

Gram Panchayat

Spatial Development Plan

of Belhe, Maharashtra

January 2021

for

Ministry of Panchayati Raj, Government of India



Prepared by

College of Architecture, Pune

Bharati Vidyapeeth Deemed University

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EXECUTIVE SUMMARY

In the wake of the COVID-19 pandemic the reverse migration to rural India occurred in many rural settlements in the urban fringes pre-urban regions. These rural areas are left wanting for development and improvement in quality of life indicators. Although legislation and policy guidelines have made it possible for rural self-government and responsive Gram panchayats, integration of spatial and fiscal planning is necessary to materialize long-term development of villages. The adversity faced post-pandemic can be utilized for making the necessary shift in the rural planning. As part of the recommendations of the fourteenth finance commission several villages are undertaking GPDP. Integrating the physical, socio-economic and basic services levels with the financial allocations will make the development process more realistic and trackable. Such plans as envisaged by the MoPR will be used as long-term perspective plans, when integrated with the GPDP, achievable funded goals. Geo-tagged household data collection and along with GIS based mapping of the village resources will enable data-driven decision making.

However, it must be noted that GPSDP is not intended to be a separate plan but an integrated spatial plan along with GPDP with a long-term perspective.

The Ministry of Panchayati Raj has assigned the task of preparing model GPSDP for two pilot villages to Bharati Vidyapeeth Deemed University, College of Architecture, Pune. Based on the prescribed criteria for village short listing by the Ministry of Panchayat Raj, BVDU-COA research and consultancy team conducted data analysis of about 15 villages in ten districts in Western Maharashtra. This included demographic data, land availability, proximity to highways, crops and agro-produces, identification of potential growth areas, and other economic conditions. One of the Gram Panchayats chosen for this demonstration project is Belhe in Junnar Tahsil in Pune District.

Belhe is located on National Highway 61- connecting Kalyan 144km on the west and Ahmednagar 69 Km on the east. It is located at a distance of about 102km from Pune to the south, and 131km from Nashik toward north. Belhe Gram Panchayat has 17 members, out of which one is Sarpanch and another is Deputy

Sarpanch. Total geographical area of Belhe GP is 3,294 Hectares. Total number of households in the GP 2,356 and the total population was 10,607 as per Census 2011.

The survey exercise is conducted with aim to prepare the Gram-Panchayat Spatial Development plan of Belhe GP. The objectives of the planning exercise are as follows:

- To assess and analyze the existing status of social, economic and physical parameters; and their spatial distribution in Belhe and in its surrounding region.
- To identify drivers and their planning implications in each development of the region and the village.
- To formulate regional strategies and identify projects for the development of the region and the selected village.

Initial study was done in two parts:

(1) Evolution study of the village over the years, and its introduction of decentralized planning and its importance.

(2) Study the concept of sustainability of the village along with its importance and implementation strategies.

Study is emphasized on collection of data from primary and secondary sources along with physical survey for the preparation of spatial plan of village. Various methods were used for the collection of primary data.

The data was collected by observation, survey method, and contact through email, telephone and personal interviews of the people along with focus group discussion, and stakeholders' interaction and perceptions.

The secondary data for demography was collected from Census of India. Various physical features of the village and surrounding area were obtained from a top sheet from Survey of India. It includes information about forest, environment, and contours etc. Infrastructure data such as village map, regional map, road network, irrigation, water supply and drainage etc. was collected from the

respective local government offices located in Pune district. NRSC, Nagpur regional center enhanced the data by providing valuable satellite images with its analysis.

The spatial and other collected data is analyzed in comparison with standards and norms of the government planning agencies. The gaps and problem areas of different sectors were identified. After identifying the gaps and issues of Belhe village and its surrounding, the holistic approach for the planning and development was formulated. On the basis of stakeholder's vision, the development aim and objectives of the plan was set.

The projected population was calculated based on arithmetic and incremental method. For the projected population, the employment generation strategies for various sectors were detailed out as per the planning norms.

Land analysis was carried out based on data analysis by considering slope, elevation, soil type and its texture, land utilization, nearness to settlement and facility. The settlement plan was prepared based on growth of population, functionality and socio- economic activities.

The aim is to prepare a sustainable development plan on the basis of consolidating each area considered for the spatial planning purpose of Belhe GP. The entire Junnar tahsil is rural in character in which Belhe is one of the prominent villages, surrounded by small hills on the north side and Kukdi river on the south side.

Belhe region traces its historical background from the Bahmani and Moghul period. The influence lasted till Peshwas consolidated power in Pune. Belhe has successfully implemented various missions and government schemes through a participatory and voluntary approach. This includes Bachat Gat, Tanta Mukti Abhiyan, Swachh Bharat Abhiyan programme, and housing for the poor among others.

The village is the center of regional agricultural economic activity like the largest

“bail bazaar” (cattle market). The cultural and religious fabric of the village is interwoven with coexistence of various religious casts and communities. It includes Hindu, Muslim and others since its establishments.

1. INTRODUCTION

Belhe village is located in Junnar Taluka, nestled by mountain ranges in the north, and north-west side and Kukdi River in the south. Tributary streams from the mountains on the north flow through the village toward the river. On the confluence of three such streams, the historic fortified village was established some time during the Moghul period. Administratively Belhe is part of Shirur parliamentary constituency and Junnar assembly constituency and comes under the Pune district collectorate. It is also served by Zilla Parishad, Panchayat Samiti constituency. Belhe is also the headquarter of the easternmost circle of Junnar Taluka.

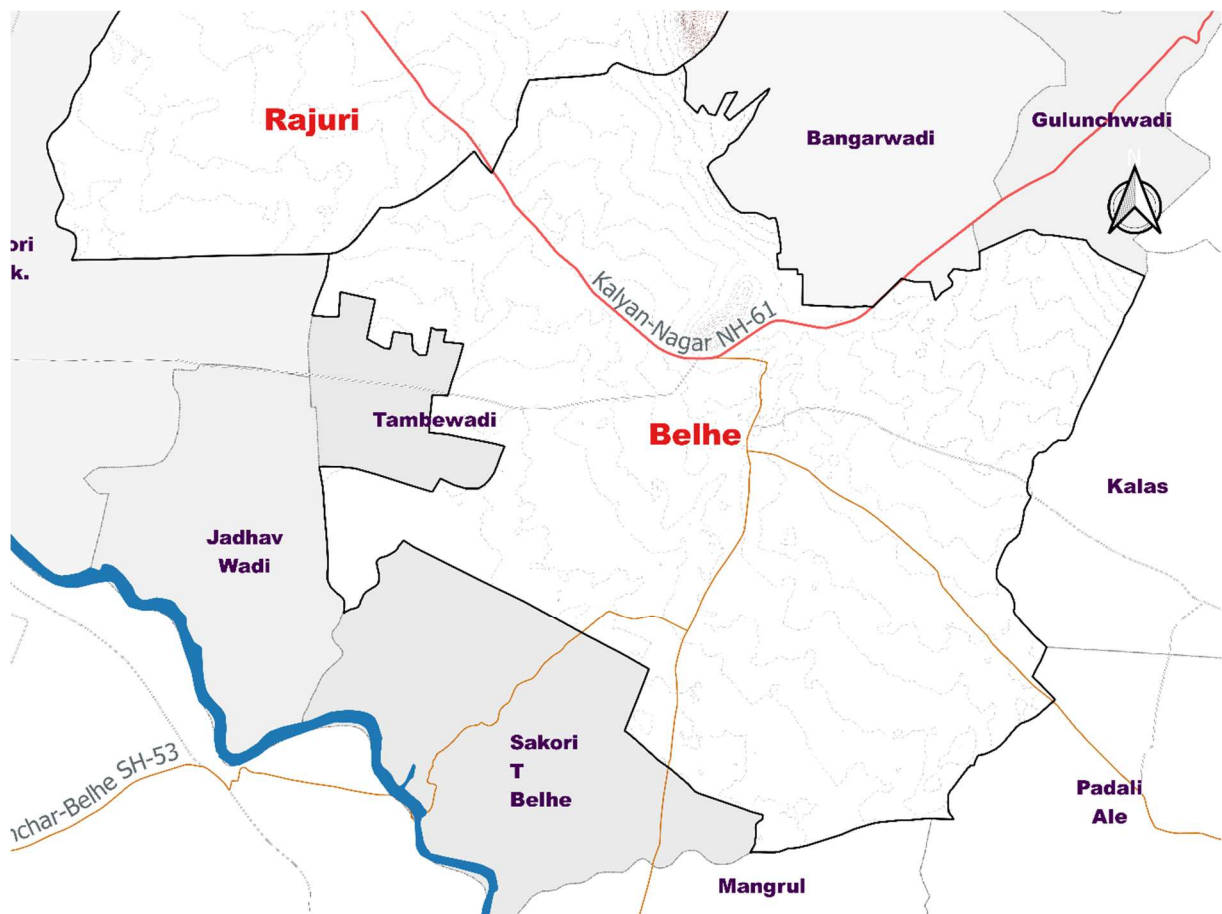


Figure 1:1. Boundary of Gram Panchayat Belhe in its context

Belhe GP is home to about 10,607 people (2011 census). Above 78% of the people are literate and close to 50% is part of the workforce.

1.1 Project Introduction and Evolution of Belhe

According to some historical texts (quoted in Cultural Gazette, Maharashtra), from as early as 90 BC, Junnar was a seat of power for the rulers from dynasties such as Chalukyas, Rashtrakutas and Yadavas. The significance continued during the Hindu period (300-1294 AD). By the end of 13th Century Ramdeorao Yadav's Devgiri was conquered by Alauddin Khilji and since then the areas around Junnar were directly or indirectly under the Muslim rule. The Bahamani Nizamshah's and Adilshah's ruled during the medieval Muslim period (1295-1720) until the Peshwas consolidated control over Junnar in around 1720 AD. The Maratha reign continued during 1720-1818 till the capture of Pune by the British troops.

Since Peshwas were established in Pune, the prominence of Junnar had faded, however it continued to be an important administrative and trade location. In the Moghul period, village of Belhe was also important with its weekly Monday market and Nawab's palace. Belhe's recent history may be traced back to this period. Not much is known in the formal records about the village in the Peshwa, and regional 'Subedar' may have had some degree of influence. According to the British period documents, in 1881, Belhe's population just above 2,800. It also shows that the influence of Junnar and its surrounding villages may have waned as Peshwas consolidated power in Pune.

But even after independence Belhe has continued to be a regionally significant trade hub particularly for cattle. According to the Ministry of Agriculture (2012) the core structures of the country's agrarian economy have been undergoing a fundamental transformation in recent times. This is also true in Belhe. The village economy mainly depends on trade and agriculture for economic activities. The village youth has adequate access to education beyond secondary education; however, they are generally forced to migrate to urban areas due to very low employment opportunities.

Generally, Belhe's farmers are dependent on water-dependent crops. In recent years many farmers are also trying fruits utilizing the gravel, highly drained soils

as well with the help of farm ponds and drip irrigation. Main crops as sugarcane, onions, soybean and tomatoes, and horticulture such as custard apple, pomegranate, and grapes. In addition, many farmers also practice animal husbandry mainly poultry, goats, and cattle. Milk is supplied to local dairies including Ganesh dairy in neighboring Rajuri.

The crop yields however need to be optimized by a reliable market access, storage, as well as processing units.

1.2. Response to COVID-19, / Need for renewed thrust in rural planning

The wake of covid-19 pandemic however, exposed the fault lines of low-or unskilled migration. Rural India has experienced disruption by experiencing reverse migration. Many young economic migrants have had to return to their villages as work was shut down. Even though economic activities in urban areas have rebounded, revival of all labor jobs has not been as fast or as normal. The reasons could be either the jobs have been lost or new ways of working conditions have been permanent.

Berdegue et al. (2013, pp. 13–31) have argued these conditions have been shaped by:

- a. The “diversification of rural economies,” and dependence on the regional trade activity away from their complete dependency on agriculture
- b. The “globalization of agro-food systems” that transforms the economy of rural areas and the livelihoods of individuals and organization of whole communities, and
- c. The “urbanization” of rural regions as well as the reduction of their relative isolation.

According to Berdegue, most of the rural areas dependent on an agriculture-based economy have demonstrated only emerging economic diversification, the globalization of agro-food systems, urbanization, and access of rural people to roads and telecommunications are “transforming” these areas in varying degrees. Kurien (1980) has asserted that rural transformation is taking place through the

introduction of technological innovations in the production process (such as the use of modern agricultural implements, irrigation techniques, etc.), a substantial increase in output, and the assimilation of cooperatives.

1.3. Need for Integrated Spatio-Economic Planning for Rural settlements

Indian states have legislative frameworks in place for spatio-economic planning of urban areas. However, when it comes to rural areas, there is lack of integration of spatial aspects in development plans. In 2016, Ministry of Panchayati Raj came up with the Rural Area Development and Plan Formulation and Implementation (RADPFI) Guidelines. The 73rd amendment to the Constitution of India has paved the way for democratic governance in rural areas. Taking it further ahead the XIV Finance Commission award has created an opportunity for responsive local governance at Gram Panchayat level through Gram Panchayat Development Plan (GPDP). It is prepared by Gram Panchayat along with incorporating the functions assigned by the concerned State Panchayat Act. Hence, there is a requirement to prepare a spatial development plan in integration with GPDP. That plan is GPSDP (Gram Panchayat Spatial Development Plan). Which is not a separate plan, but It is an integrated plan along with GPDP. It is for a long-term perspective plan.

These plans have to be participatory approach plans involving the community, particularly the Gram Sabha, in the formulation of priorities ,needs of the community and projects and will also have to ensure the mandates of social justice and economic development mentioned in Article 243G, Constitution of India 1949.

The Constitution of India requires the states to constitute District Planning Committees and Metropolitan Planning Committees to consolidate plans at the district and metropolitan level respectively, considering the concerns of both rural and urban local bodies. Interestingly, as per the Constitution, DPCs and MPCs are to incorporate spatial planning aspects in the District and Metropolitan Level Plans respectively.

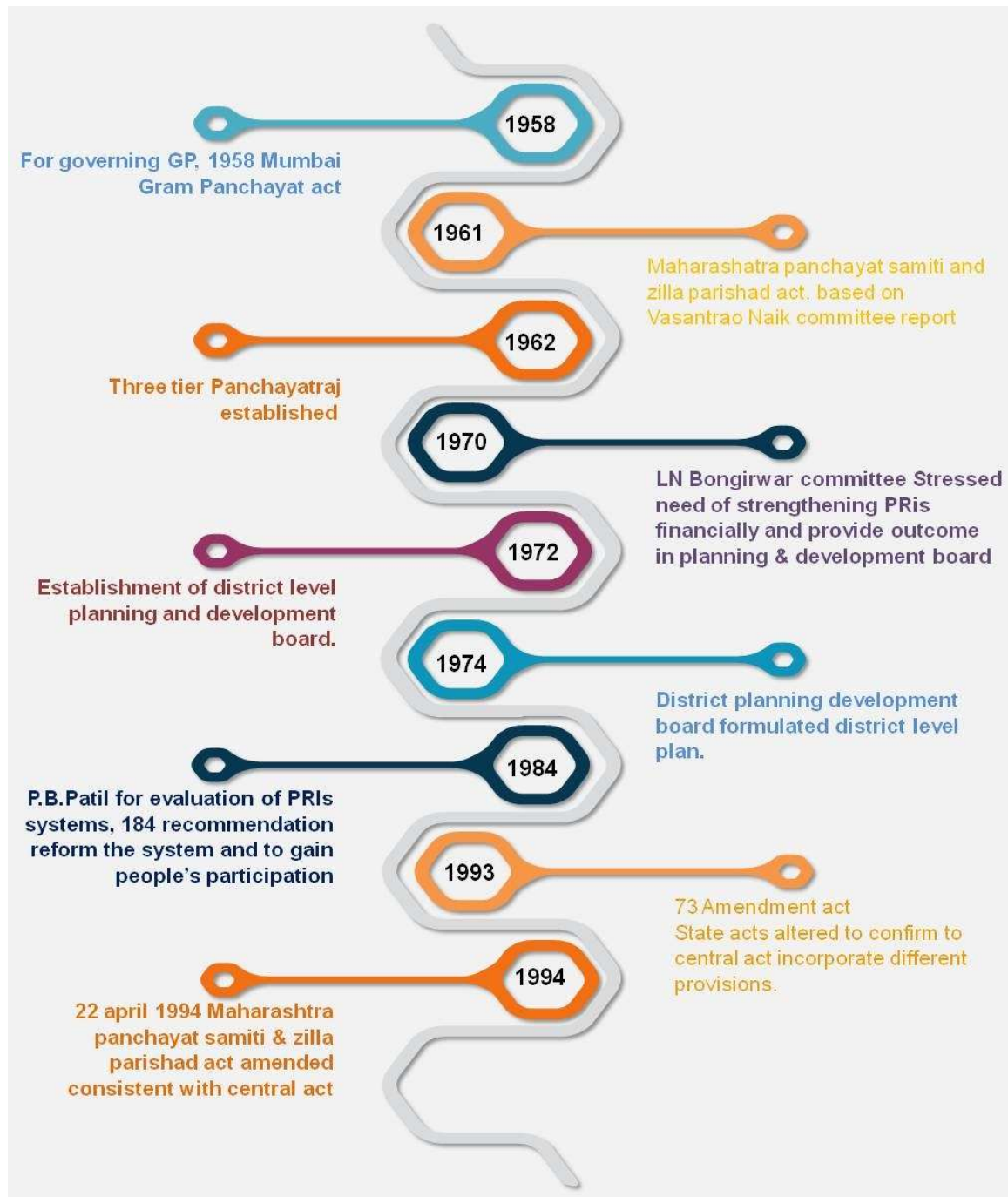


Figure 1:2 History of Panchayat Raj in Maharashtra

1.4. Integrating Spatial Planning and GPDP, within Panchayati Raj institutional set-up

The Census of India clearly defines urban as places with a municipality, corporation, cantonment board or notified town area committee, etc. and all other places which satisfied the following criteria: (i.) A minimum population of 5,000;

(ii.) At least 75 percent of the male working population mainly engaged in non-agricultural pursuits; and (iii.) A population density of at least 400 persons per sq. km. There is no definition of rural provided in the Census, however if a higher number of primary sector work is predominant, we could categorize the settlement as rural.

Similarly, the Constitution of India requires the states to constitute District Planning Committees and Metropolitan Planning Committees to consolidate plans at the district and metropolitan level respectively, taking into account the concerns of both rural and urban local bodies. Interestingly, as per the Constitution, DPCs and MPCs are to incorporate spatial planning aspects in the District and Metropolitan Level Plans respectively.

I.5. Methodology for preparing GPSDP - Survey, data collection, methods

The project team gathered data from various sources - both primary and secondary. Work was divided in a few steps, and in the interest of time data collection and stakeholder engagement was conducted simultaneously. Initial studies about the village were carried out using the data from Pune District Census profile, district and state watershed documents, as well as local village documents and records.

This helped in creating the basic profile of the Panchayat, analysis of the existing conditions with respect to demographic character, geo-physical and climatic conditions. Secondary data, both digital and hard copy, will be collected from various government agencies, local organizations and industries.

Primary studies through visits, physical surveys were done to gather and assess built and natural character, physical, social infrastructure conditions, services and facilities. This formed a base in identification of resources and assets that need to be addressed in the planning process.

Right from the first stage, the project began with initial sensitization and awareness meetings with the village officials and citizens. Through formal, informal interactions and interviews the visioning process was initiated; meeting with the Panchayat members and Sarpanch.

They were presented with a brief background of the planning exercise and case studies of the best practices. Initiative of the Ministry of Panchayati Raj government of India was explained to the stakeholders in depth. Visioning activity was held in three stages with introduction and need of topics, current state assessment and gap analysis, and discussions on the aspirations of the citizens, presentations and finally focus group discussions.



Figure 1:3. The local representatives and business leaders of Belhe attending a planning meeting

The project naturally incorporates spatial data including physical features, land use and land cover, built structures and physical and social infrastructure. With the help of apps based geo-coded household surveys, interviews and observation non-spatial attributes like socio-economic condition, access to services, skill level, etc. are also considered.

During these steps two and three simultaneous public participation and stakeholder engagement will also be done to identify aspirations and formulate a vision for the villages. Discussions were used to identify quality of life benchmarks and aspirations. Data points gathered needed to be cleaned, translated and in some cases converted to spatial data and prepared for analysis and assessment of benchmarks for quality of life. Forecasting of population was

done based on the normal population trends as well as the reverse migration impact. Criteria for identifying development prospects were finalized with the help of concept note, best practices and opinions of the villagers.



Figure 1:4. Focus group discussion with stakeholders of Belhe

Along with this, identification specific focus areas for development of land areas/sector plans were identified; of target and potential development areas with prescription for their optimum use is the outcome zoning system and prescriptions for rural settlements.

Further, financial feasibility, funding and investment sources were identified from local, state and central programs along with enabling legal framework wherever necessary. Lastly implementation plans, identification of short-, medium- and long-term action plans, along with periodic revision plans has been suggested.

2. CURRENT STATE ASSESSMENT AND GAP IDENTIFICATION

2.1. Belhe village current state assessment

Belhe Gram Panchayat was studied with the intention of analysis and fact findings data of the existing conditions. It includes land use, socio-economic development and prospective growth of the village as a growth center for surrounding.

2.2. Basic Profile of Belhe

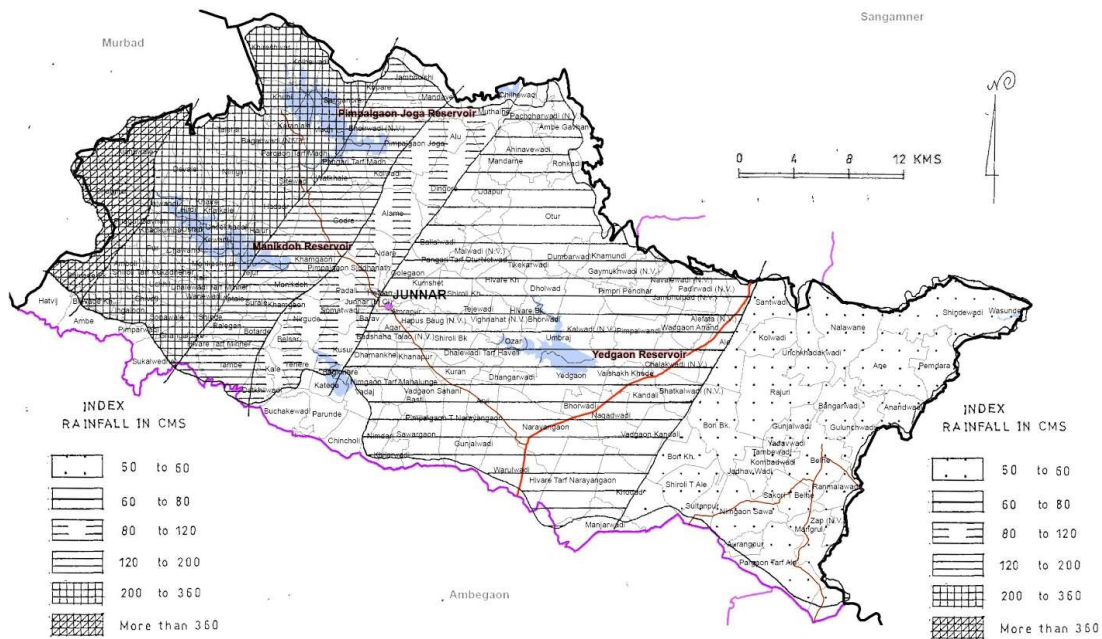
Belhe originally has been settled on the confluence of three tributary streams of Kukdi river, Aradara and unnamed. The stream beds are quite large, and due to which settlements are largely restricted within this area. The village is well connected to the region being on the Kalyan-Ahmednagar National Highway (NH-61). State highway no. 51 which connects it to Jejuri in the south, passes through Belhe gaathan and divides it into two parts. Connectivity with neighboring villages such as Bori, Sakori, regional towns of Narayangao, Junnar, Kalas and Shirur via district roads.

Kukdi river flows nearby, south of Sakori. A canal from Yedgaon reservoir passes through Belhe on the south (left branch). The Panchayat is reported to occupy about 3,294 hectares of land. Belhe's Gram Panchayat was established in 1957. Smaller villages (or wadis) of Gunjalwadi, Yadavwadi, Kombadwadi, Ranmalawadi are included in the administrative boundary of Belhe Panchayat. In recent year some of them have formed their own panchayats. Belhe is also a revenue circle in Junnar taluka with about.

2.2.1 Climate and Rainfall of Belhe village and surrounding region -

The climate of the Junnar tehsil can be divided into three seasons. April to May are the hottest months. From June to October are the rainy season and November to February are cold months. During monsoon season the humidity is

usually between 70 to 80% on the average. The humidity is comparatively less in the rest of the year.



Temperature increases in Junnar taluka from west to east due to altitude. In the western part, the temperature is 39.5 deg C while in the eastern part the region temperature is 40 deg C. There is a rapid increase in temperature from the months of February to May. During winter, temperature ranges between 17 to 18 deg C. As belhe is the eastern most circle of the Junnar tehsil, Belhe experiences a climate on the extreme range of Junnar.

The region is identified as a water scarcity zone due to low rainfall of 500 mm to 600 mm throughout the year. The rainfall is irregular and uncertain. It is highly influenced by the western ghat ranges. The region is categorized as arid and semi-arid zone. Hence is prone to heavy erosion of soil in case of heavy rains, with sheet of water or sheet flood. Soil erosion is acute in these areas because of the nature of soils, caused by loss of natural vegetation and human activities.

During the rainy season all the rivers and streams carry vast volumes of water along with sediments including gravel and sandy soils, and the dry months they shrink to a near dry beds with narrow flow of water in broad stretches of gravel

2.2.2 Geology and soil characteristics -

Belhe is part of the Upper Bhima basin, particularly, Ghod-Kukdi Valley. Ghod-Kukdi Valley is spread over parts of Junnar, Kukadi river is the main river one of the tributaries of Bhima river. As mentioned in the Census 2011 district profile, the surface of valley is uneven due to the erosion of the fast-flowing river during the rain. Strata are mainly rocky in nature. Junnar has rock formations of Deccan Traps. It consists of volcanic lava flows with inter-trappeans and infra-trappeans. It belongs to the lower eocene to upper cretaceous age.

Soil has been one of the important resources. The crop pattern is heavily influenced by soil type and its texture. Major soil type found in Belhe circle is of two types, coarse shallow in the upper half (north of NH-61) and medium deep in the lower half (south of the NH -61). The soil texture of Belhe circle is mainly of three types—clayey, gravelly sandy loam, and gravelly sandy clay loam.

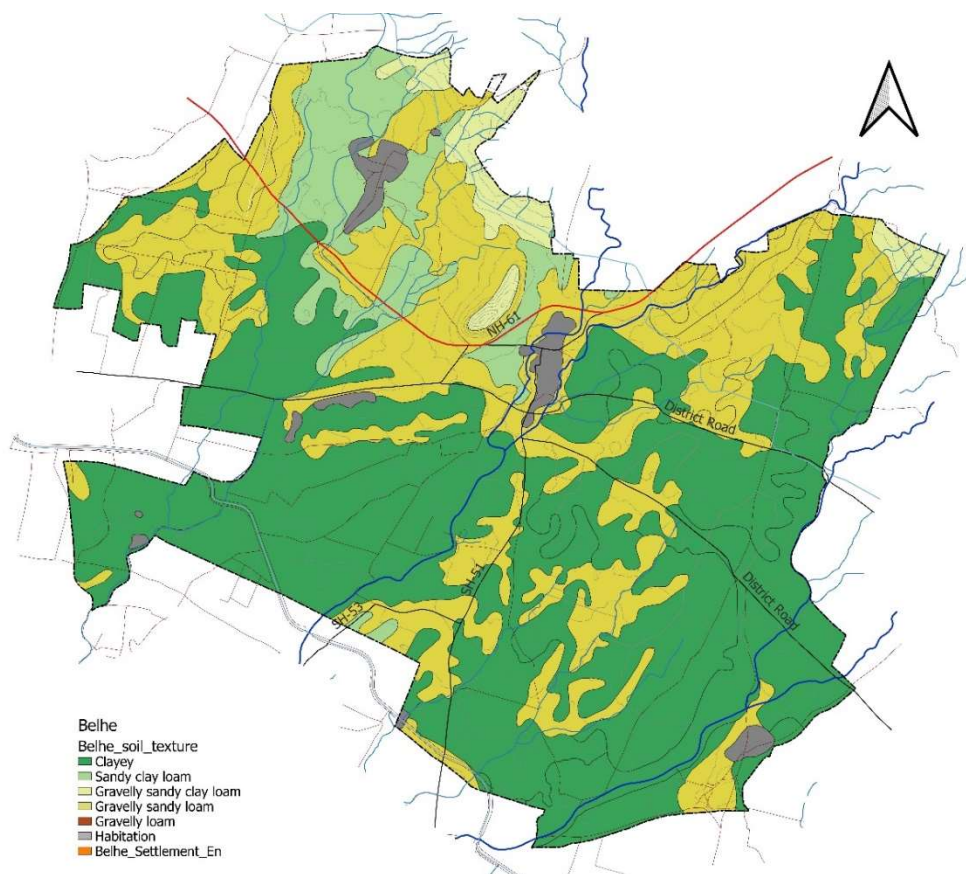


Figure 2:1. Map showing soil texture in Belhe village

There is not vegetation cover (forest cover) in Belhe, compared about 13% in

Junnar, 10% in Pune district. Neighboring Rajuri has about 25% land under forest. Both the rainfall levels and soil characteristics govern vegetative cover of the sub-region. The fertile layer of soil is lost due to less vegetation cover. It results into the depletion of ground water table.



Figure 2:1: Map showing regional watersheds and annual average rainfall levels

2.3. Development indicators for the village

To assess development indicators, data on physical and demographic aspects of the GP was collected. Both primary and secondary sources along with survey for the preparation of spatial plan of village were conducted. The data was collected by observation, survey method, and contact through email, telephone and personal interviews of the people along with focus group discussion, and stakeholders' interaction and perceptions.

The secondary data for demography was collected from Census of India. Various physical features of the village and surrounding area were obtained from a top sheet from Survey of India. It includes information about forest, environment, and contours etc. Infrastructure data such as village map, regional map, road network, irrigation, water supply and drainage etc. was collected from the respective local government offices located in Pune district. NRSC, Nagpur regional center enhanced the data by providing valuable satellite images with its analysis.

The spatial and other collected data is analyzed in comparison with standards and norms of the government planning agencies. The gaps and problem areas of different sectors were identified. After identifying the gaps and issues of Belhe village and its surrounding, the holistic approach for the planning and development was formulated.

The projected population was calculated based on arithmetic and incremental method. For the projected population, the employment generation strategies for various sectors were detailed out as per the planning norms.

Land analysis was carried out based on data analysis by considering slope, elevation, soil type and its texture, land utilization, nearness to settlement and facility. The settlement plan was prepared based on growth of population, functionality and socio- economic activities. On the basis of stakeholder's vision, the development aim and objectives of the plan was set.

2.3.1. Population with Socio-Economic character

Census 2011 recorded 11,877 as the population of Belhe. There were about 2,356 households and the Panchayat has a literacy rate of 76%. Average Female ratio is less than male population.

Belhe village comprises 6 wards having population 6,735 as per data available at Panchayat office. Maximum population is 1,470 in ward no 1 and least population in ward number 5 in comparison with other wards. In addition, there smaller villages of Gunjalwadi, Yadavwadi, Kombadwadi, Ranmalawadi, and parts of Gulunchwadi are included in the gram panchayat limits.

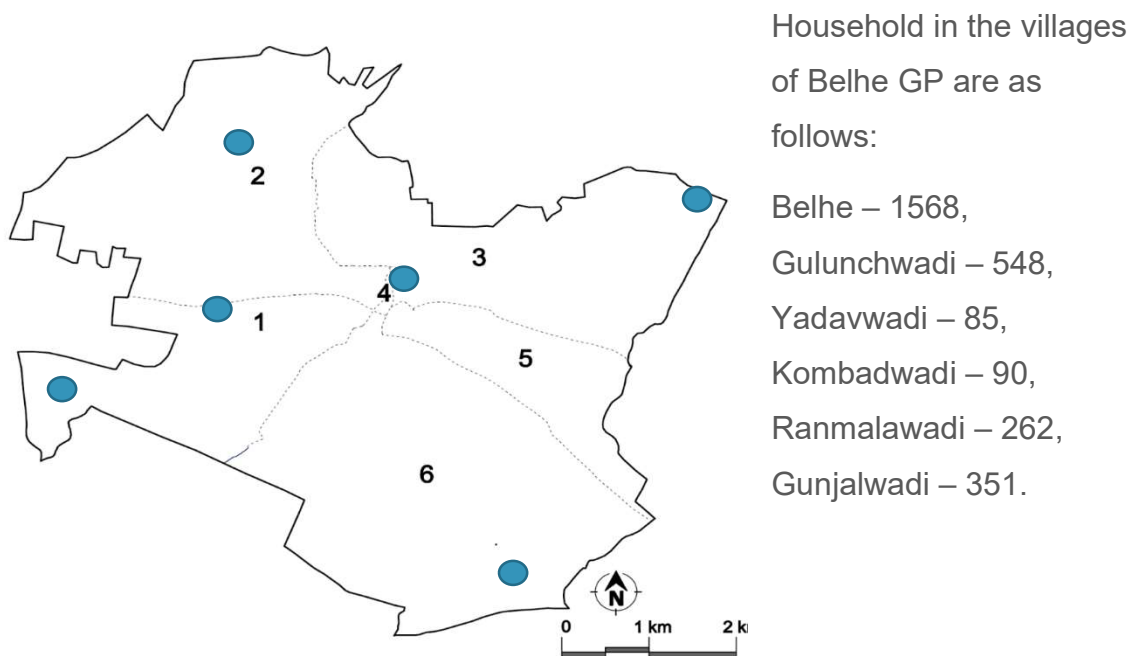


Figure 2:2. Map showing approximate wards division and location of wadis in Belhe GP

Table 2.3.2: Demographic profile of smaller wadis included in Belhe GP

Census 2011

Other Wadis	Total wadi Population	Male	Male %	Female	Female %	Literate
Belhe	8005	4061	50.73	3944	49.26	5931
Gunjalwadi	1794	884	49.28	910	50.72	1314
Kombadwadi	389	189	48.59	200	51.41	298
Yadavwadi	424	217	51.18	207	48.82	291
Ranmalawadi	1265	580	45.85	685	54.15	427
Total	11,877	5,931	49.94	5,946	50.06	8,261

Table 2.3.1: Ward-wise demographic profile

Population data collected by GP, in 2018

Ward No	Total Ward Population	Male	Male %	Female	Female %
1	1470	752	51.15	718	48.84
2	1073	567	52.84	506	47.15
3	1119	662	59.15	457	40.84
4	1061	534	50.32	527	49.67
5	855	438	51.22	417	48.77
6	1157	615	53.15	542	46.84
Total	6735	3568	52.97	3167	47.02

The sex ratio of smaller wadis is higher than that of compare to the district and state. Only Belhe and Yadavwadi have more men compared to women, and Ranmalawadi has the highest percentage of above 54% women. This may be a reflection of the migration of male population to urban areas for employment as observed in the field observations.

Table 2.3.2: Demographic change in Belhe Village over last 50 years.

Census 2011

Sr No	Census Year	Total Population	Decadal Change %
1	1970-71	6580	
2	1980-81	7311	+14.43
3	1990-91	7530	+07.64
4	2000-01	7870	+04.51
5	2010-11	8005	+01.71
6	2019	8818	+9.21 (as per recent GP count)

GP also kept a count of those who returned during the pandemic and reported the number to peak of over 1,000.

Population in Belhe has seen declining growth from 1971 to 2011 from 14.43% to only 1.71%. The trend seems to have changed in the last decade from 2011 to 2019. As per the data collected by the GP in their recent (2019) count during local election cycle, the population has increased by about 9.2%. This may indicate both natural growth and reverse migration from cities.

2.3.2. Occupation Pattern of Belhe GP

About 49.6% people (5,888) is part of the work force. Almost 97.25% (5,726) are main workers, and only 162 were recorded as marginal workers. Nearly 78% of the main workers are engaged in cultivation and agricultural activities and about 20% engaged in other occupations. There are very few marginal workers (162) and just over 50% of the population (5,989) is non-working. Belhe has the highest number of 895 (about 11%) other workers, while others There are 434 cultivators and 357 agricultural laborers Figure 39. This means that people have economic stability.

Table 2.3.3: Occupation pattern of Belhe GP

Census 2011

Sr No	Total workers	main workers (%)	cultivator (%)	agricultural labour (%)	household workers (%)	other workers (%)
Belhe	3,913 (48.88)	3774 (47.15)	1,456 (18.19)	1,289 (16.10)	134 (1.67)	895 (11.18)
Yadavwadi	237 (55.89)	233 (54.95)	129 (30.42)	77 (18.16)	1 (0.24)	26 (6.13)
Kombadwadi	199 (51.15)	199 (51.15)	127 (32.64)	49 (12.60)	-	23 (5.91)
Gunjalwadi	981 (54.68)	969 (54.01)	681 (37.96)	160 (8.92)	4 (0.22)	124 (6.91)
Ranmalawadi	558 (44.11)	551 (43.56)	403 (31.86)	82 (6.48)	2 (0.16)	64 (5.06)
Total (%)	5,888 (49.57)	5,726 (48.21)	2,796 (23.54)	1,657 (13.95)	141 (1.19)	1,132 (9.53)

2.3.2. Status of physical infrastructure

2.3.2 a - Road connectivity - Regional Inter-Panchayat

The panchayat is well connected by way of NH-61 with the regional centers such Pune, Nashik, (NH-60) Kalyan, and Ahmednagar (NH-61). Belhe is also connected with two state highways one toward Shirur and another toward Manchar. A few district roads connect Belhe with neighboring villages such as Narayangaon/Junnar on the west and Kalas on the east.

Majority of the traffic on these roads is related to the weekly market and through

traffic of national highway. However, the state highway as well as the district roads are in poor conditions, particularly within the gaathan areas. In majority of the sections they are only one-lane roads with cracked/missing pavements. Storm gutters are open and therefore sewerage from the village is mixed. The highway entry-exits are very poorly aligned (both horizontal and vertical alignments are acute) and cause accidents.

The nearest railway station is located in Ahmednagar, which is at a distance of 65 km from Belhe village. The proposed Pune to Nasik rail route will pass through Alephata which is about 7 km from the selected village.

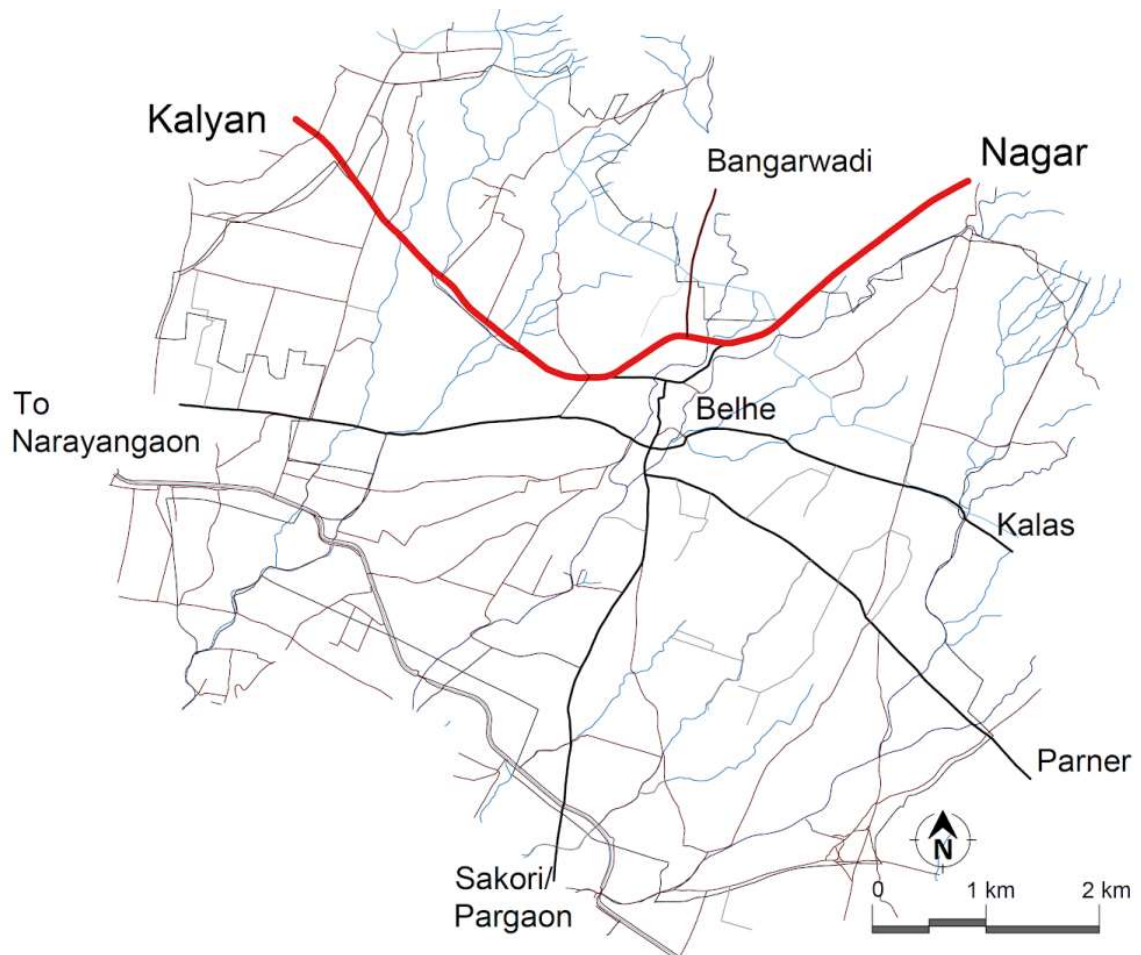


Figure 2:3. Map showing road network to neighboring villages

2.3.2 b - Road connectivity - Intra-Panchayat

Within the Panchayat, there are three types of road - metalled road connecting with Gunjalwadi and Yadavwadi, one unmetalled very narrow road connects with Kombadwadi. Several other kutcha streets lead to other settlements including Ranmalwadi and Gulanchwadi.

One of the main thorough fare of the village happens to be the north-south state highway to Manchar, and it divides Gaothan area. Many of the roads have been provided with streetlights in the last few years.

Gaothan roads are narrow and have varying right of way (from 3m to about 6m wide) and some roads leading to the settlements are only cart roads.

Both stormwater and sewage network are non-existent in core as well as outside areas. Most of the pukka roads have only open gutters, and other semi-pukka and kutcha roads do not have any drains. In some parts of Kombadwadi, where majority of the roads are narrow, have been paved with blocks, there too no stormwater drainage has been considered.



Figure 2:4. Belhe village roads



Figure 2:5. Roads connecting Belhe to Bori

The bridges/culverts crossing the streams are narrow and not well built. On the area of culvert, too. The farmers face difficulty during the rainy season to bring large equipment needed to the farms and to take the crops back to market.



Figure 2:6. Bridge on culvert and further connecting road to the settlement

2.3.2 c - Street furniture in Belhe:

In the core area and outside the new expanded settlements has street lighting on the road. But about 50% of streetlights are old and have not been functioning for a long period. No signages- informative, cautionary or prohibitive have been provided. Neither are any landscape elements such as trees, benches or trash receptacles provided.

There is no provision on the road and canal side for protective barriers. On the

roads sides there is thick vegetation and plants which may have chances of attacks of leopards on mankind in the evening time.



Figure 2.8 Culverts on Kukadi Canal without safety barriers

2.3.2 d - Drainage (Storm water)

Within the goathan, as mentioned above, roadside gutters are available in some areas however they are open and even encroached in with steps to the buildings. Since no sewer lines are available, it is directly let out in the open gutters, which eventually is directly connected to the streams and rivers of the village.

The rainwater in peak seasons flows on the road which creates obstruction to pedestrians as well as vehicular traffic. Since road level has increased, plinths of old structures are either at or below road level and may suffer from flooding. Diverting and managing storm water will also help for water conservation and controlling the stream pollution.

Increasing the road level has also resulted in water lines being buried deeper, poorly maintained and damaged. This puts pressure on the already deficient supply.

2.3.3 Basic Services and facilities

2.3.3 a - Water supply

Belhe has a region water supply scheme of 1,50,000 liters capacity connected to Yedgaon reservoir. Secondly Gram Panchayat has its own 1,00,000 liters capacity overhead water tank in the old goathan area. In this scheme there are

674 connections to the house holders including public stand post. The old scheme has underground supply with galvanised iron pipes. Presently it is in a corroded state. Third overhead water tank is located at Shinde mala which has 10,000 liters capacity. There are 22 connections to the households in PVC. Kombadwadi settlement under Belhe has one water tank of 10,000 liters capacity in which 46 household connections are provided.



Figure 2:7. Elevated Water Storage

2.3.3 b - Sanitation - Solid / Liquid Waste management

Village-wide network is not provided. Other sanitary infra is mostly absent, except recently provided toilets and a few two-pit septic tanks are used in some households. Solid and liquid waste management is also absent.



Figure 2:8. Public toilet facility near the ZP school

2.3.3 c - Power supply

All settlements have been provided with electric connections provided by MSEB. However discussions and surveys revealed that the village is affected by frequent

load shedding and single phase supply. The gram panchayat has installed 368 street lights, 12 solar lamps and 15 numbers high mast light poles at approximately Rs.200,000/- expenditure. Out of 368 street lights 50 % are in non working condition currently.

Intermittent supply of electricity causes considerable stress not only to the farmers, but also affects daily life and productivity in academics, small industries and trade and commerce. A few progressive businesses and citizens have adopted solar panels for individual use. There is tremendous scope for the use of renewable energy such as solar, wind, bio-gas and crop residue.



Figure 2:9. Power supply line and pole transformer in Belhe

2.3.3 d - Burial ground and crematorium

As the village has diverse population of various religious beliefs, there are separate sites for last rites of Hindu, Muslim community. The Hindu crematorium area is located on the north east of Belhe village.

2.3.3 e - Post and telecom services.

India Post branch of the village is operational currently and is the only available courier service in the village.

2.3.4. Status of social infrastructure

2.3.4 a - Education and Health Centers

In Belhe village there is high school with an intake of 1038 students run by local educational trust. There is a junior college that has 209 students with arts, commerce and science faculties. Primary school with 350 students and Anganwadi has 677 in-take as per present survey and data (GP records). There is also a pharmacy college and an engineering college in Belhe affiliated to Savitribai Phule University Pune, run by Samarth educational trust.



Figure 2:11. Anganwadi at Pansare Mala



Figure 2:10. Photo of the Samarth Engineering College near Belhe

Belhe has about eleven private clinics of which two have allopathic practitioners, and others provide ayurvedic and homeopathic medical service. There is a primary care center as well near the market area.



Figure 2:12. Private health facility in Belhe

2.3.4 b - Banking infrastructure



The Panchayat has six banks - one public sector bank and two private sector banks and three co-operative banks. Majority are located near the bazar peth and market yard along the state highway.

2.3.3 c - Open Space and Recreation

Currently there are no spaces dedicated for recreation, social or cultural



Figure 2:13: Open ground near the Monday market

gatherings. Open ground along the highway near the village could be redesigned for this purpose. Such tracks can be connected to larger open/green spaces or parks to create a green network. There are hardly any open and recreational spaces in Belhe village, but there are plenty of land pockets belonging to the government and zilla parishad and panchayat samiti which are unused since a long period.

2.3.3 d - Parks

Currently there are no parks in the village. There are open spaces belonging to gram Panchayat and zilla parishad which are currently unutilized and undeveloped. Suggestions provided above regarding buffer spaces will improve the situation. In addition, some of the forest land immediately can



Figure 2:14. Unused field being used as a Playground local children and youth

also be developed for creating low-impact parks and nurseries. This can be part and parcel of biodiversity parks of the village area.

2.3.3 e - Market places

In the gaathan and near the highway, there are a few pockets of commercial developments, both in private and Panchayat ownership. However, they are very well organized. The weekly market is organized on large open ground, with some minor facilities such the cattle lines, water, a veterinary kiosk. Nearby two small sheds are constructed for only about 50 cattle.

There is no provision for parking for near the weekly market or the commercial buildings.

The cattle market is at the entrance side of Belhe near to national highway no 61. These are not well maintained by the local managing body.



Figure 2:15. Cattle Market and Dilapidated Warehouse structures

2.4 Religious and Recreation:

The village has a group of all castes and communities. The representations of culture there are Hindu temple, Mosque and Multipurpose hall for backwards class community. Out of this, the Muktai temple is newly built and has sufficient open space to gather and activities. There is also Hanuman temple in Belhe village with green landscape and plantation around it.



Figure 2.17 Muktai temple and Ancient Baleshwar temple



Figure 2:16. Hanuman mandir and Shani mandir

2.4. Planning Framework and Existing Plans for the Village

As per the 73rd Constitutional Amendment, 29 subjects are to be transferred to the Panchayat Raj institution. Maharashtra State implemented this amendment in April 1994 and provisions were made in the State Panchayat Raj Act (Maharashtra Act No. V of 1962) to transfer these subjects to the Zilla Parishads, Panchayat Samitis and the Village Panchayats.

The village panchayat has elected a body of six members from six wards of Belhe village. Among them, two members are elected as Sarpanch and deputy sarpanch of the village for the term five years. The overall control of village development is carried out by this elected body.

The day-to-day work of the Panchayat is done by the Secretary of Panchayat, an appointee from the CEO of Zilla Parishad.

As per the state panchayat act, powers and duties of Panchayats (through Gram Sabha) are - utilization of funds for the plans, programmes and projects; prospecting license or mining lease for minor minerals; control on erection of building, to remove any obstructions and encroachments upon public streets and open sites etc. On the ground the gram panchayat faces lack of capacity and enforcement mechanism to implement. The building permission approval process is very critical but time consuming.

Land records and development control is still controlled by the state the revenue department through the district collectorate and panchayat samitees (via Talathi and Mandal Adhikari). Proposals plans of various schemes are forwarded to the state and central government from time to time. Related housing or other activities the basic permissions are granted from collector via town planning office of the district and other authorities.

2.4.1 Establishment, Budget and Accounts and role of Zilla parishad and Panchayat samiti

The budget of the village Panchayat is submitted to the Panchayat Samiti. It

covers the opening balance in the fund, estimated income, proposed expenditure and the amount to be contributed to the District Village Development Fund. The sanctioning authority of the village budget is Panchayat Samiti.

Gram Panchayat receives financial assistance from the State Government, loan by Zilla Parishad, Equalisation grant, Village Water Supply Fund and District Village Development Fund.

2.4.2 Taxation and Recovery of Claims

The taxes levied by the Panchayat are - tax on buildings and lands, betterment charge or the lands benefited from schemes or projects undertaken by Panchayat from "Village Fund", pilgrim tax, tax on fairs, festivals and other entertainments, tax on bicycles and on vehicles drawn by animals, tax on professions, trades, callings or employments, shop keeping and hotel-keeping, general sanitary CESS, general water rate, lighting tax, fee on markets and weekly bazaars, fee on car stands/ Tonga stands, special water tax for water supplied through pipes, fee for the supply of water from well and tank for purposes other than domestic use and for cattle, fee for temporary occupation on public street, special sanitary CESS upon private latrines, fee for cleaning cesspool, fee for grazing cattle, fee on the registration of animals, lump sum contribution by factories in lieu of taxes levied by Panchayat, farming of fees on markets, collection of CESS on every rupee of land revenue etc.

2.5 Economy:

Being a completely rural area, the economy of Belhe is mainly agrarian. Out of 12,000 total population, main workers are 70 percent, engaged in the primary sector, 5 percent in the secondary sector and 25 percent in the tertiary sector. This is a reflection of the trade activities from the weekly market in Belhe along with the agricultural activities.

Belhe experiences an annual tourist inflow of about 50,000 for the ox race, market local fair. Major tourist attractions in and near the region are the ancient rock caves, Shivaneri fort, the birthplace of Chhatrapati Shivaji Maharaj, natural potholes (ranjan khalage) in Kukadi river.

The village has a market area located on the main road connecting the highway near the weekly cattle market grounds. These areas are unplanned, with some amount of unauthorized construction. They have been set-up with personal finance.

The village has a total land area of 2,945 hectares. Out of which, 1,505-hectare land is under agriculture, but just about 50% (749-hectare) land is irrigated. The rest of the land under cultivation is dependent on ground water with wells and tube wells. Recently farmers are adopting farm ponds. Due to the hilly terrain in the north along with sandy shallow nature of soil, northern part of the panchayat is prone to erosion. Cereals and horticulture are the main produce from this land. Lower parts of the village however have more reddish-brown soils with more depth. Farmers in the lower section grow rabi and khaip jowar, sugarcane etc.

Belhe major crops are sugarcane and onion, along with some horticulture of custard apple, grapes and tomatoes.

The area shows potential for processing of perishable horticulture thus creating sustainable and predictable income from these crops would be one of the prime goals of the plan. The village also can benefit from the development of lands for marketplace near the highway in the north. The designation of grass lands as forests also exist in Belhe, and villagers seek re-designation of this for other use. There may also be some demarcation and encroachments of forest areas which need to be addressed. Collaborative efforts with the forest department, state and Zilla Parishad revenue offices are needed in this regard.

3. EXISTING CONDITIONS WITH SPATIAL REFERENCE

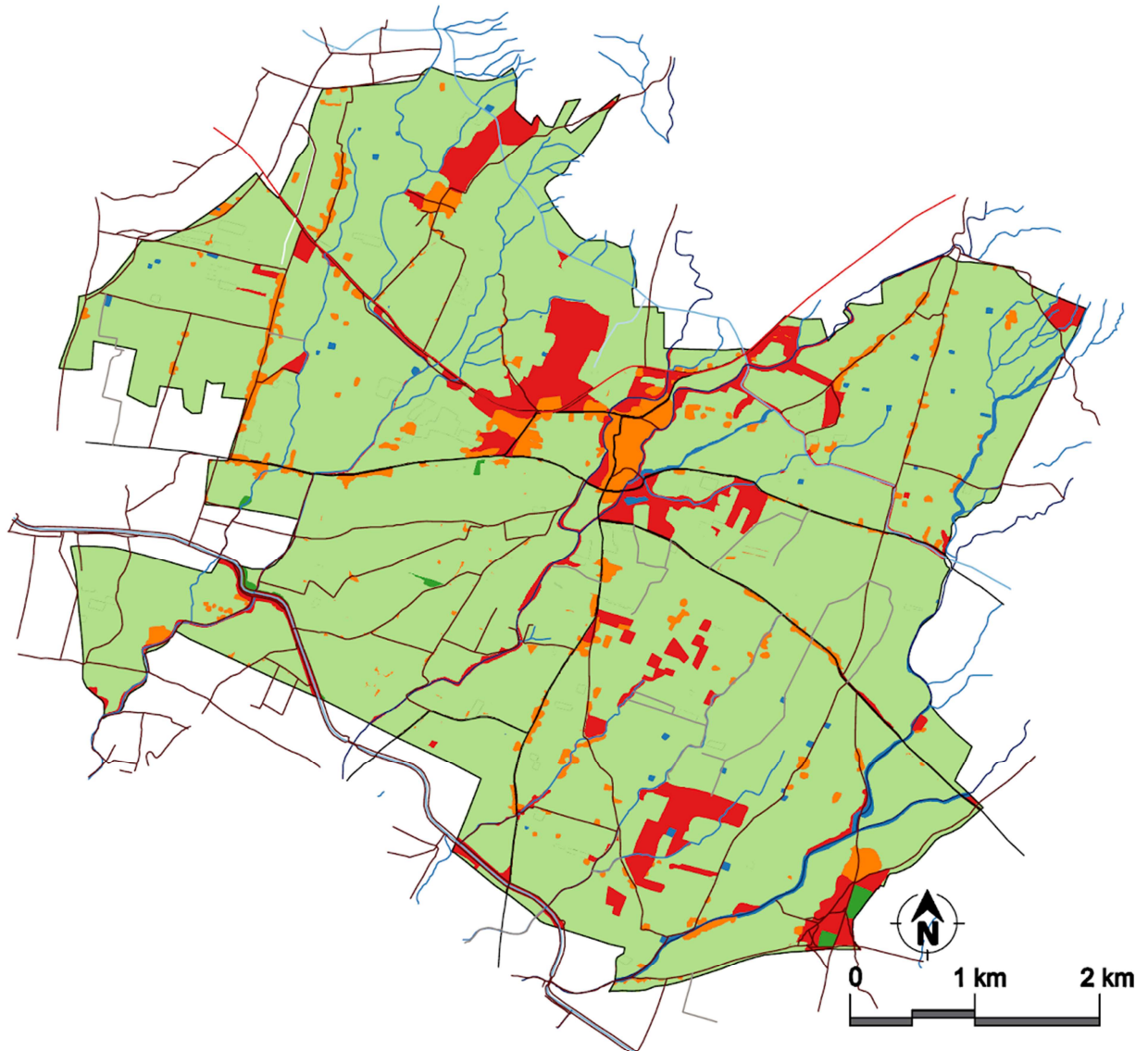


Figure 3:1. Land use and land cover along with settlements

3.1. Land use and cover

Total land area of Belhe gram panchayat is includes 1,469.0 hectares of Belhe, 1,368.0 hectares of Yadavwadi and 108.0 hectares, Kombadwadi, a total of 2,945.0 hectares. Built up land in these three settlements is about 110.0 hectares. 749.2 hectares is irrigated land and 756.6 is unirrigated land including

barren land.

About 53.1% of the land is under agricultural use which includes irrigated and unirrigated land. The remaining land is fallow land 1,439.2 hectares (47.12%) but.

Target is to bring this land irrigated cultivable one by increasing the ground water table.

Land Use Percentage

Percentage out of 2945 Hectare total area.

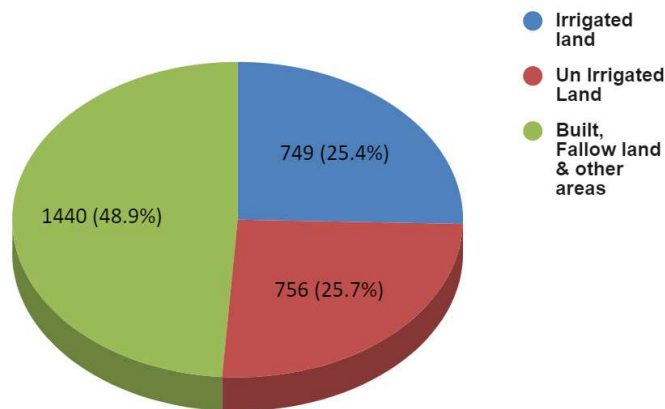


Figure 3.2: Land Use and Land Cover % distribution of Belhe (areas in hectares)

3.1.1. Land use of Gaothan area

As stated above Gaothan is a very densely built historic building such as Navab Gadi and old wadas etc. This old core includes all community housings. There are small settlements of economically weaker sections located just near to the core area towards east. Majority of the structures are single-use residential old buildings and new upcoming buildings are in RCC framed structure, with maximum ground plus two storeys. Commercial area is on the old Belhe -Jejuri road and also located at the entrance of Belhe as a weekly market. All the internal roads are only upgraded by increasing the level of the road by various planning and implementing authority. No one has given the thought to the plinth level of the structures. Today roads are at a higher level than the existing plinth. Gram Panchayat building's plinth is about 1.5 meter from the road level. This causes serious problems in the rainy seasons .

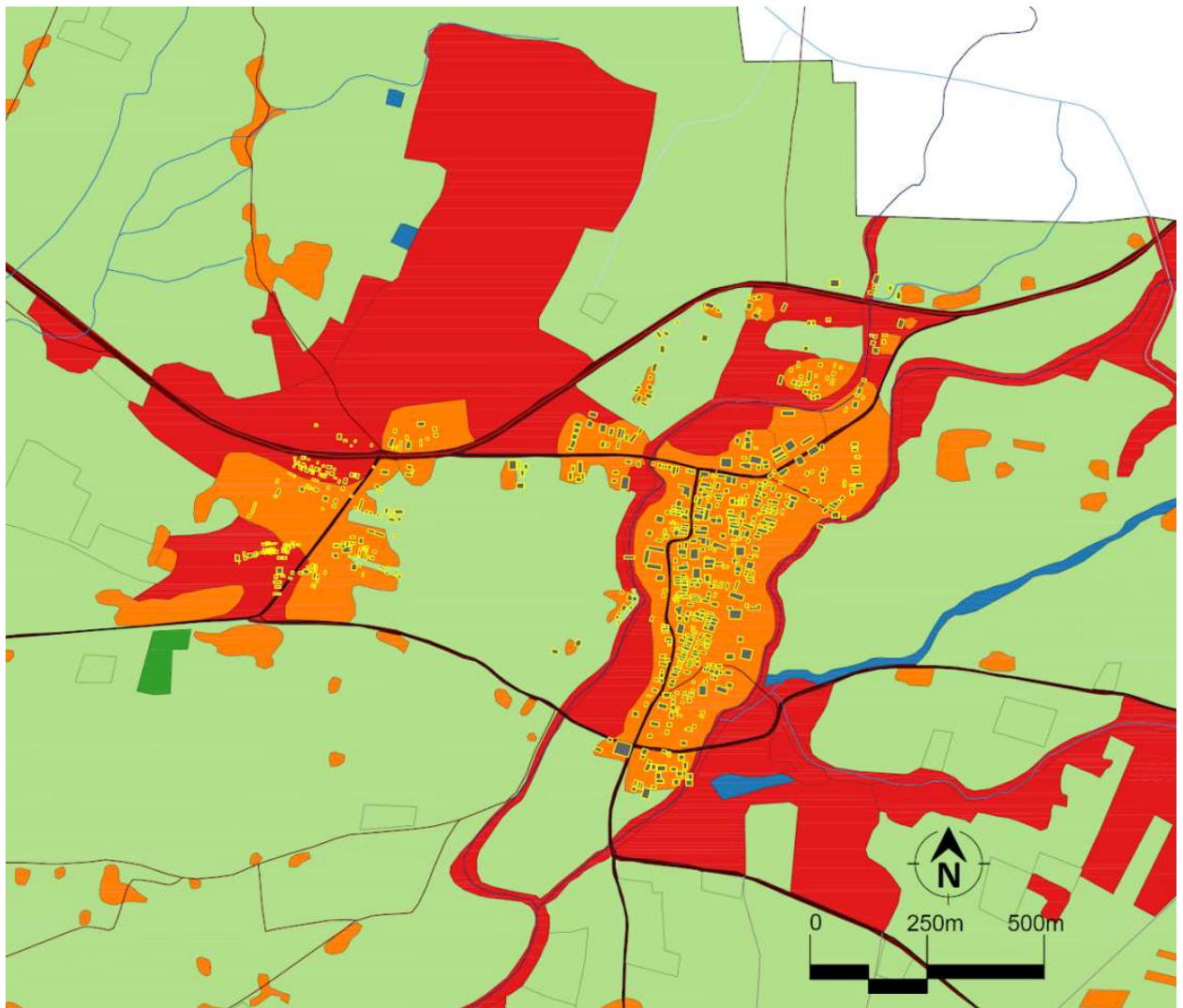


Figure 3.3. Land use and land cover of Belhe gaathan

3.1.3. Built use

The built use in Belhe, Yadavwadi an Kombadwadi is 110.0 hectare out of 2,945.0 hectares of land. This comes to about 3.74% of the total land, out of which there are several semi-governments and government buildings such as Warehouse; Market building, Gram Panchayat building etc. All these buildings are in dilapidated stage that should be redeveloped with the emphasis on the contemporary needs. There are also some historical monuments like Nawab gadhi, Belheshwar temple, Pushkarani and old wadas. Built land use is largely concentrated in two pockets of Belhe. New settlements have developed in Kobadwadi, Yadavwadi, Gunjalwadi and Ranmalawadi.

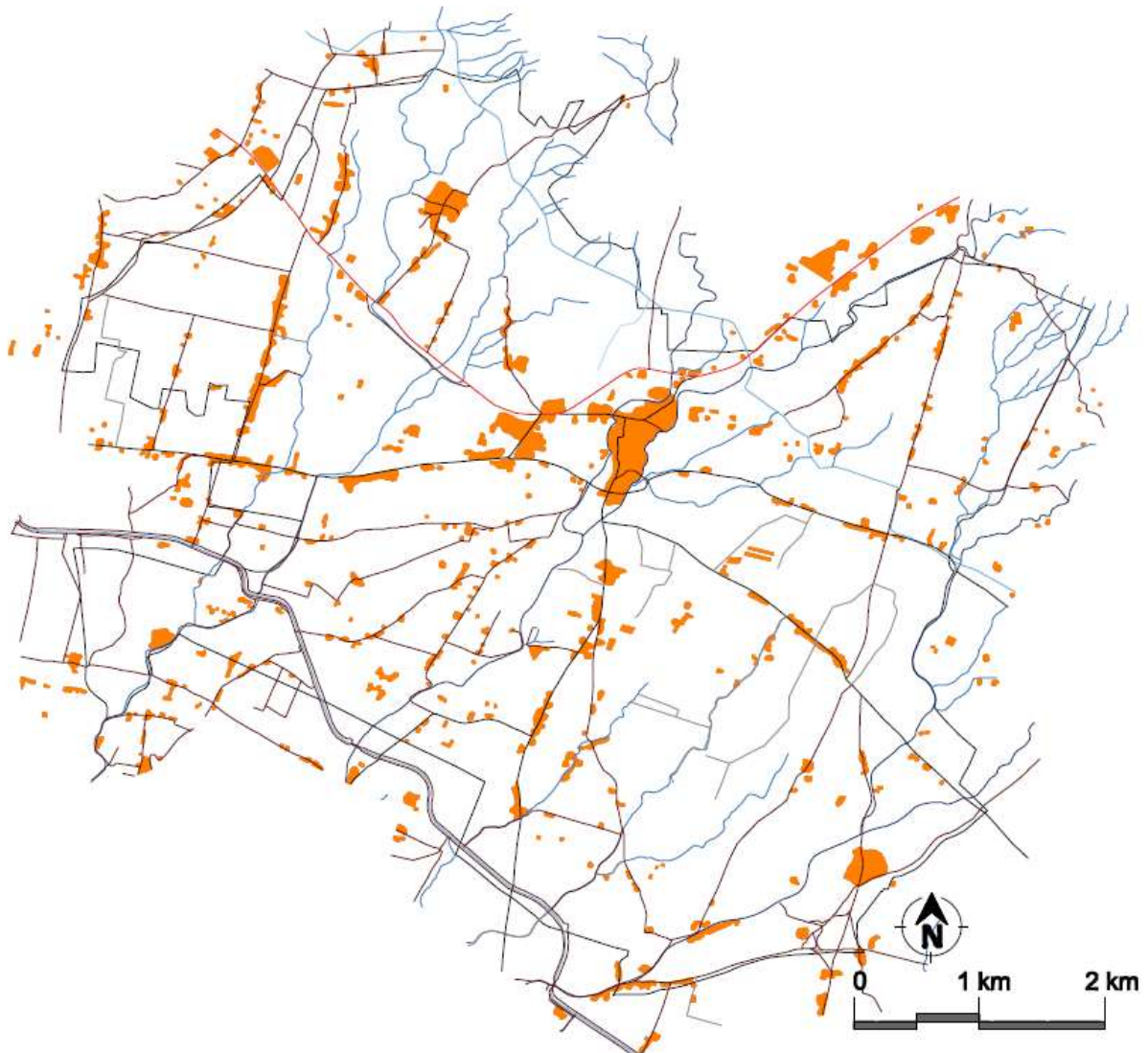


Figure 3:4. Settlements (habitations) in Belhe village

There are about 329 commercial establishments of various type in Belhe. A large majority are located in the weekly market campus and along the road entry-exit road and SH-51 connecting. The old bazar peth aali is on a parallel road on the west of the Nawab Gadhi.

The weekly market attracts an estimated 150 traders and vendors, while about 2,000 customers also visit the market. The village has constructed about 42 shops which are provided on rent. Selling counters (otaas) for various other sellers such as grains, vegetables and bhusa etc. are also provided. The cattle market has 6 sheds and open staging areas for buffalo, cow, oxen and sheep.

3.2. Socio-Demographic aspects

The village demographic character consists of a varied caste and community, living together since the establishment of village. This includes Hindu, Muslim, Buddhist and other religious groups.

Although the village boasts a higher literacy rate, about 83.06%, than the state literacy rate of about 82%, the rate is lower than the Pune district literacy rates (86% overall, male 90% and 81% female). However, gender-wise literacy rates of village are below the state average rate. Female literacy is only about 75% which is just below than the state average 76%. Female literacy is significantly low when compared to male literacy in Belhe of about 91%.

Rest of the population is employed in the agricultural and agro-based business.

Presently the main employment source is based on the agriculture sector only. It is self-employed or farmland daily wage unskilled workers. Another sector is animal husbandry projects where employment is generated for cooperative milk dairy projects, transport, goat farming etc.

Majority of educated youth migrate to nearby cities for employment. Other educated semiskilled youth are engaged in small scale industrial activities in Belhe, such as fabrication, electricity service, building construction or hotel /catering services. Some are also engaged in small scale industries, trade and commerce.

3.2.1. Wadis and settlements in Belhe

Spatial distribution of households by caste - The settlement was divided into several 'Aalees' which was based upon caste-based occupation. It was according to the 'Alutedar and Balutedar' system.

There is a mixed religious population of Belhe, Yadavwadi and Kombadwadi settlements. Belhe has 362 SC and 127 ST populations. Kombadwadi has no SC, but 5 ST caste populations. Yadavwadi has no SC, while ST population is 7 only.

There are some clusters of these communities within the village that are Living

together since the establishment of the village. (Reference Appendix-VIII, village directory, census of India 2011, Maharashtra.).

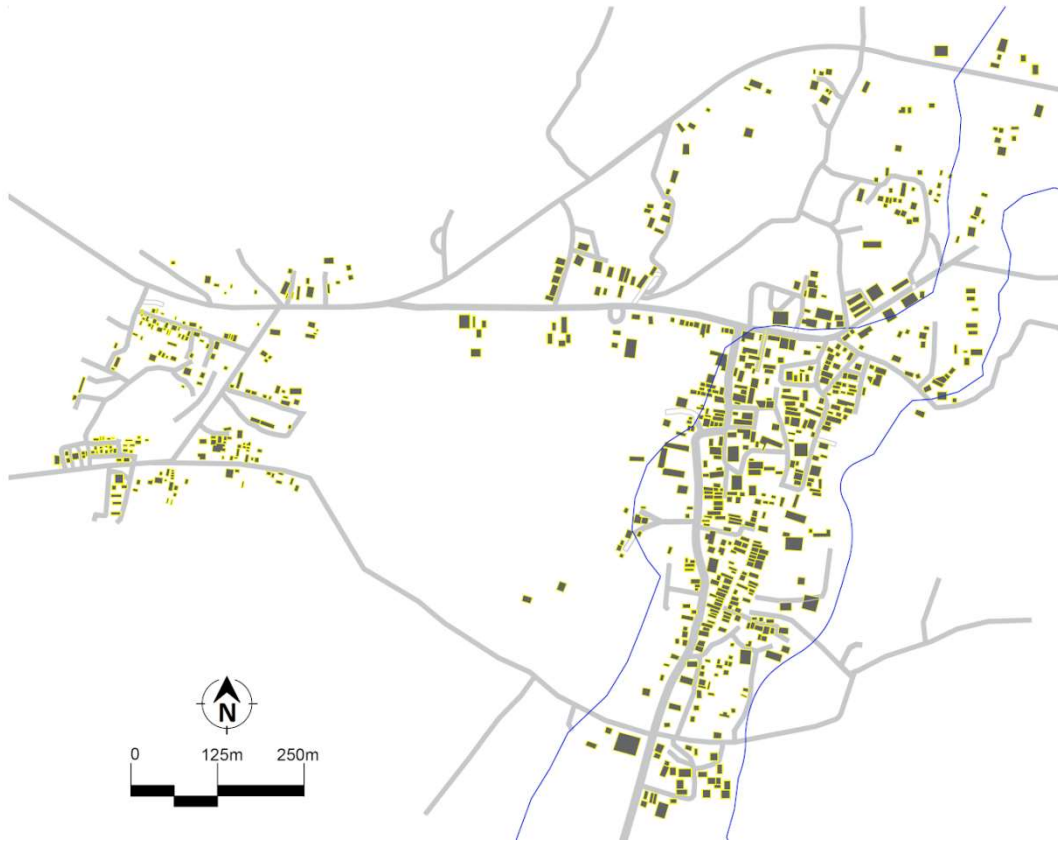


Figure 3:5 Plan of Gaothan and settlements area Belhe

Majority structures in gaothan are 30 years or older, with load-bearing stone, bricks or mud walls. As per survey carried out in each ward most of the houses are in dilapidated condition. Some houses remain unused due to inadequate space for the families or due to joint families. Reasons for this can be found in migration towards farmlands. As on today, there is a nuclear family trend, poor land records, and difficult development process. Lack of updated mutation entries, proper documentation, lengthy and time-consuming building approval process has also been a reason for neglect or reluctance to repair and develop properties. Many younger, educated family members have moved to nearby metro-cities and towns, some others have settled with smaller family sizes even within the village/farm settlements. Poor land records have also resulted in inability to secure loans to repair old buildings. Due to income eligibility loans are not approved by the banks or finance institutes.

While the density of gaothan is higher than the overall village, there are several pockets that can absorb additional density as per UDPFI guidelines. On the flip side of neglect and disrepair, some property owners have begun demolition of their old structures to convert them into multi-story apartments similar to urban areas even without the basic infrastructure approval process. This trend is not harmonious with the scale and architecture of historic wadas. Protecting and maintaining the historic structures will help to exploit tourism potential. However, this will require adequate infrastructure provision, guidelines and streamlined development process.

3.3. Housing -

Housing pattern of Belhe is studied in context with typology, materials use, scale, climate responsive technique and method of constructions. In Gaothan and surrounding areas the housing pattern is not similar; it differs from wards to ward and socioeconomics of the group.

In the Gaothan area houses are very dense. Due to the expansion of families, separate settlement in the cluster form is development in their own farmlands to sparse settlement around villages. These are unevenly distributed and unplanned without minimum basic services such as roads, drainage. No building bye laws, or approval system is observed in Belhe village. Most of the houses along the roads in the old gaothan area are without marginal spaces. These houses do not have adequate light and ventilation due to overcrowding. It is varying from Ground structure to G+2 structures. Most of it is load-bearing structures. With the advent of technology, it is subjecting to frame structure. The building materials also varied from stone, brick, mud to RCC frame structures



Figure 3:6. Old brick structure and a new RCC Framed structure being constructed in Belhe

3.3.1. Housing typology:

Most of the houses in Gaothan and outside areas are ground or two-story structures. It comprises a big common enclosed verandah. And the central division is a part of a bedroom. The third block of the house is the kitchen and storeroom. Last part of the house has a bathroom and toilet with a water tank. Some of the houses are multifamily residences with ground floor or ground plus two- or three-story buildings. New upcoming buildings are mostly RCC framed one.



Figure 3:7. New Construction Building Typology

3.3.2. Housing condition

Belhe Gaothan and surrounding settlements such as Yadawwadi, Kombadwadi have mixed types of housing. Most of the houses are traditional building materials such as stone, bricks, timber and steel. New upcoming buildings are in R.C.C

framed buildings. Most of the old buildings are not maintained properly and are now in a dilapidated stage. Old buildings are more than 30 years old and some



Figure 3.8. Housing at Kukadi colony and other multilevel building

old structures are historical wadas, entrances and Nawab gadhi.

3.3.3 Households with Toilets:

As per GP data, about 85% households (1207) with separate toilets. Of the households with toilets, about 5% (62) households have been provided with government assistance for construction. Underground sewerage is limited to a few streets in the goathan. Some of them have open drains. All the sewage drains are discharged directly to the streams.

In farm settlements toilets are connected to septic tanks. In a few common areas of the village including near EWS housing scheme (20) and near weekly market ground (10), public toilets are provided. They are prone to lack of maintenance and disrepair.

3.3.4. Historical housing and monuments

There are several buildings in the form of Wada which are in good condition but not in use. These buildings are very old and massive which can be reused, or re-adaptive use can be permitted with repair and maintenance in the same local materials. The existing character must be preserved which will focus the tourist attractions.



Nawab gadhi is a notable building in Belhe which was the mansion of Nawab of Belhe and part of administrative capital. Fortification wall of the Nawab gadhi has been recently renovated without heritage and conservation aspects.



Figure 3:9. Historical Nawab gadhi

Other properties with historic value in the village are also in disrepair due to neglect/nuclear family trends. If incentivized, they can generate employment and revenue through “Home-stay” tourism.



Figure 3:10. Reconstructed fortified wall of Nawab gadhi



Figure 3:11. Other historic buildings in Belh. Constructed with brick and stone masonry, have fallen in disrepair

3.3.4. Services and safety issues

In gaothan area roads are very narrow ranging from 3 to 4.5 m wide. The state highway and district roads in the core area are also very narrow. Many of the roads also have mixed-use—shop below and house above—buildings. As vehicle population is increasing, most people park on the streets. This creates traffic congestion.

There is open drainage in the core area, not suitable to carry storms and

wastewater.

Domestic garbage and solid-waste are collected with a door-to-door collection vehicle, however, there no scientific mechanism for garbage sorting and disposal. Farm waste, animal waste is also disposed individually by the farmers. A very few farmers have set-up composting and bio-gas units, crop residue is generally burnt and liquid waste is disposed in nearby streams.

One of the safety and security issues faced by the people is due to rough conditions of the road and poor lighting conditions. Several of the roads, particularly those leading to farm settlements, do not have streetlights. Leopards from the forests sometimes venture into the villages and attack livestock and humans too. They sometimes hide in the tall grassy farms such as sugarcane fields. It is especially challenging to the women, children and old age people in the villages.

3.4. Agriculture

3.4.1 Soil

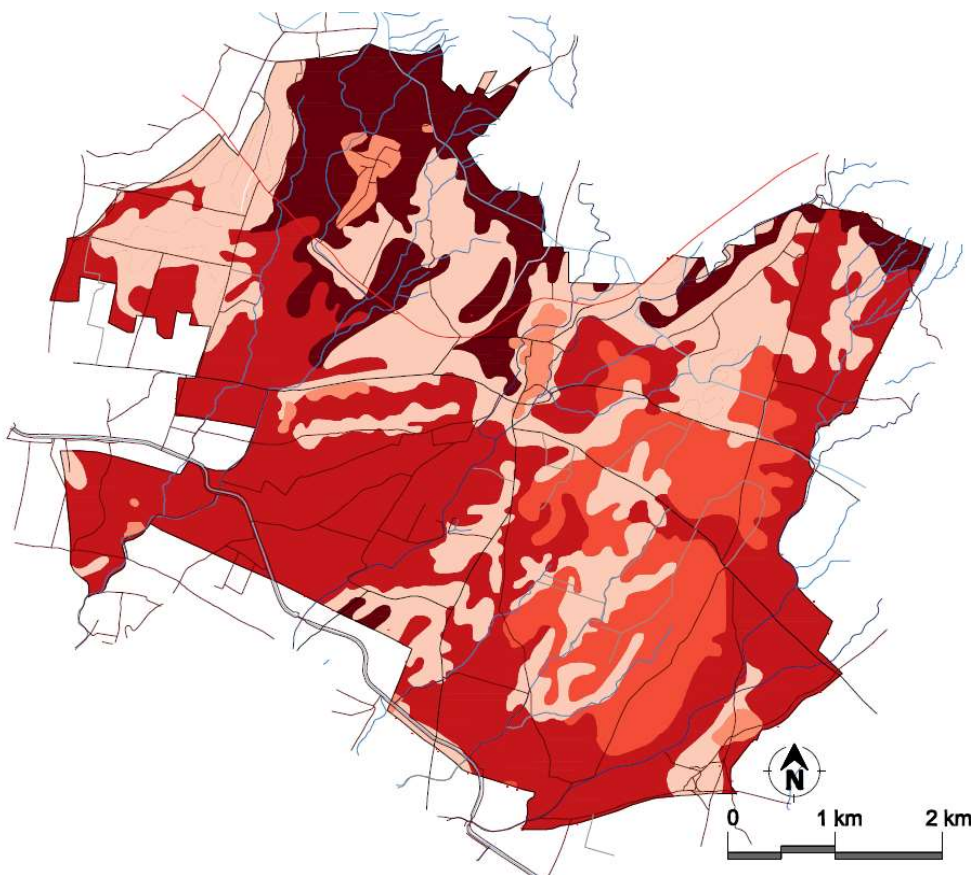


Figure 3:12. Map showing soil typology of Belhe—lighter color represents low water prone soils to

As per the study and maps analyzed Belhe village has gentle slope and elevation. The land near the water body is fully irrigated; the percentage of this typology is 26.06%. The kharif and rabbi type cropping is about 26.08 % which is more dependent on the rainwater.

The ground water level in this area is very low. Nearby 47.03 % land is fallow land which is not under cultivation due to scarcity of water and geological hard strata. Certain plateau of land is very rocky and found barren and not to be cultivated.

3.4.2. Cropping pattern

Farmer rely on monsoon rains for the Kharif crops. Due to lesser availability of water for irrigation there is a shift towards horticulture. The upper reach crop pattern is of Kharif type. In the lower reach cash crops are taken, due to the availability of water as well as comparatively fertile soil, soils extracted from water reservoir through distilling of streams, bunds and check dams.



Figure 3:13. Agriculture Center building in Belhe

3.4.2. Cropping intensity:

There are 3 crops per year depending upon water availability. This is dependent on the natural rainfall of the area. The soil at upper and middle

reach level has less groundwater water capacity. So, the typology of the pattern of cropping is varying as per demand and potential of land and its fertility. Nearby 47% land is not irrigated. The focus is to attempt to increase the water holding capacity. This includes Nala bunding, Dams, Reservoirs, and Tree Plantation Movement etc.

3.4.3. Source of irrigation

The major sources of irrigation are well, tube well, lift irrigation, drip irrigation. The role of canal for irrigation is to lesser extent due to the rotation of water in the

canal belt villages.



Figure 3:14. Canal along the farmland and dilapidated walls of canal over a stream culvert

Most of the farmers are adopting modern techniques in irrigation systems. There is a trend to develop farm ponds in farmland for irrigation purposes. There is a shift in approach to follow innovative practices like use of solar pumps, for irrigation.

The ground water level of Belhe is about 30 meters. Some farmers also shifting to drip irrigation. Farmers are in need of counseling for the various schemes sponsored by state and central government from time to time. This will increase the confidence and economy of the farmers. Farmland near by the canal catchment area is water-logged due to leakage of water from the canal. It is feared that this good fertile land may become saline soil in future. Some part of the canal has done widening and distilling too so that blocking of water is avoided.

3.4.4. Livestock

As the primary sector is relying heavily on monsoon, farmers face uncertainty of crop yield and market prices. To support livelihood, many farmers have also begun animal husbandry with cows, buffalo and sheep or poultry. Recently some farmers have initiated co-operative dairy farming, collection points of local milk. The productivity of livestock is enhanced through various co-operative programs like free vaccination, insect examination, farmer training. Poultry business is also becoming an attractive source of income.

The famous Weekly market of cattle is an important activity of Belhe for Gram Panchayat to get revenue and employment. An estimated 3,000 cattle are part the market activity evert Monday.



Figure 3:15. Weekly Cattle Market in Belhe

There is a small veterinary center to look after the health of livestock. This however is in need of improvement.



Figure 3:16 Milk collection centre in Belhe

3.5. Physical infrastructure

3.5.1. Road network

The village gaathan can be accessed from the two approaches and exit roads from the national highway on its east and state highway no. 51 (SH-51) of the existing 6m wide road.

Parallel to this road passing from Navab gadhi of 4.5m wide and connects further to state highway no.51. Other roads lead to the scattered settlements – west. The road network in the old core of Belhe is predominantly made up of narrow 3 to 4.5-meter-wide roads with varying width. The main state highway road needs to widen up to 6-meter-wide which passes within the gaathan area. The affected property owners may be compensated with additional free F.S.I. against the road widening. This street also varies in width but is on average about 4.5 m wide. There is drainage which is open in the form that has no water carrying capacity in each financial year, the new construction or repairs of gutter lines are done depending upon the availability of funds. Belhe is connected to following regional and local roads

Local roads connect to Belhe

No	Road	No	Road
1	Belhe to Sakori	4	Belhe to Kobadwadi.
2	Belhe to Junnar	5	Belhe to Yadavwadi
3	Belhe to Bangarwadi	6	Belhe to Ranmalawadi

Regional roads connect to Belhe.

No	Road	No	Road
1	Belhe to Ahmednagar	4	Belhe to Ale via Rajuri towards Kalyan.
2	Belhe to Junnar	5	Belhe to Manchar
3	Belhe to Kalas	6	Belhe to Parner and Shirur

With rising economic development, parking of vehicles is a critical issue in the core. More people and households now own private vehicles as well as goods carriers. Due to reduced travel during the pandemic restrictions, this was not

evident. However, entry to the village, the highway crossing areas, and the state highway through the bajarpeth were crowded causing mini logjams on several occasions when the study team visited the village. Part of this was due to the narrow and uneven rights-of-way, broken pavements, encroachments as well as haphazardly parked vehicles.

Vehicle ownership in the GP has increased in the past years. As per GP records, there are about 1,960 2-wheelers, 1,140 cars, 450 tractors, 124 tempos, and 65 trucks, 200 bicycles and five 3-wheel bicycles in the village. In addition to road infrastructure, another important aspect to consider while planning, is parking norms based on land use categories.

3.5.2. Water – Agriculture and Domestic

Belhe village is getting drinking water through a closed pipe. It is activated through Belhe Regional Water Supply Scheme and Local Small Pipe Water Supply Scheme. This facility is not fulfilling the requirements of the village. Vastis are settled around gaathan. There are private bore wells which have considerable impact on ground water level.



Figure 3:17. Water source - Well at Kombadwadi and Elevated water reservoir

3.5.3. Liquid waste disposal (sewage)

There is incomplete sewer drainage network in the village. Within the gaathan, along the roads there are open drains/gutters. But these gutters are directly connected to the water streams in the village. Due to the discharge of untreated

wastewater, streams and rivers are polluted, and uncontrolled growth of vegetation on the banks and in the check dams.

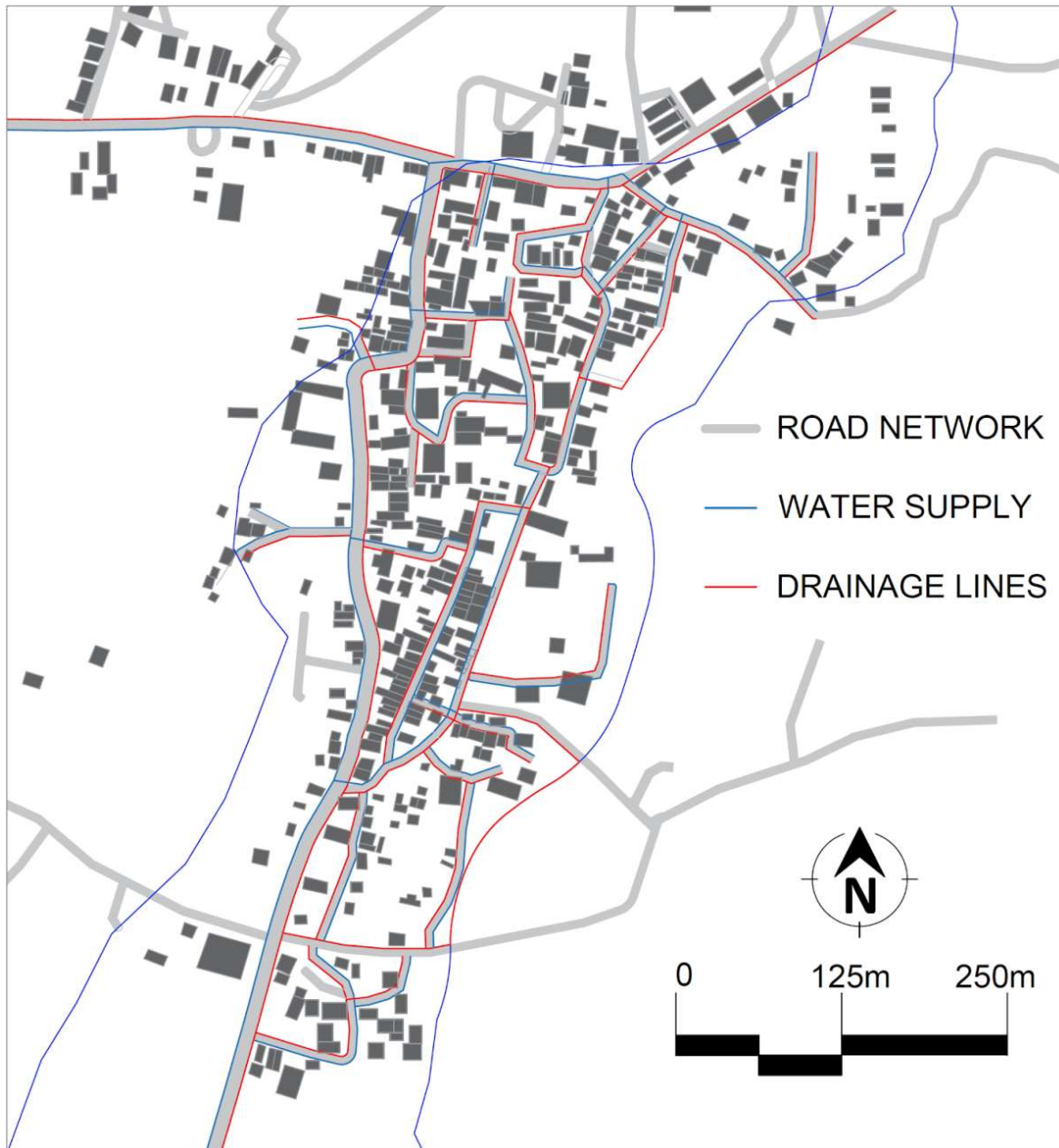


Figure 3:18. Drainage and Water supply network in Gaothan

Houses in outer settlements and wadis generally have similar issues of open sewage and pollution.

The storm water is also not channelized. Field observation shows that the road level has increased due to poor road building practices. Adding layers of tar over the years has resulted in higher road levels than plinths of old structures causing

stormwater to enter into houses. As most of the building stock is load bearing masonry, structural damage is a critical concern.

Over the years, many structures have also encroached in the rights-of-way and stream beds, which adds to the complexity of the issue.

3.5.4. Solid waste:

As in other rural areas, solid waste in Belhe is largely organic in nature. In gaothan areas, solid waste is collected through a door-to-door collection vehicle. It has a door to door service in Gaothan area. It is operated and managed by Belhe Gram Panchayat. The waste is deposited in any area without management. There is non- biodegradable waste. There is no scientific and suitable mechanism for garbage collection and disposal. The garbage is deposited without scientific approach.



Figure 3:19. Photo of a household backyard where organic waste is dumped

3.6. Social Infrastructure

In addition to physical infrastructure, a community also needs adequate access to social infrastructure such as education, health and community facilities. The

forests in Junnar area are home to leopards. As urbanization, settlements and agriculture activity has grown and forests cover has reduced, there is continuous conflict in villages with wildlife like leopard attacks. Lack or insufficient provision of electricity, night-time lighting and preventive measures has led to loss of life and injuries. A fine balance between nature and settlement needs to be attained by combined effort of conventional and innovative methods.

3.6.1. Education

Following is the structure of Zilla Parishad School which is built in galvanized sheets for walls and roof. Secondly this Zilla Parishad School is built on private land. The conditions inside the classrooms are not comfortable to the students, especially in the summer season. In the rainy season, the noise pollution is very high for conduction of classes. Rest of other high school and engineering facilities are satisfactory.



Figure 3:20. Photos of Anganwadi and Zilla parishad primary school

3.6.2. Health

Belhe has a primary health center with one medical officer and one ANM. The PHC can 7 beds and can provide basic care, lab tests and vaccination. The

village has recently received one ambulance for emergency care transport. Other than this there are about 14 medical practitioners that cater to the villages in the GP. Of these 4 are allopathic, 5 ayurvedic and 5 homeopathic practitioners.

Belhe however, has no facility that can cater to emergency care or long-term care. Villagers have to travel to Pune or Nagar for such needs.

Belhe also has a veterinary health facility operated from the weekly market grounds.



Figure 3:21. Photo of the primary health clinic in Belhe

4. PROPOSALS FOR SPATIAL DEVELOPMENT

Overall land use in the village is dominated naturally by agriculture. Following the MoPR Concept Note and other rural development guidelines such as RADPFI, No major change in the agricultural land use are proposed, instead utilization of waste land for the proposed land use is considered, by identifying land that is not suitable for agriculture. Criteria considered are access to irrigation and the nature of soil i.e. drainage, soil depth, erosion. However, improvement of infrastructure, services facilities is needed as per the aspirations of the citizens. The impetus should also be given to employment generation.

4.1. Demographic changes

Decadal population change in Belhe has been recorded around 7 to 8% upto 2001. The 2011 census saw a change of 11%, which was closer to that of Maharashtra state (almost 16%). However, this is lower than half of the Pune district - over 30%. The historical trend of population growth in Belhe on an average is similar to the regional and state averages in rural areas. This year however reverse migration due to the pandemic has resulted in a net increase of estimated 1,000 people.

Majority of those are of working age, literate or semi-literate male workers engaged in seasonal and unorganized work in sectors such as SME manufacturing, hospitality, transport etc. Some of the employment was also related to the education sector and hostel accommodations for out-of-town population.

Economic recovery of the region and possibility of re-opening of these sectors will dictate how they will be absorbed in the workforce again. Needs of these additional people have to be addressed in the perspective planning. Considering this, major thrust of the proposed development and land use changes is on creating employment opportunities for local youth that are connected to inputs for

local farms and livestock as well as processing of outputs for improved incomes.



Figure 4:1. Existing settlement pattern of Belhe - Gaathan on the east and extended settlement on the west

4.2. Industry and Employment Generation

As Belhe is located on the national highway (NH-60) and state highway (SH-51), the village has expanded on either side of the road. Most of the new commercial activities are located along these highways. Businesses are generally of trade and retail in nature. Other than small retail, shops related to minor steel fabrication, construction materials and animal husbandry are also available in Belhe. Employment opportunity is available only by the government offices, cooperative organizations such as. A few other opportunities may be available in the establishments such as small medical clinics, restaurants, shops etc. No large establishments of private employers exist that can provide consistent

attractive jobs to the local educated youth.

Development of an agri-focused, mini-industrial areas with a well-developed layout with all necessary infrastructure is essential for both job creation and provide adequate income to the farmers. About 75% employment is based on agricultural and agro-industries. Economic growth of Belhe is on the rise due to adoption of new methods and techniques in agricultural sectors. On one hand, educated youth migrate to cities as their skills cannot be supported in the village, on the other hand skilled workers and services needed for the agricultural development is not available. Educated youth require skill development and vocational training which will create self-employment. We believe this will strengthen efforts toward Atma Nirbhar Bharat Abhiyan.

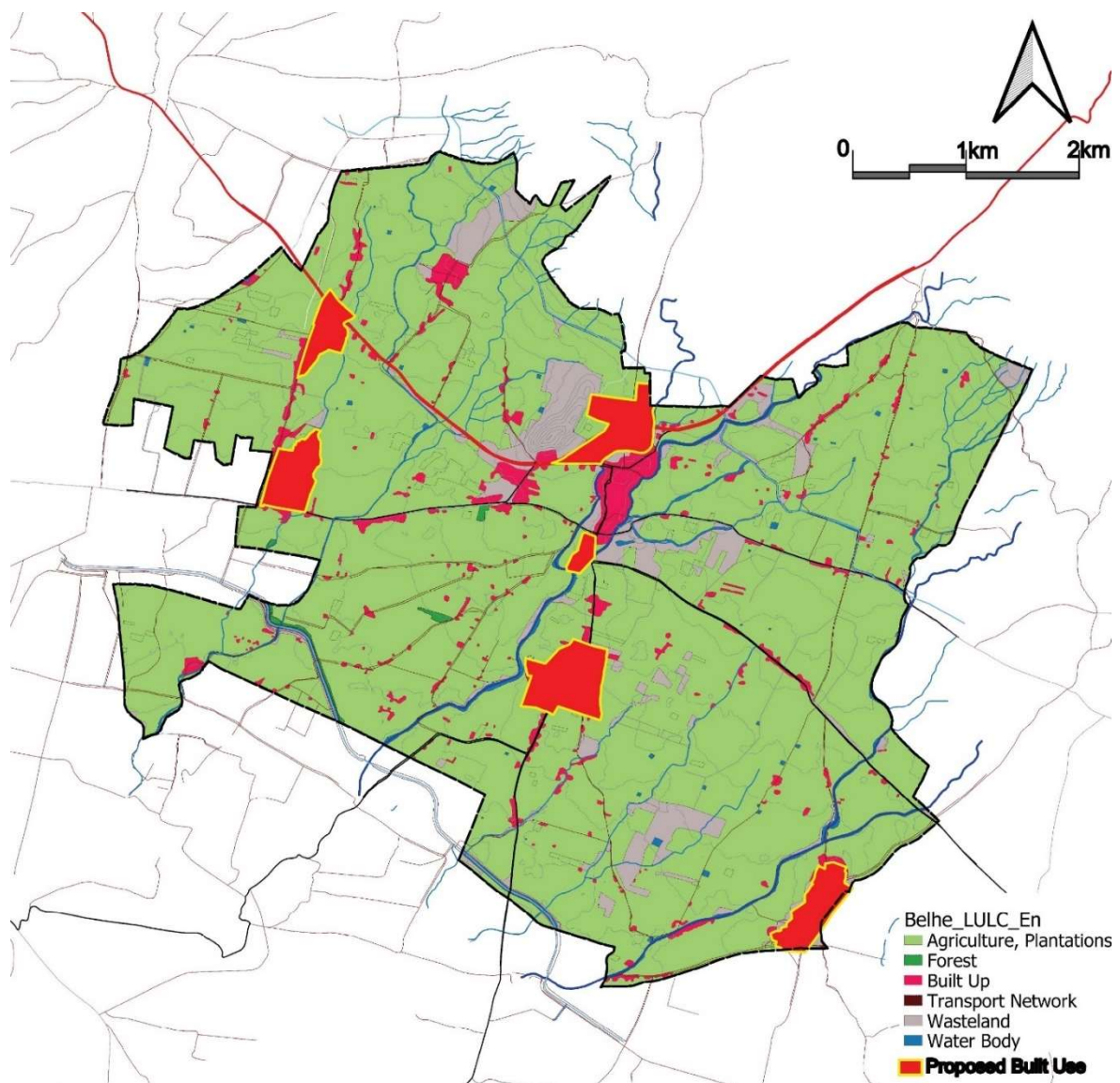


Figure 4:2. Map identifying potential land for development

It should be developed on the bases of a special economic zone (SEZ) for rural areas—Rural SEZ. With such a designation, setting up smaller units can be incentivized for cooperatives and startups related to agricultural and ancillary business that can generate blue- and white-collar jobs as well as foster self-help groups. Smaller units will be suitable financially, both to setup initially with modest amount of capital investment, and also to operate and maintain.

An economy of scale can be created by setting up multiple small units of processing in Belhe as well as nearby villages. The focus should be on creating employment opportunities by handholding and training the locals, right from the construction through to marketing phase. It will provide employment opportunities to the locals not just during construction phase but also in manufacturing, packing, operating, maintaining, marketing and even in logistics of the processing units.

Another area of employment generation can be developing the renewal energy. Belhe village has irregular supply of electricity; renewable energy use should be promoted by which additional employment can be generated. It is obvious, that new economic activities of food processing units, storage units as well as energy needs in agricultural activities will also rise with technology adoption. Solar energy is a natural choice, but in addition, alternatives in waste-to-energy

4.3. Land use proposals

In Belhe gaothan area, the land use is residential and commercial which is about 110 hectares. that is adequate as per population. In the interior part of the gaothan, there are some un-used land pockets that need to be planned with norms such RADPFI to maintain the character of the village.

Due to narrow roads, inadequate water, drainage and other facilities, people moved to the farmlands and established settlements. While the infrastructure of these settlements needs to be improved, the proposals of new development should be restricted to waste lands only where soils are sandy, low in depth and erosion prone. Rather than encouraging scattered settlement patterns, the residential land use should be increased in and around Gaothan area, with after

expansion of road and utility network.

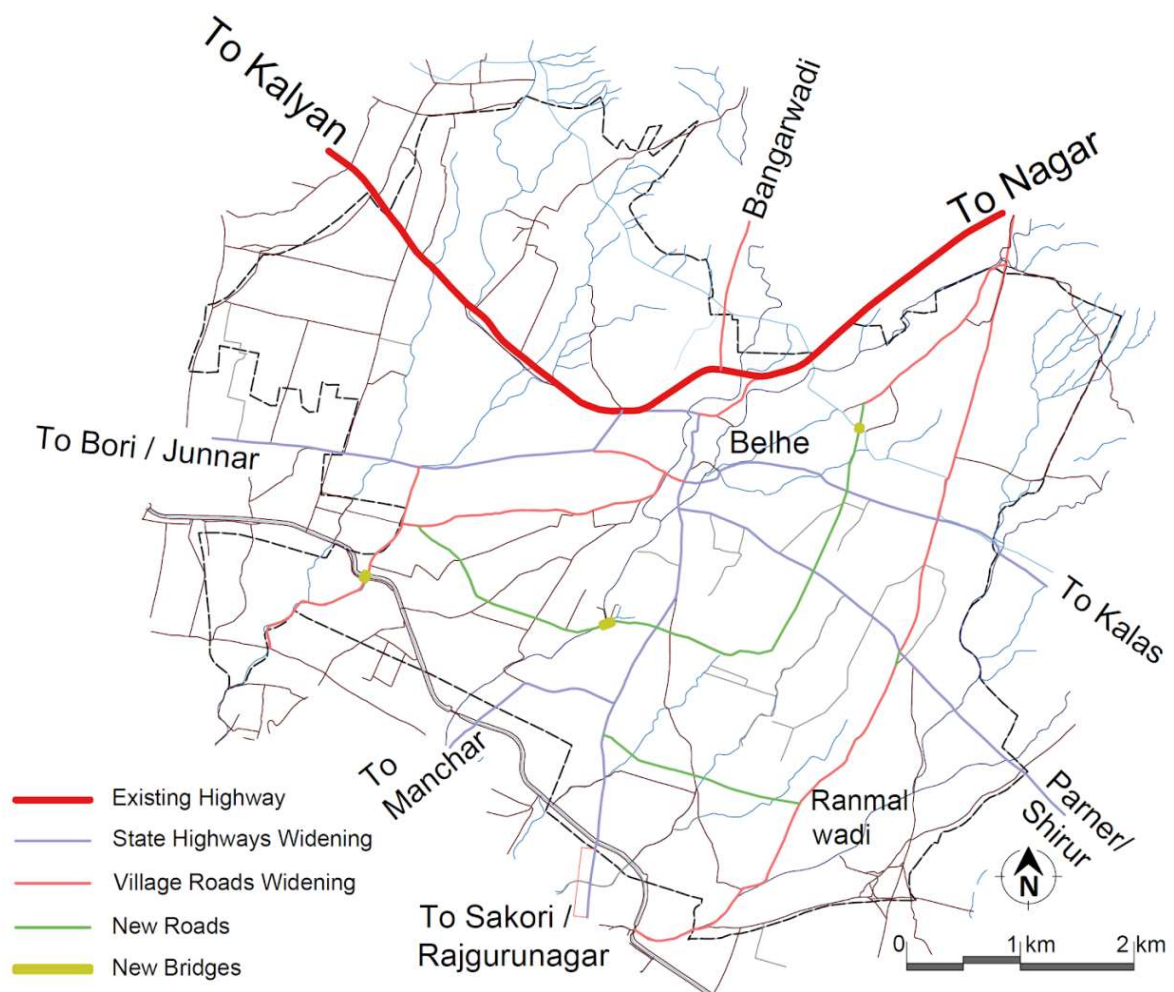


Figure 4:3. Proposed road development in Belhe

The public and semipublic open land and built structure need to be retained and improved in this development plan. Use of fallow land should be promoted for agro-forestry, and also for water conservation measures such as continuous trenching and percolation beds.

Several streambeds are used as roads during the dry season. This not only creates pollution in the streams, it also leads to altering and reclamation of streams. Streams need to be strengthened and be planned by providing erosion control buffer areas. Tree plantation in large scale shall be taken with public participation on a regular basis.

For improving the overall connectivity and projected distributed development of

Belhe and its fragmented small settlements (Wadis), road widening, and developments should be implemented. As shown in above map State Highways of 9.62 km. passing through the village should be widened to 18 m wide. Existing Village Roads of 15.66 km should be widened to 9 m. width. New Roads of 7.98 km length should be constructed with 12m width. and accordingly, 3 New Bridges should be constructed.

While proposing land for development, primary focus has been given to lands that have combined features of high erosion, very shallow soil depth and least percolation qualities. Future road connectivity was the next criteria considered for development feasibility. Next criteria considered was ward-wise distribution of development rather than concentrated development. This analysis has resulted in identification of eight locations that are suitable for non-agriculture development. These locations have been further studied to suggest appropriate types of development necessary for the village.

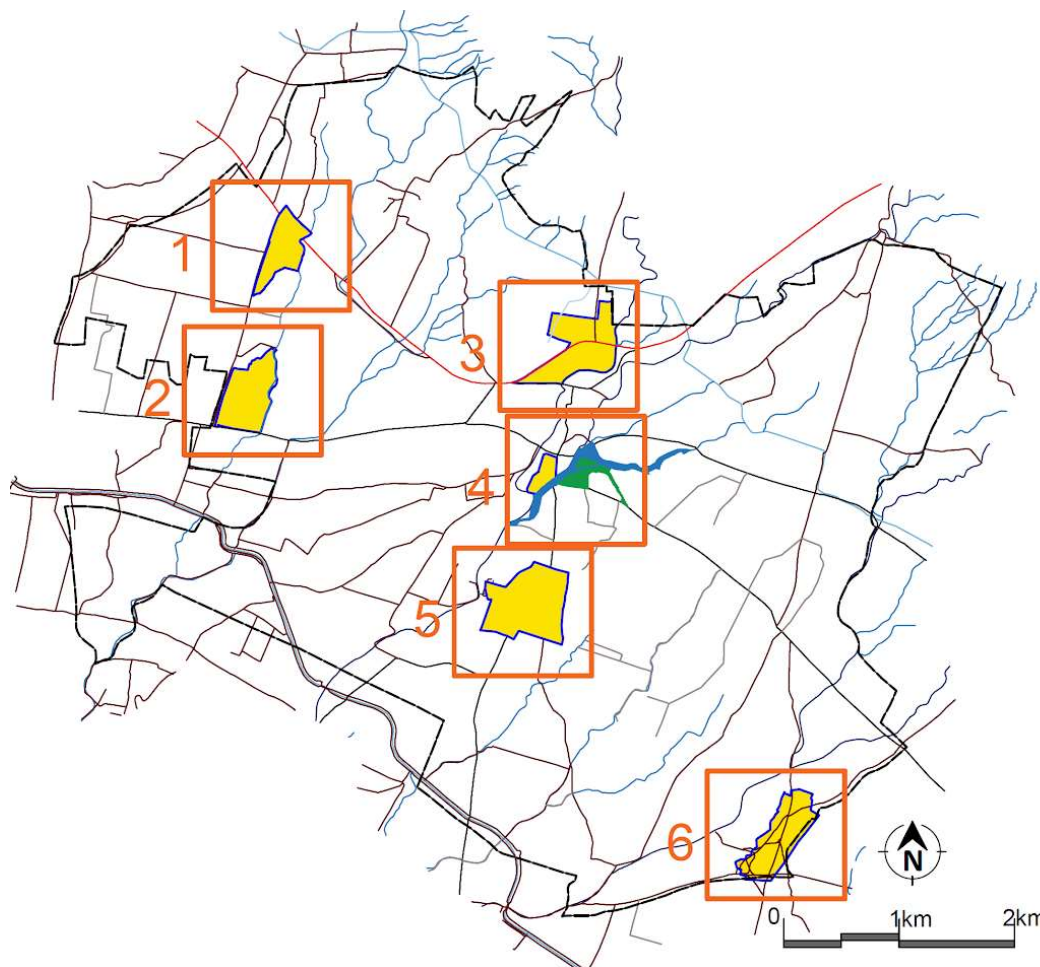


Figure 4:4. Map showing Identified Development zones

The above map identifies wasteland pockets that are unirrigated, highly drained, shallow soil or gravelly profiles. These lands are either unused or underutilized and are suitable for proposed development. If the areas identified are added together, they present a development opportunity of about 100 hectares.

4.3.1. Proposed Development Areas 1 and 2: Gunjalwadi

This potential development area is situated in ward 1 on the North-west quadrant. It is connected with the national highway 61, and a small segmented village road. The north-south road is currently a narrow village road. It is proposed to be widened and aligned properly to function as a major village road to connect Gunjalwadi on the north to Kombadwadi on the south. This will connect this ward with the highway.

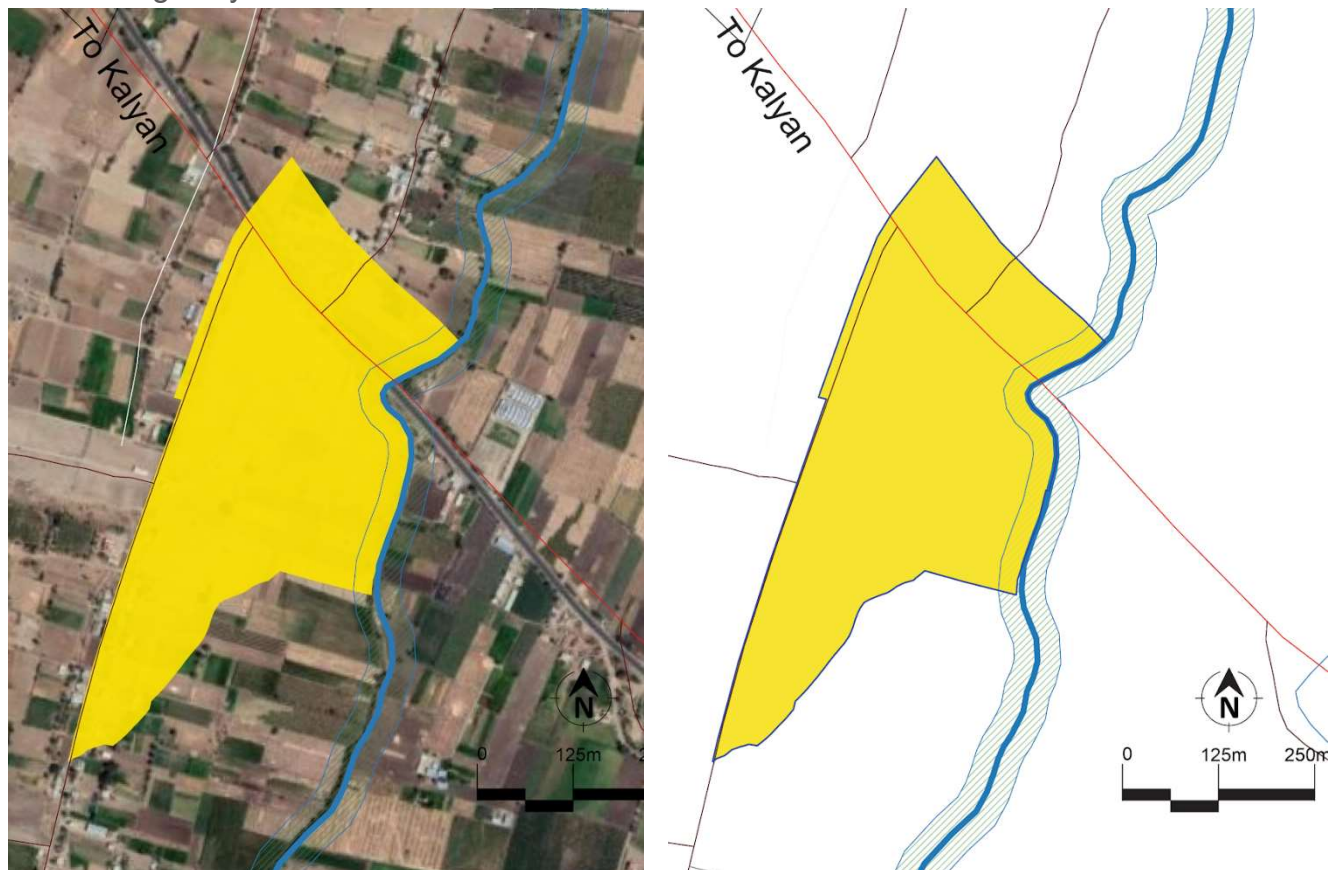


Figure 4.5. Satellite image and digitised map of proposed development area 1

Total area of the land identified is about 16,560 sq. m. and suitable for food processing and storage, particularly horticultural crops such as grapes and custard apple. A small stream corridor coming from the northern hills, passes on

the east of this land which need to be provided a stream protection buffer to ensure the stream continues to tribute to Kukadi river. Just to the south of this land, another area—about 24,060 sq. m.—that also has scrubland character. It is connected by the north-south village and Narayangao district road on the southern edge.

Characteristics of both these areas are similar and can be developed simultaneously. As this area is situated near the highway and according to the crop pattern nearby the are should be developed with processing units as well as storage units on cooperative basis. In addition, in the proposed GPSDP for neighboring Rajuri, we also propose new road to be developed, connecting the dargah and Gunjalwadi on the east. This connectivity is essential for providing access to farmers and growers. Improved connectivity will facilitate farmers to bring their produce here.

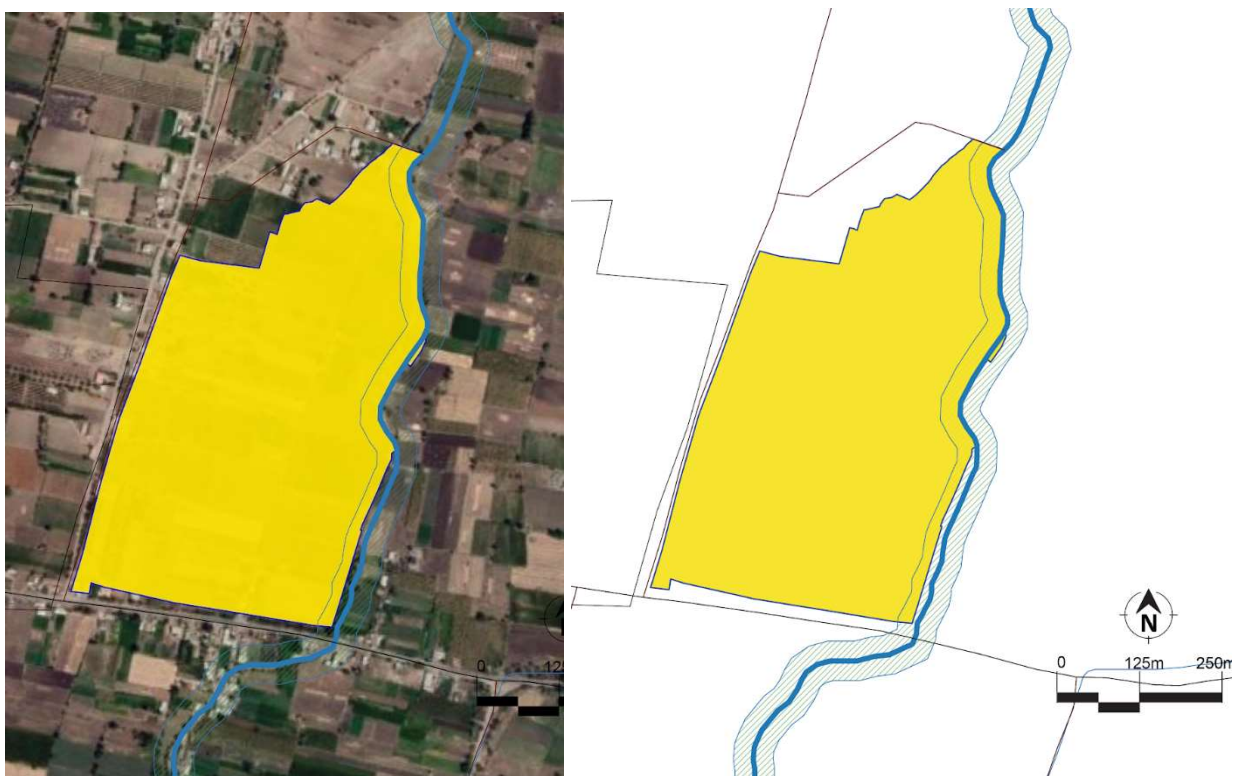


Figure 4.6. Satellite image and digitised map of proposed development area 1b

Development Brief: Improved road connectivity, agro-processing, and storage

Potential land area available: 16.56 hectares (40.92 acres) and 24.06 hectares

(59.45 acres)

Natural features: Waste land, gravel, excessively drained soil

Potential future land use: Processing storage units for horticulture. Extension and redevelopment of existing settlement along the roads, food processing as well as crop storage units. Environmental protection buffer with parks and recreational use.

4.3.2. Proposed Development Area 3: Gaothan north

This land is located north of the gaothan between the national highway 61 and the entrance exit road. This land is nestled on the lower slopes of the hill range in the north-west parts of the village largely within ward 4. The land is immediately located to the north of the weekly market ground. As there is good road connectivity and access to market several commercial establishments have been built along the roads.

Existing commercial settlements generally haphazardly laid out and sometimes have encroached into the sensitive stream paths. On the west there is a small hillock, and soil here is generally sandy and gravelly in nature.

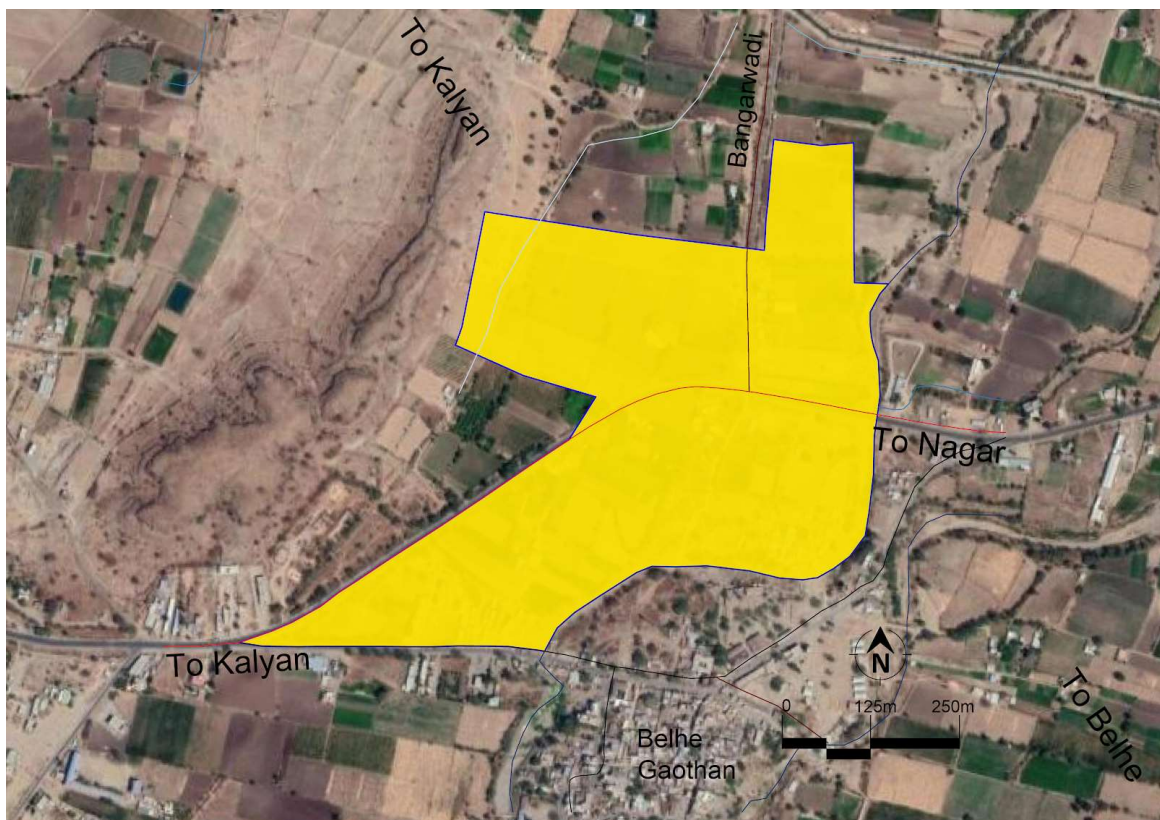


Figure 4.7. Satellite image and digitized map of development area 3: Gaothan north, located along NH-61

Similar to the proposals mentioned earlier, green buffers need to be created for erosion prevention and water conservation along the stream corridor. These buffers should also be able to provide opportunity for parks and green spaces in the village.

The terrain is gently sloped toward east, and since the land is under-irrigated, has direct access to the road, development pressure is high. Prior planning will ensure development that is suitable for the village. Similar to the proposals mentioned earlier, a green buffer needs to be created along the stream for erosion prevention and water conservation.

Development Brief: Expansion of highway-side commercial areas and new agriculture focused SMEs, transportation and logistics infrastructure

Potential land area available: 31.06 hectares (76.75 acres)

Natural features: Waste land, gravel, excessively drained soil

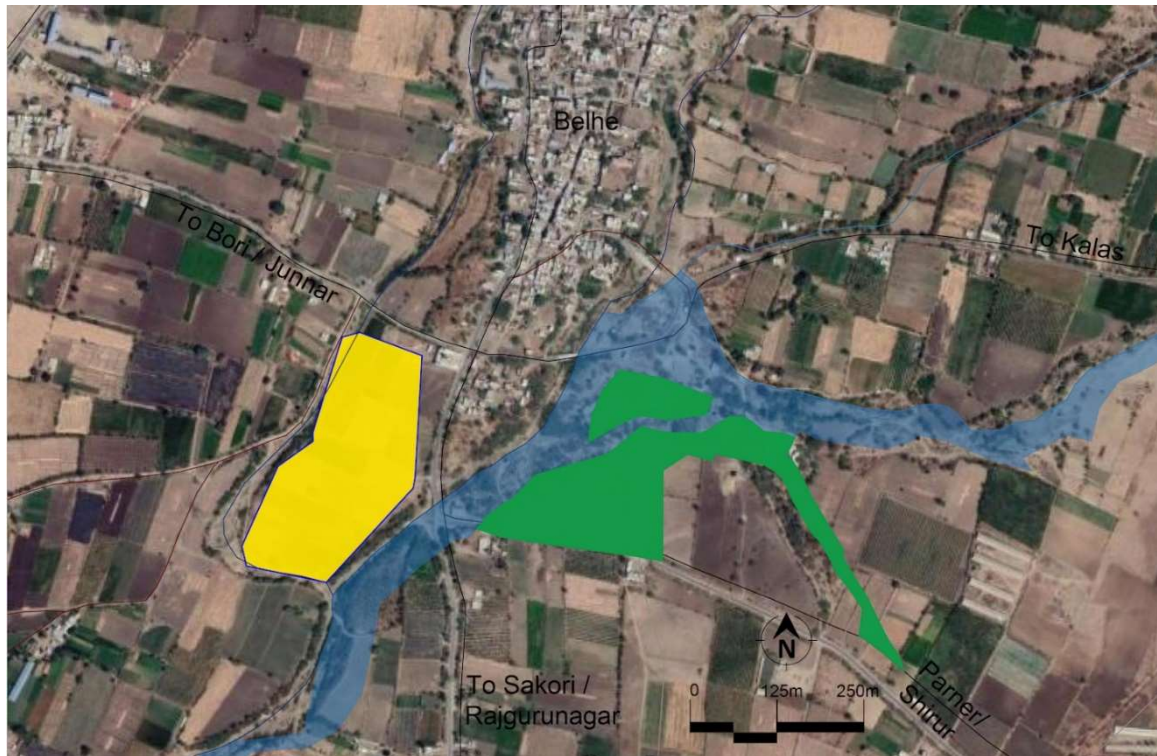
Potential future land use: Extension and redevelopment of commercial areas, food processing as well as crop storage units, Transport Hub, and Environmental protection buffer with parks and recreational use.

There are large land parcels that also need be developed for logistics related activities in connection with the weekly market nearby. This development however will be dependent on the improvement of the road to two-drive lane to allow heavy vehicles travel. Since this road connects with both the national and state highway, traffic generating uses should be restricted. Some of the plots are being converted to residential use, such use should be limited in future. Proper pedestrian paths should be created to citizens to walk and connect with social infrastructure such as schools, clinics, proposed transport network.

4.3.4. Proposed Development Area 4: Gaothan south

This land is located immediately to the south of Belhe gaothan between the two streams. It has good access as it sits on the intersection of SH-51 and district

roads connecting Narayangao (west), Kalas (east). Newly constructed Muktai Temple is located in this area. The terrain is generally flat or gently sloped, and a few farm settlements have been built to the east of this land. As this land is closed to the settlement this may be suitable location for setting training facilities, collection and storage units for crops



Development Brief: Training and storage units, recreation, stream buffer, and sanitation

Potential land area available: 5.37 hectares (13.26 acres)

Natural features: Highly drained sandy gravel soil, stream flood lines

Potential future land use: Training and crop storage along the SH and DR.

Environmental protection buffer with parks and recreational use.



Figure 4.8. Entrance Gate (likely from the Moghul Period) and the Nawab Gadhi

As the land is well connected with regional towns the state highway and district road network, there is significant potential of development. This area also forms another entry-way to the village from the south, some parcels are already been converted from agricultural use. It is also environmentally sensitive as two streams flowing from north and east meet toward the south portion of the site. During the construction of roads and subsequent development, the stream corridor has been affected. Although no proper sewer network exists, most of the gutters from gaathan are simply discharged into the streams creating pollution of waterways. Similar to the proposals mentioned earlier, a green buffer needs to be created along the stream for erosion prevention and water conservation. Part of this site would be suitable for locating a small STP unit. Prior planning is essential to control and guide the development that is suitable for the village.

4.3.5. Proposed Development Area 5:

This land is located further south of Belhe gaathan, on either side of SH-51, connecting to Manchar and Jejuri. Local roads connecting with Ranmalawadi also passes through this development pocket. A wedding hall and some other small businesses are already established in a small area. The terrain is generally flat or gently sloped. The area is bounded by the stream on the west side.

Development Brief: Crop storage and processing units, recreation, stream buffer

Potential land area available: 36.85 hectares (91.05 acres)

Natural features: Erosion prone, sandy gravel, highly drained soil, stream flood lines

Potential future land use: Extension and redevelopment of existing commercial area; crop storage and processing units; Environmental protection buffer with parks and recreational use

This land is located west of Gaothan, on either side of NH-61. Local roads connecting with Chalakwadi and Bori (Bk) pass through this development pocket. Ganesh Dairy and a small settlement of houses for EWS southern part of this land. The terrain is generally flat or gently sloped. The area is bounded by the north stream and confluence of two eastern streams.



Figure 4:9. Satellite map of development areas 5

As the land is well connected with road network there is pressure of development and unplanned development has resulted in poor land use. Some of the lands have already been converted to non-agricultural use and small-scale industrial units. A recent development also includes an urban style housing and a wedding hall with direct entry exits on the highway. Prior planning is essential to control

and guide the development that is suitable for the village.

Similar to the proposals mentioned earlier, a green buffer needs to be created along the stream for erosion prevention and water conservation. Economies of scale can be created by small crop storage and processing units in this development area.

4.3.6. Proposed Development Area 6: Ranmalwadi

This land is located south of Ranmalwadi settlement and is connected only by village roads. Some parcels of this land are designated as forest pastoral lands. The terrain is generally flat or gently sloped.

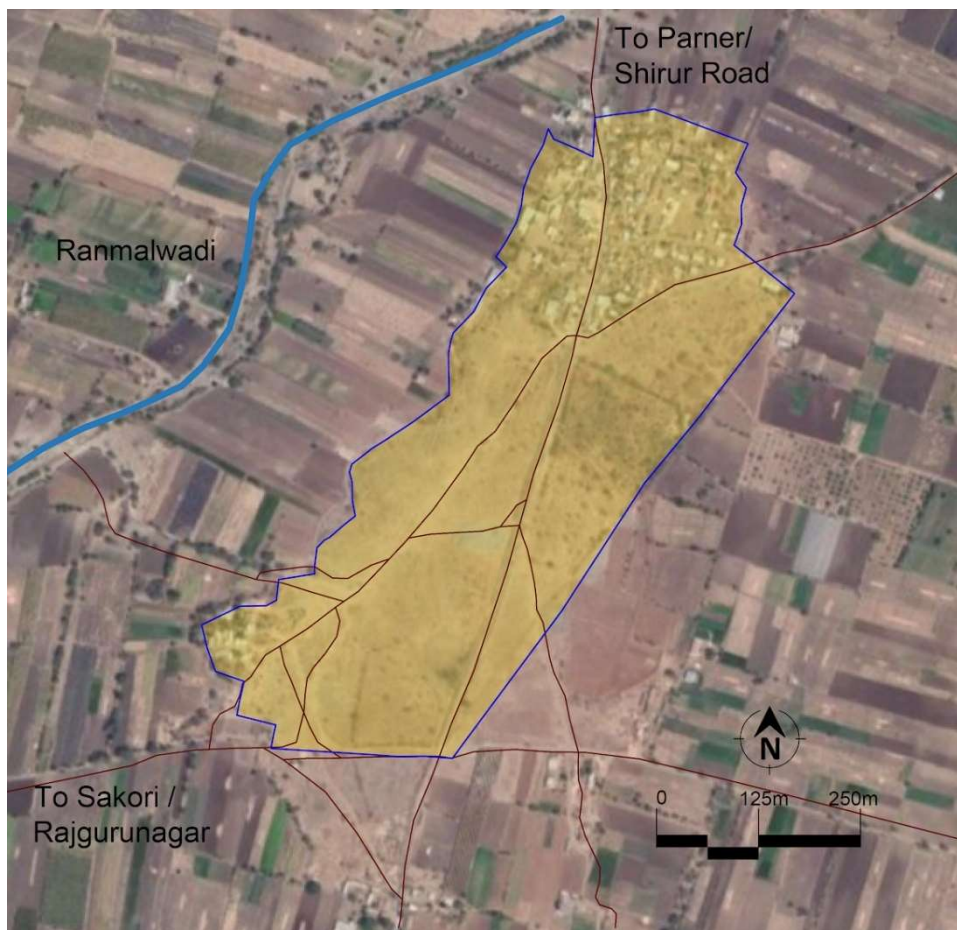


Figure 4:10. Satellite and Digitised maps of Proposed Development Area near Ranmalwadi

Development Brief: Expansion of highway commercial

Potential land area available: 25.40 hectares (62.76 acres)

Natural features: Wasteland with gravel, highly drained, erosion prone soil

Potential future land use: Organised development of existing highway side commercial along the south-side of NH-61; storage and processing units for onions

Improved Road Connectivity can provide opportunities of development on this un-irrigated, gravelly land. It is proposed to develop forest farms as well as vocational training facilities in this land.

Potential future land use: Extension and redevelopment of existing residential area on the south side of existing settlements; storage and processing units for onions

This land is located south-eastern edge of the village near Bori BK and Belhe along the local road. Some farm settlements have been built in this area in recent years. The terrain is generally flat or gently sloped. Improved Road Connectivity can allow development of unused non-fertile land in the future phase of development.

4.4. Housing (Proposals)

Overall housing conditions and assessment was done with the MoPR household survey app. The following are outcomes as per survey data in core areas and outside settlements in farmlands. Within the core area about 60% houses are very old and dilapidated conditions not used by the people. The joint family structure of the past generation is changing into the smaller nuclear family with younger male workers moving out for education and employment. New houses are built in modern materials like R.C.C framed buildings. However, the basic building bye laws are not always followed and unauthorised constructions are rampant.

Conventional building materials such as bricks, stones are mostly replaced with modern building materials such concrete bricks, aerated bricks, RCC frame structures.

Approach roads in core areas are hardly 3 to 4.5 m wide. This width of roads should be enhanced up to minimum 6.0 m and above. The services such as

water supply drainage, electricity, roads need to improve. Current structures may be grandfathered-in, however at the time of proposed development village wide development control rules such as appropriate setbacks, height limitations should be implemented. Historically significant houses and structures should be conserved and repaired to take advantage of tourism opportunities.

To coordinate the implementation and control of local development, it is necessary to create a one-window approach at GP level. GP level office for building permissions and inspection should be set up with adequate personnel.

One of the obstacles in upgradation and new housing is lack of proper land records and loan eligibility. Funding for housing as well as the domestic sector is a very serious issue. To overcome this, facilitation of up-to-date land records should be made available in the local planning office. Also, small loans should be made available for housing constructions through public sector and cooperative banks.

S no	Present scenario	Proposals
1	No proper roads	Need to upgrade the roads with minimum 6m wide or more
2	No drainage and water supply systems. The discharge of the drainage is in farm directly which affect health and hygiene conditions	Proposed cluster-wise drainage facilities for hamlets Decentralized system would be more cost effective
3	No mechanism for garbage collection and disposals	The garbage should be segregated in wet and dry form and compost scientifically in every cluster or settlements.
4	No safety and security for women, children and old age people.	To develop the system to control the attack of tigers and other animals on human beings. Street lights to be installed along the road by using the solar system.

4.5. Road and Transportation

Other than the highway, there are three district road exists in Belhe – connecting Narayangao, Kalas, Parner. Roads connecting to Manch and Jejuri in south, are designated as state highways, but are in poor condition.

Other than the goathan area, most of the village roads in Belhe GP are only about 3 to 4.5m wide with WBM semi kutch roads. Most streets are distressed with severe cracking edge breaking, riddled with potholes, shoulder drop offs. Some sewers are built, but they are open.

Roads connecting farm settlements are only gravel roads, earmarked farm tracks or in some cases dry stream beds used as roads. These roads need to be properly delineated and their RoWs marked properly. Signage -- directional, informative or cautionary, utility services along the RoW should also be planned.

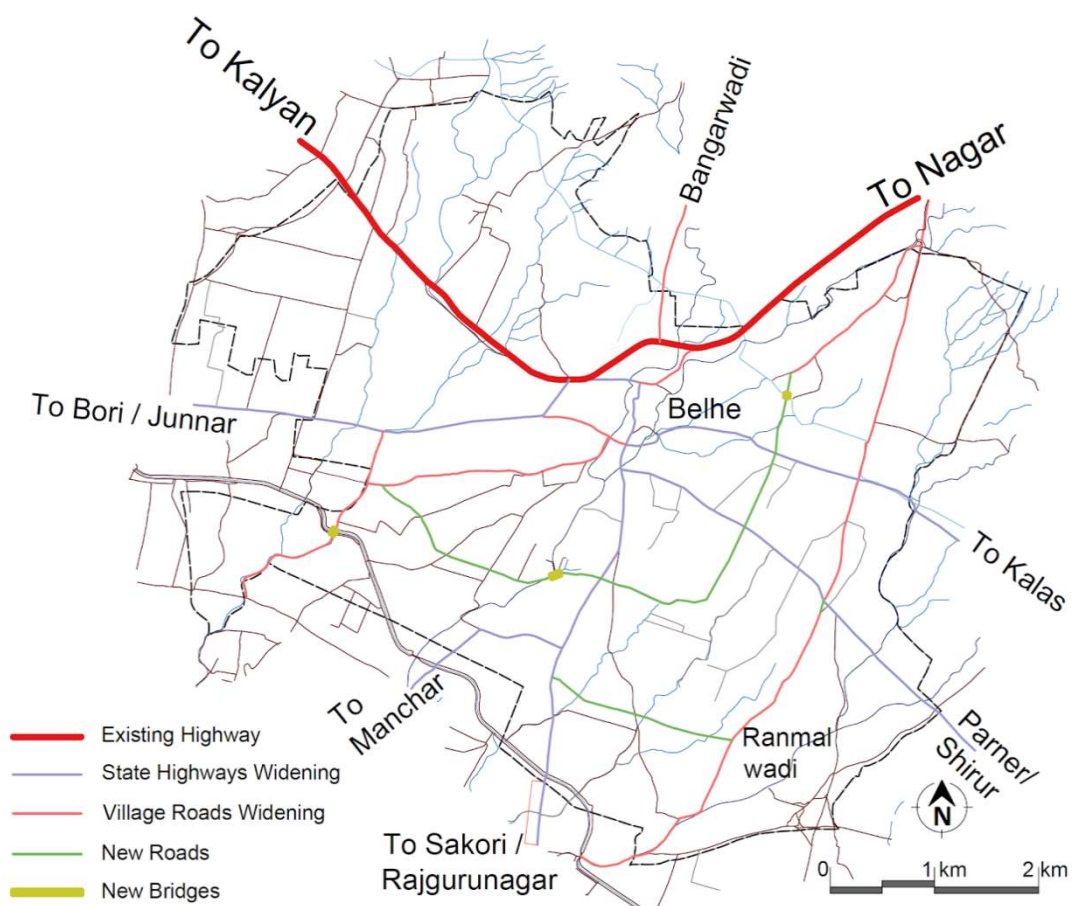


Figure 4:11. Proposed road network widening and new roads

Proposals of new roads and widening are included in the GPSDP. Considerations

for these proposals included existing seasonal routes, need to establish and enhance connections, alignments such that they are along the farm parcels.

Following are the roads connecting Belhe and its surrounding region. As part of the GPSDP, it is proposed to widen them with at least 12m wide and two lanes so as to facilitate crop transport and better connectivity to scattered settlements. The proposed development areas also planned to integrate the connectivity.

Belhe – Sakori – Manchar – needs widening and proper RoW alignment

Belhe – Bori – Narayangao – needs widening and providing appropriate connectivity in missing sections.

Following roads are part of the village network and are used for connecting farms, settlements and neighboring villages

Belhe – Yadawadi – Kombadwadi - needs widening, proper RoW alignment, and a canal over-bridge to provide necessary connection to Kombadwadi

Ranmalawadi to Gulunchwadi - needs widening and proper RoW alignment

Ranmalawadi to Sakori - needs widening and proper RoW alignment, improvement to canal bridge

Following roads are proposed to improve connectivity to various parts of the village and for connecting farms, settlements and neighboring villages. They will also provide connectivity between the proposed development areas.

Yadavwadi – SH-51 – NH-61 – Partially connecting local farm tracks in some sections, and new proposed alignment to connect Yadavwadi, wedding hall south of Belhe and areas east of Belhe gaathan.

Ranmalawadi to Belhe-Machar Road - connects existing village settlement, proposed new alignment.

In the neighboring village Rajuri, as part of the new GPSDP, it has been proposed to create a new road alignment to connect the Dawal Mallik Dargah on the hilltop to Gunjalwadi. Currently it is simply a cart track road. This will provide connectivity to pilgrimage site, the neighboring village, and to facilitate crop movement and potential future development for crop storage and processing

units.

Gaothan roads are 4.5m wide and need to be widened upto 6.0 m equally on either side. Also no stormwater drains are built which leads to waterlogging on road. This water can also be harvested and recharged. When new roads are built a complete utility network approach should be followed, by installing all necessary networks of water, stormwater, sanitation, electricity, telecommunication and fibre, alongwth the road right-of-way. Such an investment will ensure lower maintenance and operating costs for the villages.

4.6. Public toilets

There are about 48 public toilets in the village out of which almost -25% are not adequate to use. Majority of these are located near the crematorium near the highway and EWS housing. Due to lack of maintenance, they are safe and sanitary for women and children.

4.7. Solid and Liquid waste disposal

The village has no current facilities for waste segregation, recycling and disposal. Belhe however uses a small goods carrier vehicle (rikshaw) to collect garbage from households in gaothan. Proposal for solid waste management sites as part of the GPSDP was suggested and discussed in meetings. Some even supported the idea to establish waste-to-energy units and bio-gas plants.

This type of units can be located in two proposed development areas (Gaothan east and Gaothan West) along with other development. Such units can also provide employment opportunities for the youth and women of the village, and a source of income for the GP.

Diverting and managing storm water will also help with water conservation and controlling stream pollution. The discharge of the drainage is in the farm directly which affects health and hygiene conditions. The drainage lines are needed to develop as per phase wise with top priorities of the wards.

4.8. Watershed and Natural Drainage

The district has rock formation of deccan traps. It consists of volcanic lava flows with inter-trappeans and infra-trappeans. It belongs to the lower eocene to upper cretaceous age.

Belhe watershed is fan shaped. This watershed is divided into 3 parts - 1) Upper reach, 2) Middle reach and 3) Lower reach. The slope of the upper reach of the watershed is varying from very steep slope, steep sloping. The slope of middle reach of the watershed varies from gently sloping, and very gently sloping. In the lower reach of the watershed land is very gently sloping to nearly level.

According to the geomorphology of area, the upper reach contains moderately dissected plateau and pediment. It is having extensively drained and unfertile soil. Both middle and lower reach contain pediplain. But middle reach is moderately drained soil. Lower reach has comparatively fertile soil.

This soil nature governs the crop pattern of Belhe and surrounding area. The area of micro watershed is about 3,215 ha. Upper reach contributes 34.4%, middle reach 24% and lower reach contributes 41.3% to the total area of watershed. Average annual rainfall for Belhe ranges from 50 cm to 60 cm. It lies in the water scarcity zone of Junnar Tahsil.

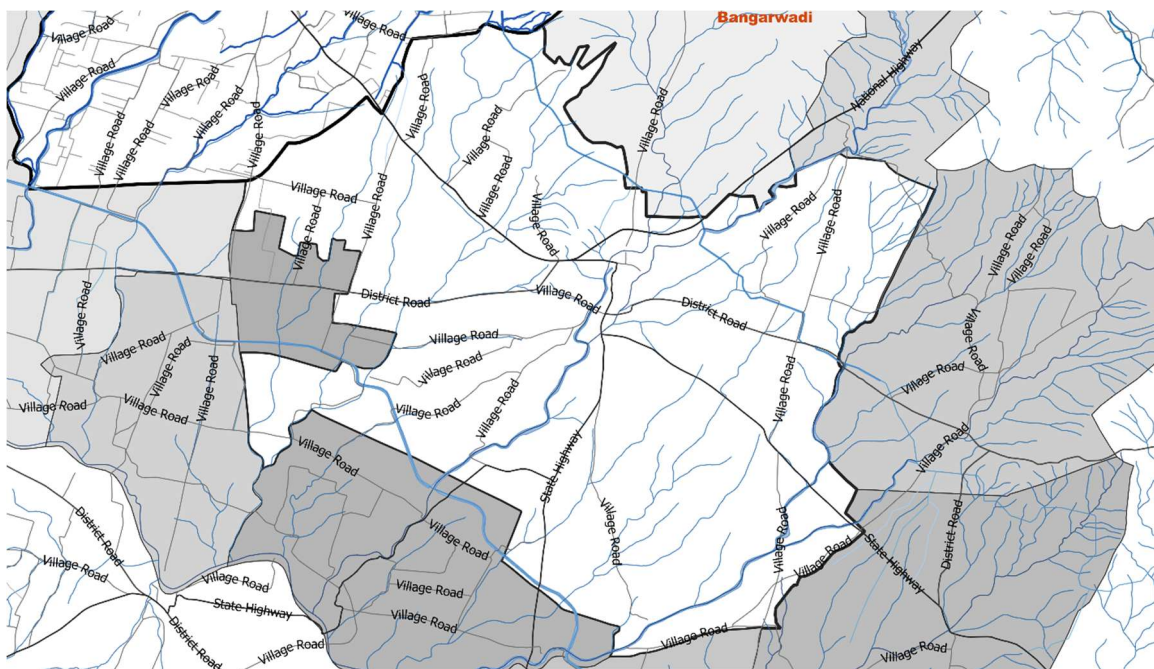


Figure 4:12. Map showing natural drainage of Belhe micro-watershed

According to guidelines for rainwater harvesting of a watershed, approximately 30% to 35% of rainfall can be harvested. The mean average rainfall is 55 cm i.e. 550 mm. It is assumed that approximately 32.5% rainfall can be harvested.²

The natural drainage is contributing to the Kukadi river. Kukadi river is part of the Upper Bhima Basin.

The climate of the Junnar tahsil can be divided into three seasons. April to May are the hottest months. From June to October are the rainy season and November to February are cold months. During monsoon season the humidity is usually between 70 to 80% on the average. The humidity is comparatively less in the rest of the year.



Figure 4.13. Map showing reach-wise measures for water conservation

In Belhe there is considerable variation in soil erosion. In the upper reaches of watershed, soil erosion is varying from very severe to severe. In the middle reach soil erosion is varies from severe to moderate. In upper reach (area) there are some scattered habitation also exists. In the lower reach some portion is having severe soil erosion and rest of the portion is having slight to moderate erosion.

In the upper reach of the watershed there is a waterbody of considerable size. It is executed through coordination of the forest department, Gram panchayat and public participation. The soil texture of the watershed is having a lot of variation. Soil texture is very important for the water holding capacity of the respective area. In the case of Belhe, the upper reach of watershed soil texture is gravelly loam, gravelly sandy loam. This soil is having less water holding capacity.

In the middle reach of the watershed, soil texture is mainly sandy clay loam, gravelly sandy loam. There are few patches of clay and gravelly sandy clay loam. In the lower reach of watershed soil texture is majorly clayey. There are also gravelly sandy loam patches.

4.8.1. Water conservation measures: -

Upper reach (Moderately Dissected Plateau) - In this area following measures can be implemented. Cross contour pits on the down slopes, drainage check dams, contour dam, deep ploughing, percolation tanks, nala bunding, nala straightening, chain of check dams. To avoid soil erosion, local tissue tree plantation should be done.

The existing water stream networks are provided with construction of various types of bund structures like earthen bund, cement bund. The major streams should be desilted. It resulted into increase in stream water capacity. As done in some of the neayby forest lands, afforestation should also done.

4.8.2. Watershed management

The water body is about 2.8% of the geographical area of Belhe GP. The GP is getting scanty rainfall. The primary sector is heavily relying on groundwater available. The depth of groundwater is variable throughout the year.

There was considerable effort from villagers through public participation and govt. Agencies. It resulted in construction of bunds across the nallah, water streams. Desilting of streams was carried out to increase its capacity. So that groundwater table enables it to rise up. Afforestation is carried out in hilly portion of village with the help of forest department and villagers.

The upper reach terrain has hilly with steep slopes. Continuous contour trenching (C.C.T.) gully plugging and forest ponds are proposed. There is an existing C.C.T. which needs desilting and repair. Nalla bunding is proposed at regular intervals. To support afforestation and renewal of it, a chain of forest ponds is required. Existing forest ponds need to be repaired and restored.

The is middle reach has primarily medium drained soil. To increase ground water table water jacket technique provision, circular recharge trenches are more appropriate. In the south-east part of the middle reach cement bunding provision will enable to enrich water storage capacity of stream.

Overall measures to Increase water level are listed below:

Recharge of existing wells

New Recharge shafts

Trench cum recharge shafts

Circular recharge trenches (for dug wells)

Borewell recharge

Rainwater harvesting

Terrace Rainwater harvesting

Bench terracing

Watershed development programme

Figure 4:14: Photos existing KT wears overrun by vegetation. Desilting and repairs proposed.



4.9. Village Tourism

Belhe is on the ancient trade route Kalyan Nagar highway. The village is said to be taking its name after the Shiva temple on the banks of the western river tributary of Kukadi River. No written records have been identified about the history of the village in the pre-historic and medieval period, but there are several stone carvings can be found in the backyards of villagers that allude to influence of stone architectural traditions practiced in the past. Mughal the records show that village was ruled by Nawab of Junnar and later by Nawab of Belhe. The palatial mansion within a fortified wall still sits on the banks of one of the tributaries of Kukadi river. Historically Belhe has functioned as a market town and is home to a weekly market for cattle. Many traders have settled here since generations trading far and wide.

After the independence, the village continued to carry out the trading function for the sub-region.

In Gaothan, at the central location there is an old Gram panchayat building which can be treated more as an example of vernacular building. Several temples, mosques and mausoleums exist in Belhe, showing a mixed social fabric with co-existence of various communities. Around village to the north side there is well acknowledged religious place of Muslim and Hindu communities. Around the village there are 8 forts. Agro tourism is one of the dormant industries which is at a nascent stage. Parashar agro tourism is one of the examples of it. It is the outcome of a self-initiated public movement.

5. POLICY LINKAGE AND SOURCES OF FUNDS

5.1 The relationship between population and development

Presently the demographic projection since the establishment of the Belhe village is constant and as per natural growth. The male female ratio has a difference of about 3%, in which female ratio is less. The major impact took place in Covid-19 period when migration from city areas to hometown was about 3000 souls. After the unlock situation about 50% of the Working population is re-settled in their respective work / job places. But the 1500 souls are added in the village. This addition in population is considered as in this development plan for their housing, employment and other issues.

The village has the highest educated population in conventional as well technical education. After graduation most of the youngsters migrate for employment in cities such as Pune, Mumbai, and Ahmednagar etc. The part of the population residing in village either semi-skilled or unskilled, both male and female.

Employment can be generated through various government schemes like MNREGA, such schemes however can only cater to unskilled work. Awareness of various government schemes also needs to be increased to encourage participation.

- Recommendation 1
- Increase stability and incomes from subsistence farming by raising agricultural productivity.
- Enhance skill of villagers through various vocational training, digital literacy.
- **Actions:** Improve the access of farmers to modern inputs, technology, and credit, so that they may increase agricultural yields.
- Need to establish training center for skilling and up-skilling of youth, farmers and women.
- Relevant Schemes: Skill development Deen Dayal Upadhyaya Grameen Kaushalya, Shyama Prasad Mukherji Rurban Mission (NRuM), Digital Literacy (access to digital resources for all citizens), Gram Swaraj

Abhiyan, DISHA, and MSSDC (State scheme) - MAHASWAYAM

Sector	Population and Development		
Phase	Criteria / Skill development	Activities	Funding sources/ Schemes
Phase1	Social Security	Pension for all eligible families, old age, disability and widow	IGNOAPS, IGNWPS, IGNDPS and Other state social pension schemes
Phase2	Digital Literacy	Skill development in agri. and allied industries, IT	Digital Literacy Mission, DISHA; SPMRM (NRuM); DDUFGK; MSSDC
Phase3	Digital Literacy	Skill development in agri. and allied industries, IT, Pension for all eligible families, old age, disability and widow	MAHASWAYAM; Digital Literacy Mission, DISHA; SPMRM (NRuM); DDUFGK; MSSDC; Gram Swaraj Abhiyan; National Rural Livelihoods Mission Aajeevika Skills RSETI Schemes of Ministry of MSME. IGNOAPS, IGNWPS, IGNDPS and Other state social pension schemes
Phase 4	Digital Literacy		MAHASWAYAM; Digital Literacy Mission, DISHA; SPMRM (NRuM); DDUFGK; MSSDC; Gram Swaraj Abhiyan; National Rural Livelihoods Mission Aajeevika Skills RSETI Schemes of Ministry of MSME

- Recommendation 2
- Construct irrigation facilities and water conservation
- **Actions:** State government and the local planning bodies take efforts to increase the ground water level at upper reach and middle reach areas by bunding, trenching, bore wells, stream blasting and well jacketing systems. It will result in an increase in the ground water table. So that most of the land will be irrigated and it will be possible to get commercial crops to fetch higher prices in global markets. In lower reach as there is gentle slope with clay soil. Through various state government schemes cement bunds are constructed across the stream. It has increased the capacity of water catchment area. It should sustain for future period. It can be achieved through well recharge, well jacketing.

Sector	Construct irrigation facilities and Water conservation		
	Location	Proposed activities	Funding Source
Phase 1	Upper reach	Renovation of water bodies/tanks. Reuse of water and recharging of structures such as bore-wells Watershed development in intensive afforestation	Integrated watershed management programme (IWMP) PMKSY; MNREGA; Gram Swaraj Abhiyan; National Horticulture Mission; Schemes of the Ministry of Environment, Forests and Climate Change like CAMPA
phase2	Upper reach	Farm ponds, forest ponds, bunds across stream, medicinal afforestation along stream; roof top rainwater harvesting	Integrated watershed management programme (IWMP) PMKSY; MNREGA, NAEB; state schemes; public participation; Gram Swaraj Abhiyan; National Horticulture Mission; Schemes of the Ministry of Environment, Forests and Climate Change like CAMPA
phase3	Middle reach	Well jacketing, strengthening of existing bunds; Desilting of water channels; medicinal afforestation along streams, roof top rainwater harvesting	Integrated watershed management programme (IWMP) PMKSY; MNREGA, NAEB; state schemes; public participation; Gram Swaraj Abhiyan; Pradhan Mantri Krishi Sinchai Yojna (PMKSY); National Horticulture Mission; Schemes of the Ministry of Environment, Forests and Climate Change like CAMPA
phase4	Lower reach	Desilting of water channels; Stream blasting, well jacketing, recharge of well, strengthening bandharas; roof top rainwater harvesting	Integrated watershed management programme (IWMP)PMKSY; MNREGA, NAEB; state schemes; public participation; Gram Swaraj Abhiyan; National Horticulture Mission; Schemes of the Ministry of Environment, Forests and Climate Change like CAMPA

- Recommendation 3
- Increase the supply of agricultural machinery through subsidies, financing, and setting quality standards.
- **Actions:** Set up joint utilization systems for agricultural machinery to allow farmers to lease machines on demand, thus reducing investment costs,

and set up pilot farms to demonstrate and promote the use of machines.

- Existing water supply lines need repairs and have less carrying capacity. Need to upgrade with new technology.
- Recommendation 4
- Develop a domestic agro-industry and small and medium-sized enterprises (SMEs) to absorb agricultural output and stimulate growth from raw product to processed product by which the economy will change.
- **Actions:** Promote and strengthen linkages between agriculture and agro-industry at national and international level including marketing, export facility etc.

Sector	Agriculture and Agro based industry		
	Location	Proposed activities	Funding source
Phase1	Ward no. 1, 2 and 3	To develop a sustainable model for livelihood promotion of NTFP collector	Mahila Kisan Sashaktikaran Pariyojana; Village green bank scheme; Young Professional Scheme; Gram Swaraj Abhiyan; Paramparagat Krishi Vikas Yojana (PKVY); National Horticulture Mission
Phase2	Ward 4,5 and 6	To develop a sustainable model for livelihood promotion of NTFP collector	Mahila Kisan Sashaktikaran Pariyojana; Village green bank scheme; Young Professional Scheme; Gram Swaraj Abhiyan; Paramparagat Krishi Vikas Yojana (PKVY); National Horticulture Mission
Phase3	Ward 1,2 and 3	Promotion of Innovation, Rural Industry and Entrepreneurship'	"ASPIRE" scheme; Village green bank scheme; (SFURTI)
Phase 4	Ward 4,5 and 6	Promotion of Innovation, Rural Industry and Entrepreneurship'	"ASPIRE" scheme; Village green bank scheme; (SFURTI)

- Recommendation 5
- Subsidize the investment costs of rural households in developing skills

required in the modern sector. Actions: Provide credit facilitation for enterprises and rural households.

- Provide incentives for rural enterprises to invest in physical and human capital.
- Provide social protection such as public works, income support, and agricultural extension services
- Promote decent living wages and social protection for workers in the modern sector.
- Recommendation 6
- **Actions:** Promotion of decent living wages.
- Set up social protection programme such as unemployment insurance, among others.

Sector	Agri product marketing and export facility		
Phases	Location	Proposed activities	Funding sources/ schemes
Phase 1	Gaothan - Chawdi or GP building	To give an access to marketing opportunities of agricultural crops and produce	Scheme of Agri-Market Infrastructure Fund (AMIF); e-NAM scheme; Agricultural Marketing Infrastructure (AMI) Sub Scheme; Agriculture Contingency Plan; National Mission for Sustainable Agriculture (NMSA)
Phase 2		Fodder development and management	National Mission for Sustainable Agriculture (NMSA); Rainfed Area Development Programme (RADP); Accelerated Fodder Development Programme (AFDP) Paramparagat Krishi Vikas Yojana (PKVY)
Phase 3		Integrated cold storage chain plants	Pradhan Mantri Kisan Sampada Yojana; Paramparagat Krishi Vikas Yojana (PKVY)
Phase 4		Integrated cold storage chain plants	Pradhan Mantri Kisan Sampada Yojana; Paramparagat Krishi Vikas Yojana (PKVY)

5.2. Land use: Agriculture development

The objectives of the Agriculture Development are:

- (1) To enlarge the base of, and help sustain, economic growth; and
- (2) To accelerate poverty reduction.

To achieve these objectives, the Government will focus on four key areas, as follows.

- Focus area 1 - Improving agricultural productivity and diversification
- **Actions:** Improve soil fertility, conduct soil testing and classification for crop zoning, and formulate land use plans.
- Strengthen research on, and development of, crop seeds and crop production technologies.
- Mainstream the use of high-quality and high-yielding crop varieties and seeds.
- Promote crop intensification and diversification.
- Improve knowledge on crop protection.
- Improve the quality of agricultural produce, and marketing
- Strengthen inspection capacity and services for quality and safety of agricultural products.
- Focus area 2 - Land reform and clearing of drawbacks in development.
- **Actions:** Organize the implementation of the land reform programme through a sector-wide approach with expert's discussions and live case studies.
- Improve land registration in order to confer property rights and other rights for all immobile properties (state and private) in the name of husband and wife. Transfer tenure rights for those properties, as well as prevent and resolve land disputes, aiming at strengthening safety in land tenure and ensuring the effectiveness of, and confidence in, the land market.
- Collaborate with institutions involved in providing social land concessions in promoting partnerships between smallholder farmers and owners of crop plantations and other agricultural production corporations.

To promote employment in the areas of animal husbandry, setting up a feed production unit is needed. The local cooperative Ganesh Dairy, in the neighboring Rajuri, can be tapped to the coordinating agency for this type of unit. The dairy is engaged in providing in small scale feed cutting machines and manufactured feed bags to farmers. This activity can absorb local youth as well as women from small-saving, self-help groups.

Sector	Agri product marketing and export facility; Rural industrialization		
Phases	Location	Proposed activities	Funding sources/ schemes
Phase 1	Entire village	1) Soil testing center; Support to organic farming cluster identified; Property card distribution; Pension scheme for marginal farmers 2) Post harvesting technology, food processing and Dairy processing. 3) Other Micro enterprises	1) National Mission for Sustainable Development (NIMSA); Paramparagat Krishi Vikas Yojana (PKVY); Pradhan Mantri Krishi Sinchai Yojna (PMKSY); SWAMITVA SCHEME; PM Kisan Yojana; Jan Dhan Bank account scheme; PM-KMY (Pradhan Mantri Kisan Maan- Dhan Yojana) ; 2) Schemes of Ministry of Agriculture, Department of Dairy and Animal Husbandry; Schemes of Department of Food Processing. 3) Schemes of ministry of MSME and Ministry of Textiles
Phase 2		1) Food Storage and Warehousing, Soil and Water Conservation, Agricultural Financial Institutions; Property card distribution; Pension scheme for marginal farmers 2) Post harvesting technology, food processing and Dairy processing. 3) Other Micro enterprises	1) Rashtriya Krishi Vikas Yojna (RKVY); SWAMITVA SCHEME; PM Kisan Yojana; Jan Dhan Bank account scheme; PM-KMY (Pradhan Mantri Kisan Maan- Dhan Yojana) 2)Schemes of Ministry of Agriculture, Department of Dairy and Animal Husbandry; Schemes of Department of Food Processing. 3) Schemes of ministry of MSME and Ministry of Textiles
Phase 3		1) Fodder development and management 2) Post harvesting technology, food	National Mission for Sustainable Agriculture (NIMSA); Rainfed Area Development Programme (RADP); Accelerated Fodder Development

		processing and Dairy processing. 3) Other Micro enterprises	Programme; 2) Schemes of Ministry of Agriculture, Department of Dairy and Animal Husbandry; Schemes of Department of Food Processing. 3) Schemes of ministry of MSME and Ministry of Textiles
Phase 4		1) Post harvesting technology, food processing and Dairy processing. 2) Other Micro enterprises	1) Schemes of Ministry of Agriculture, Department of Dairy and Animal Husbandry; Schemes of Department of Food Processing. 2) Schemes of ministry of MSME and Ministry of Textiles

5.3. Housing

Overall analysis of Belhe housing survey has the following outcome as per present available data in core area and outside settlements in farmlands.

Within the core area about 60% houses are very old and dilapidated conditions not used by the people. The joint family prepare to shift in the existing house due to separation of joint family.

Some houses are built in modern materials like R.C.C framed buildings.

The basic building bye laws are often not enforced, and unauthorized constructions are commonplace. Conventional building materials such as bricks, stones are no longer used, and modern building materials such concrete bricks, aerated bricks, RCC frames are preferred. One of the concerns is also loss of traditional building methods, design principles and knowledge. Several newly constructed structures use modern materials sliding windows, vitrified tiles, paints, over traditional methods and materials such as lime-based finishes, natural stones. While these are unsuitable for the lifestyle habits and needs of the local population, this has also resulted in neglect and disrepair of old historic structures. It is essential to increase awareness among the villagers on the adoption appropriate building methods and materials to ensure the character of the village is not lost. It is also important to provide the necessary training to the younger generations in the traditional building trades, so that they can help repair and maintain the historic and traditional structures in the village and also the

region.

The services such as water supply drainage, electricity, roads need to improve.

Approach roads in core areas are hardly 3 to 4.5 m wide only. this width of roads should be enhanced up to minimum 6.0 m and above.

Title of immovable property is in the name of husband and is proposed to register in the joint name of husband and wife. This will help to avail the loans and not to sell the property without consent of wife and children.

At present the housing permission is a great hurdle for the local planning authority as well as the collectorate of the district.it is time consuming and very expensive. To exercise this, it is proposed one window approach for the building permission by the local planning authority.

The funding for housing as well as the domestic sector is a very serious issue. The loans are not available for the small scale as industry as well as housing constructions. The easy and subsidized funds should be made available to the farmers and small industrialists in this region. This will create more employment and technical as well non-technical youth will not migrate rural to urban areas for jobs and will not remain unemployed.

The houses in their own farmlands are not properly constructed, the services are not adequate. The clustering of housing is needed with proper network health and safety facilities.

The use of non-conventional resources should be promoted with top properties. This will enable the metering system of Maharashtra state electricity board through solar energy which will reduce the monthly cost on energy use.

The agricultural liquid and solid waste need to be scientifically treated to create composting and biogas production to use for cooking and other purposes.

There are economical and backward class community housing in the village. These houses don't have space for expansion as there is a need for additional housing due to family expansions.

Sector	Strengthening of Gram Panchayat (Good Governance)		
Phase	Location	Activity	Funding sources/schemes
Phase 1		1) Panchayat Bhavan	BRGF RGPSA MGNREGS
Phase 2		Training to functionaries	BRGF RGPSA MGNREGS
Phase 3		Enhancing Capacity building of elected functionaries	BRGF; RGPSA ; MGNREGS ; Digital Literacy Mission,

5.4. Transport

In the regional context Belhe GP is significant as a market town and also as a circle headquarter. Growth prospects are also supported by the high literacy rate, existence of educational institution in the region.

Although well connected with metros such as Mumbai and Ahmednagar via NH-61 and towns such as Manchar and Jejuri via SH-51, lack of agricultural infrastructure and logistics network makes it difficult for farmers to access large markets.

Local road network is very critical for movement of farm workers, tools and machinery and crops to and from the farms. Till independence time the population was very low and was concentrated within a small area between the streams and possibly a fortification. The average road width within the core village was not more than 4.5 m in the core. These streets have never been updated to meet the needs of Since the last three decades the expansion of the village took place on either side of the highways in the farmland. The approach to Belhe has direct access from the highway at and acute angle which create the accident-prone areas or black spot. The proposal is to create a service road or underpass as per proposed development plan of Belhe.

New upcoming buildings within the core area shall not be permitted where the road width is less than 6m. At the time of road widening, affected property owners shall be given adequate compensation in the form of additional FSI.

The settlements around the core areas are developed in the farmers own lands in various locations. They are simply kaccha type cart road (locally called panand) of average 3 m wide only. The produce of food grains, sugarcane etc. can't be carted from the farms in time and easy way. These roads are needed to be defined widened to 9m in the development plan. Encroachment on the road should be strictly banned and disposal of agricultural waste should be diverted to biomass processing units. The surface drain and other drainage line shall be covered only.

There are several blind corners and low-lying areas that should be geometrically developed. Proper signage should be installed with area names, directions, and safety signs.

Sector	Transport Network (Inter and Intra village)		
Phase	Location	Proposal	Funding Sources/Schemes
Phase 1	1) Inter village road connectivity 2) Road with covered drains	1) Connecting Gaothan with wadi/vastis; Black spot removal 2) Improving highway exits and Black spot removal 3) Streetlights on peripheral vastis	1) Pradhan Mantri Gram Sadak Yojana (PMGSY); MGNREGA; Backward Region Grants Fund; World bank and ADB fund 2) Pradhan Mantri Gram Sadak Yojana (PMGSY); MGNREGA; Backward Region Grants 3) Ministry of Renewable Energy
Phase 2	1) Inter village road connectivity 2) Road with covered drains	1) Widening of DRs and State Highways 2) converting Kuchha roads into pucca road 3) Streetlights	1) Pradhan Mantri Gram Sadak Yojana (PMGSY); MGNREGA; Backward Region Grants Fund; World bank and ADB fund 2) Pradhan Mantri Gram Sadak Yojana (PMGSY); MGNREGA; Backward Region Grants 3) Ministry of Renewable Energy
Phase 3	Improvement to Public transport / and goods transport	1) Bus stand with public transport routes to nearest urban centers and villages 2) Small goods/truck terminal connected to market yard	1) Chief Minister's Rural Roads Scheme (MMGSY); World bank and ADB fund 2) Pradhan Mantri Gram Sadak Yojana (PMGSY); MGNREGA; Backward Region Grants 3) Ministry of Renewable Energy

Phase 4	Public transport	Public transport to nearest urban center	1) Chief Minister's Rural Roads Scheme (MMGSY); Pradhan Mantri Gram Sadak Yojana (PMGSY); MGNREGA; Backward Region Grants Fund 2) Pradhan Mantri Gram Sadak Yojana (PMGSY); MGNREGA; Backward Region Grants 3) Ministry of Renewable Energy
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Specific strategies and proposals

As per the survey of slope and elevation of the Belhe village following are the policies in regards with land has been considered for various zones.

Watershed zone (Slope and Elevation)	Characteristics			Scheme of Intervention	Permissible activity
	Soil Type	Existing Land cover, use; Proximity to Settlement	Proximity to facility		
Lower watershed (Very gentle)	Black cotton and fertile soil	Commercial crops; Near core and farm housing	Available in core area only	Least - Intervention (erosion and)	Agro-tourism and soil fertility improvement
Middle watershed (Visible slope (750m - 850m))	Sandy Soil with Severe Erosion	Agriculture; Areas towards east of the core part	Peripheral boundary of the core.	Minimal Intervention	Forest, Plantation, Nurseries, promotion to more irrigation
Policy Zone - 3 (High Visible slop, 850m to 1050m)	Hard rocky & Severe Erosion	Few agriculture; Within 3 Km of the Core to east side	3.5 km from the Service centre	Moderate Intervention	Agriculture, horticulture, Grazing Lands

Other Facilities

Belhe Gram panchayat has initiated some activities as part of the Swachh Bharat Abhiyan with construction of toilets, and door-to-door waste collection. This should be extended to a larger group of people and areas where there is isolated

cluster housing in farmlands. Proposal is to construct STP in the low-lying areas. Sewage of the Belhe goathan is partially closed one in some area but directly discharged in the natural live streams. After treating the waste and wastewater shall be discharged in the artificial water bodies. Further it will be directed to the stream areas.

Sector	Other facilities	
Phase	Activities	Funding sources / schemes
Phase1	1) Insurance schemes 2) Broad band connectivity 3) provision of UIDAI card 3) Reducing pollution (air, water and land) 4) Women in SHGs and Financial inclusion 5) LPG Gas Connections/ Improved Chulhas	1) Aam Aadmi Bima Yojana, RSBY/State health insurance schemes PMJDY 2) CSC Scheme of DEITY, National Optical Fiber Network (NOFN) Schemes of Telecom Department 3) PM Jan Dhan Yojana and other schemes of the Department of Financial Services BRGF Finance Commission Grants 3) Schemes of MNRE as well as MGNREGS; Schemes of Ministry of Agriculture. 4) National Rural Livelihood Mission; Pradhan Mantri Jan Dhan Yojana 5) Rajiv Gandhi Grameen LPG Vitaran Yojana (RGGLVY)
Phase 2	1) Village market 2) Women in SHGs and Financial inclusion 3)LPG Gas Connections/ Improved Chulhas	1) National Rural Livelihoods Mission, MGNREGS 2) National Rural Livelihood Mission; Pradhan Mantri Jan Dhan Yojana 3) Rajiv Gandhi Gramin LPG Vitaran Yojana (RGGLVY)
Phase 3	1) Anganwadis, schools, health institutions, Gram Panchayat office and libraries repair/renovations 2) Women in SHGs and Financial inclusion 3) LPG Gas Connections/ Improved Chulhas	1) MGNREGA, Backward Regions Grant Fund, RGPSA Sarva Shiksha Abhiyan, ICDS 2) National Rural Livelihood Mission; Pradhan Mantri Jan Dhan Yojana 3) Rajiv Gandhi Grameen LPG Vitaran Yojana (RGGLVY)
Phase 4	1) Women in SHGs and Financial inclusion 2) LPG Gas Connections/ Improved Chulhas	1) National Rural Livelihood Mission; Pradhan Mantri Jan Dhan Yojana 2) Rajiv Gandhi Grameen LPG Vitaran Yojana (RGGLVY)

It is observed that animal waste is not collected and utilised properly, only a few farmers use for manure. Also, the agricultural waste is burnt in open fields. This

leads to soil, water and air pollution. Door-to-door collection of wet and dry garbage should be promoted. Those who participate in garbage collection, sorting and disposal shall be given incentives in taxation of housing. Subsidies for setting up biogas plants, biomass composting shall be provided.

Sector			
Health and Hygiene, Sanitation			
Phase	Location	Activities	Funding sources/schemes
Phase 1	Dense wards	1) Habits of regular Physical exercise 2) Hygienic Behavior and Practices 3) Drinking water 4) Solid and Liquid Waste Management	1) The National Health Mission (NHM); ICDS for nutrition along with SABALA and SAKSHAM schemes. 2) Schemes of Health and Family welfare; NHM scheme; MPLADS. 3) Nehru Yuvak Kendra Sanghathan; State govt. Sports schemes; MGNREGS; MPLADS. 4) NHM, ICDS, SWACHH BHARAT MISSION 5) National Rural Drinking Water Programme. 6) Swachh Bharat Mission -Grameen
Phase 2	All wards	1) Health and Nutrition 2) Reducing Risk Behavior - alcoholism, smoking, substance abuse 3) Habits of regular Physical exercise 4) Hygienic Behavior and Practices 5) Drinking water 6) Solid and Liquid Waste Management	1) The National Health Mission (NHM); ICDS for nutrition along with SABALA and SAKSHAM schemes. 2) Schemes of Health and Family welfare; NHM scheme; MPLADS. 3) Nehru Yuvak Kendra Sanghathan; State govt. Sports schemes; MGNREGS; MPLADS. 4) NHM, ICDS, SWACHH BHARAT MISSION 5) National Rural Drinking Water Programme. 6) Swachh Bharat Mission -Grameen
Phase 3	All wards	1) Health Nutrition 2) Reducing Risk Behavior- alcoholism, smoking, substance abuse 3) Habits of regular Physical exercise 4) Hygienic Behavior and Practices	1) The National Health Mission (NHM); ICDS for nutrition along with SABALA and SAKSHAM schemes. 2) Schemes of Health and Family welfare; NHM scheme; MPLADS. 3) Nehru Yuvak Kendra Sanghathan; State govt. Sports schemes; MGNREGS; MPLADS. 4) NHM, ICDS, SWACHH BHARAT MISSION

Secondly the waste of funeral activities is thrown in the live water body and it further mixes with river ways flow and pollutes the basin of Kukdi river. Decentralized STPs leeching pits, use of two-pit septic tanks, and community level bio-gas plants should be encouraged. Crematorium located near the market ground should be improved and feasibility of electrification explored.

Sector	Civic Infrastructure	
Phase	Activities	Funding sources/Schemes
Phase1	1) Burial grounds/Crematoria (Electrification)	MGNREGA, Backward Regions Grant Fund, MPLADS
Phase2	Building for SHG	MGNREGA, Backward Regions Grant Fund; MPLADS
Phase3	Playground	Rajiv Gandhi Khel Abhiyan, MPLADs, MGNREGA, Backward regions grant fund.

Current Land values

A.S.R. (Annual Schedule Rate) for various types of land use as per 2020-21

S. No.	Types of Land	Rate (in Rupees)
1	Jirayat Land	8,19,500-13,14,000 per Ha.
2	Land near Highway	1,760 / m ²
3	Land in Gaothan	1,590 / m ²
4	N.A. Land	1,460 / m ²
5	Sugarcane Land	21,62,500-26,28,000 per Ha.
6	Industrial N.A. Land	1,460 /m ²

Belhe Gram Panchayat Spatial Development Plan, 2020



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