project as it envisages to bring assured waters to their fields and households.

## **12.2 Impact of Wainganga (Gosikhurd)-Nalganga (Purna Tapi) Link**

The proposed Wainganga (Gosikhurd) - Nalganga (Purna Tapi) intra-state link project envisages diversion of 1772 Mm<sup>3</sup> from the existing Gosikhurd (Indira Sagar) project on Wainganga river in Pranhita sub-basin of Godavari basin for extending irrigation, domestic and industrial water supply benefits in six districts of water short Vidarbha region of Maharashtra state viz., Nagpur, Wardha, Amravati, Yeotmal, Akola and Buldhana before out falling into Nalganga project on Nalganga river of Tapi basin. The farmers in the command area of the project depend mainly on rainfall and ground water for irrigation as the region lags behind the rest of the state in irrigation infrastructure. The link canal will immensely benefit the Vidarbha region by envisaging to bring additional areas to an extent of 371277 ha under irrigation. In addition, the link will provide domestic water supply to the tune of 32 Mm<sup>3</sup> in the command area. It is also planned to supply 397 Mm<sup>3</sup> to meet the demands of various industries in the region. The link canal proposes to serve the command areas lying in upland areas through pumping and feeding about 40 enroute storages/tanks, which otherwise could not possibly be served through conventional projects.



In addition, the project will also generate solar power through canal top/bank solar pv plants. Besides, the project will improve the ground water condition and will provide opportunities for tourism development, fisheries development apart from providing employment to people during its construction and maintenance phases. Some aquatic life and vegetation may grow along the periphery of the storage reservoirs. The link project will thus bring economic prosperity to the acute water short and drought-prone command area lying in the vicinity of the link project in the Vidarbha region.

### **12.2.1 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 drastically improve in this area. At present, most of the population sustains on agriculture and allied activities. There are no major industries or other avenues of occupation in the area. The project will open a large number of jobs to the local population during project construction phase.

### **12.2.2 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 storage reservoirs 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.

### **12.2.3 Social Impact Assessment**

The perceived potential impacts as a result of the construction and operation of the proposed Wainganga (Gosikhurd)-Nalganga (Purna Tapi) Link Project on social aspects of the people based on the available general information have been listed as under:

#### **12.2.3.1 Impacts Due to Land Acquisition**

The main socio-economic concerns in resettlement operations of the link project revolve around reducing the impoverishment risks and restoring resettlers' livelihoods. A project of this magnitude is likely to entail both positive as well as negative impacts on the socio-cultural and socio-economic fabric of the area. During construction and operation phases, a lot of allied activities will mushroom in the project area. The construction phase would require a large labour force. Most of the labour force may come from other parts of the state. Economic opportunities would increase both directly as well as indirectly. Similarly, infrastructure facilities also are likely to increase.

One of the most important and negative impact due to commissioning of the project, would be that a number of families would be displaced from their lands and economic activities due to the creation of 31 new storages and raising of six other existing storages. The proposed study shall encompass all the basic risks predictable in resettlement situations such as landlessness, joblessness, homelessness, marginalization, increased morbidity and mortality, food insecurity, loss of access to common property and social (community) disarticulation. These risks shall be analysed and suitable Resettlement and Rehabilitation plans shall be formulated to minimise the adverse impacts on socio-economic environments.

### **12.3 Rehabilitation and Resettlement**

Due to creation of 31 new storages and raising of six other existing storages, about 19818 ha land is likely to come under submergence. In total, 109

villages in Kuhi (14), Umred (20), Hingna (6) and Nagpur (3) talukas of Nagpur district, Seloo (10), Arvi (14) and Wardha (1) talukas of Wardha district, Dhamangaon (2) and Nandgaon Khandeswar (22) talukas of Amravati district, Ner (3) taluka of Yeotmal district, Barshi Takali (8) and Akola (3) talukas of Akola district and Shegaon (3) taluka of Buldhana district are likely to be affected due to the storages. Out of these, the project will lead to displacement of the population residing in about 29 ( 26 fully and 3 partly) villages while the land pertaining to remaining 80 villages come under submergence. To minimise such adverse effects, it is imperative to provide a suitable Rehabilitation and Resettlement package to the Project Affected People (PAP) enabling them to maintain at least their current levels of living standards.

The State of Maharashtra has brought out “The Maharashtra Project Affected Persons Rehabilitation Act, 1999”. A copy of the Act (as modified upto 16<sup>th</sup> June 2015) is furnished at **Annexure 12.1**. Further, Govt. of India brought out “Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013”. Best among the provisions in all these policies/acts/bills shall be considered and the Rehabilitation and Resettlement package shall be developed in the CEIA study of the Link Project.

### **12.3.1 Assessment of Economic Loss Due to Displacement**

#### **12.3.1.1 Land under Submergence**

a) **Acquisition of Land:** The proposed project envisages construction of 31 new storages and raising of six existing storages and canal network. About 19818 ha of land will be acquired for the storages. Storage wise details are furnished in **Annexure 11.3**. Reach wise abstract is given at **Table- 12.54**

**Table- 12.54**

#### **Details of Land to be Acquired under the Enroute Storages**

| <b>Link</b>                        | <b>Details of Land (ha)</b> |                     |                    |              |
|------------------------------------|-----------------------------|---------------------|--------------------|--------------|
|                                    | <b>Private Land</b>         | <b>Revenue Land</b> | <b>Forest Land</b> | <b>Total</b> |
| Gosikhurd - Lower Wardha (Reach I) | 10145                       | 609                 | 191                | 10945        |

|                                       |  |  |            |              |
|---------------------------------------|--|--|------------|--------------|
| Lower Wardha –<br>Katepurna(Reach II) |  |  | 10         | 6061         |
| Katepurna –<br>Nalganga (Reach III)   |  |  | 40         | 2812         |
| <b>Total</b>                          |  |  | <b>241</b> | <b>19818</b> |

Source: EE, WRD, Nagpur/Akola

The land to be acquired for Wainganga (Gosikhurd)-Nalganga (Purna Tapi) link canal is 7342 ha. Details are given in **Table-12.55**.

**Table-12.55**  
**Details of Land to be Acquired for the Link Canal**

| Link                                     | Details of Land (ha) |            |            |            |             |             |
|--|----------------------|------------|------------|------------|-------------|-------------|
|  | Culturable land      | Waste Land | Water body | Habitat    | Forest Land | Total       |
| Gosikhurd -<br>Lower Wardha<br>(Reach I) | 2922                 | 236        | 32         | 194        | 135         | 3519        |
| Lower Wardha –<br>Katepurna(Reach<br>II) | 2036                 | 96         | 7          | 0          | 8           | 2147        |
| Katepurna –<br>Nalganga (Reach<br>III)   | 1441                 | 216        | 0          | 8          | 11          | 1676        |
| <b>Total</b>                             | <b>6399</b>          | <b>548</b> | <b>39</b>  | <b>202</b> | <b>154</b>  | <b>7342</b> |

### 12.3.1.2 Project Affected Community

Due to creation of 31 new storages and raising of six other existing storages, about 109 villages shall be affected. Out of these, PAFs in 29 (26 fully and 3 partly) villages are to be rehabilitated. Where as, in about 80 villages, only the land comes under submergence of the storages. The exact no. of PAFs shall be assessed during the CEIA study of the link project. All the affected families would be compensated for the loss of their lands and houses. The families whose houses are coming under submergence would be resettled in the new habitations and would be assisted to take up some alternative occupation in the new surroundings.

### **12.3.2 People’s Perception towards Rehabilitation Package**

A liberal and attractive Rehabilitation and Resettlement package which would be acceptable to the Project Affected People duly taking into cognizance their perceptions shall be prepared for improvement of their economic conditions significantly after resettlement.

### **12.3.3 Rehabilitation and Resettlement Package**

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 title holders within the provisions of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013. However, in the present DPR, since the cost of enroute storages has been considered on volumetric basis (cost/Mm<sup>3</sup> of storage) based on the costs of the ongoing projects in the vicinity of the link project, no separate rehabilitation and resettlement package is provided. The relevant norms/measures for resettlement and rehabilitation as per the Govt. of India Act-2013 are only discussed in the following paras:

#### **12.3.3.1 Measures for Resettlement**

All the families that are likely to be evicted from their homesteads as a result of the process of land acquisition due to construction of storages and subsequent submergence area would be eligible to receive resettlement benefits, in addition to compensation of homestead plot and structures. In accordance with the provisions of “Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013”, the following provisions for resettlement based on similar projects will be provided to the families losing homesteads as given in **Table- 12.56**.

**Table 12.56****Provisions for Resettlement Plan for Families Losing Homesteads**

| <b>Sl. No.</b> | <b>Description</b>                | <b>Adopted Norms</b>  |
|----------------|-----------------------------------|---|
| 1              | Housing Benefits and compensation | If a house is lost in rural areas, a constructed house shall be provided as per Indira Awas Yojana Specifications.                          |
| 2              | House Building Assistance         | One-time financial assistance of not less than Rs. 5,00,000/- for house construction.   |
| 3              | Construction of Cattle Shed       | One-time financial assistance of Rs. 50,000/PAF shall be given for construction of cattle shed.   |
| 4              | Transportation aid                | One time financial assistance of Rs. 50,000/PAF for each displaced family for shifting of family, building material, belongings and cattle. |
| 5.             | Construction of working shed/shop | One-time financial assistance of Rs. 1,25,000/PAF shall be given for construction of working shed/shop.                                     |
| 6              | Subsistence Allowance             | Each affected family losing land, will be given a monthly subsistence allowance equivalent of Rs. 3,000 / month for a period of one year.   |
| 7              | One time Resettlement Allowance   | Each affected family shall be given a one-time "Resettlement Allowance" of Rs. 50,000/-   |

According to the above provisions, resettlement benefits shall be extended to all the PAFs including adult sons who are likely to be evicted from their homesteads.

**Amenities and Infrastructural Facilities to be provided at Resettlement Areas:** In addition to the resettlement benefits that would be extended to the PAFs, appropriate Amenities and Infrastructural Facilities shall be proposed to

be provided at Resettlement sites during the CEIA study of the link project. The broad details of such facilities usually provided (based on similar projects) are discussed in the following paras:

- **Internal Village Road Network:** For easy movement of people and vehicular traffic within the proposed resettlement sites, it will be suggested to construct wide internal village roads in each of the resettlement sites. These internal village roads would be connected to an access road which connects villages.
- **Drainage Network within the Resettlement Site:** It will be proposed to construct Drainage network in each of the resettlement colonies. The main purpose of this drainage network is to clear storm water and domestic waste water from kitchens and bathrooms. It is also proposed that the drainage networks will consist of a lined drain and are covered with RCC slabs. These drains will traverse parallel along internal village roads and finally culminate into a collection tank, before it is screened and filtered and thereafter either stored in an underground storage tank to be utilised for irrigation purposes in the Green Belt areas or discharged for the purpose of ground water recharge.
- **Sanitation Network within the Resettlement Site:** Sanitation network will be proposed to be laid within each resettlement site. The main purpose of this network will be to transport domestic waste (night soil waste from lavatories). In addition, the sanitation network will also carry waste from schools, health care facilities and other complexes within the resettlement sites. It is proposed to treat the sewage through septic tanks. The treated sewage will be disposed in absorption trenches.
- **Safe Drinking Water:** Safe drinking water @ 135 lpcd will be proposed to be provided to the PAFs by constructing an overhead storage tank and distributed through a network of pipelines. It will be suggested to lay underground drinking water pipeline along the internal village road, on the opposite side of the corridor for drainage and sanitation network. Construction of Conventional Water Treatment Plant will also be considered.
- **Public Transport:** For public transportation, it will be proposed to construct a Bus Stop in each of the resettlement colonies. This bus stop shall occupy an

area of about 10 m<sup>2</sup> (2 m x 5 m) and shall be covered by a 1.5 m high enclosure wall from 3 sides made of brick and cement with corrugated roofing material spread over 4 steel poles.

- **Drinking Water Trough for Cattle:** For families that wish to rear livestock, it will be proposed to construct drinking water troughs for cattle in each resettlement site.
- **Place of Worship:** A plot size measuring 0.5 ha will be proposed to be earmarked for construction of place of worship in resettlement sites.
- **Cremation Grounds:** It will be proposed to earmark an area of 1 ha of plot for establishment of cremation ground and / or burial ground.
- **Fair Price Shops and other Shops:** It will be proposed to provide a constructed space for 1 Fair Price shop and 4 other shops in each of the resettlement colonies. An area of 0.005 ha [(4 m x 2.5 m) x 5 shops] may be earmarked in each resettlement site.
- **Post Office:** A plot size measuring 10 m long x 5 m wide will be suggested to be earmarked for the construction of post office in various resettlement sites with drinking water post and WC facility.
- **Panchayat Ghar:** A plot size measuring 0.25 ha will be proposed to be earmarked for the construction of Panchayat Ghar. It will be suggested to construct the building over an area of 20 m x 15 m with drinking water post and WC facility.
- **Community Hall:** A plot size measuring 0.25 ha will be proposed to be earmarked for the construction of community hall (a two storied building over an area of 20 m x 15 m) in various resettlement sites with drinking water post and WC facility.
- **Health Care Facility:** A plot size measuring 0.25 ha will be suggested to be earmarked for the construction of a Primary Health Centre in the resettlement site with drinking water post and WC facility.



- **Garden and Children’s Playground:** About 1 ha of land will be devoted for this purpose with amenities like swings, park benches, goal posts, racing track in the play ground.
- **Space for Weekly Market:** It will also be proposed to allocate 0.15 ha of land in each of the resettlement colonies for weekly market. This area will remain un-developed, where vendors could come in on a weekly basis, set up their temporary shops to sell local produce.

### **12.3.3.2 Measures for Rehabilitation**

In the proposed project, majority of the population depends on land for their livelihood. Privately owned land is also expected to be acquired. The exact no. of PAFs shall be assessed during the CEIA study of the link project and appropriate rehabilitation measures would be suggested to the Project Affected Families (PAFs) losing land due to the proposed new storages.

### **12.3.4 Local Area Development Plan**

The objective of the plan is to empower families of the fully as well as partially affected villages. Villages which need to be relocated shall be provided Rehabilitation and Resettlement benefits as per the Policy and also other resettlement benefits. Contrarily, it is the project affected families residing in partially affected who are not likely to benefit from the proposed project except for compensation of their acquired properties, which would be mostly part of their lands. Therefore, a Local Area Development Plan shall be framed to extend benefits to not only the residents of the partially affected villages, but also to residents of the villages adjoining to project area which are also 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

### **12.3.5 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 and monitoring of Rehabilitation and Resettlement activities, in tune with the R&R policy 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.