Review Meeting: 03.12.2020

Spatial Planning for Rural Areas for Uttrakhand: A Pilot study in Belada and Chharba villages

Presented by
Dr. Uttam K Roy (PI)
Dr. Shubhajit Sadhukhan (Co-PI)

Background

- Covid-19 Pandemic and lockdowns led to **reverse migration**

- Renewed felt need to make villages capable of plan and develop

- MoPR, Government of India has initiated ***Spatial Plan for rural areas*** as a pilot basis in India

- Focus is on villages adjacent to NH and higher populations

- IIT Roorkee was selected to conduct the pilot study in Uttarakhand

- The selected villages are

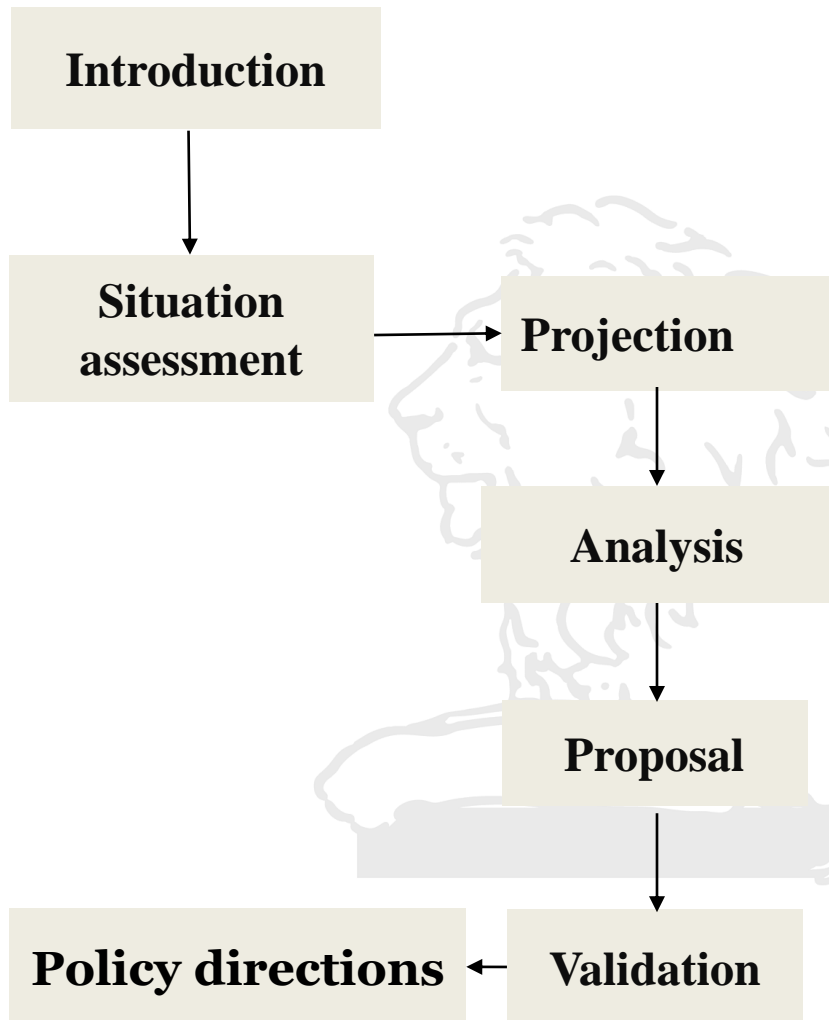| Village code	Village name	District	Area in Ha	Population
045088	**Chharba**	Dehradun	1567	7268
056427	**Belada**	Haridwar	395	7185

Project Objectives

Aim:

*To conduct **spatial planning** for the **integrated development** of villages in a **pilot** basis based on the **aspiration** of the villagers and **indicate policy directions**.*

Objectives

1. Manage growth and change;
2. Provide orderly and predictable development;
3. Protect environmental resources;
4. Set priorities for developing & maintaining infrastructure and facilities;
5. Strengthen local identity;
6. Promote open, democratic planning;
7. Provide guidance & capacity building

1. *Reflect on the critical issues in spatial planning of villages*
2. Create *a framework for future policy decisions*

Methodology and timelines

Introduction

↓

Situation assessment → Projection

↓

Analysis

↓

Proposal

↓

Policy directions ← Validation

1. Start of the project
2. Launch meeting with state PR deptt and panchayat representatives
3. Desktop study on situation assessment; July to Mid-august
4. Questionnaire for **vision and priority study**
5. Projection & Analysis
6. Survey: Survey with GPSDP survey app done
7. **Validation meeting** with the members of Gram Panchayat

Introduction of the villages

MoPR criteria for selection of pilot villages

1) Gram Panchayat (GP) 5000 to 10,000 population,

2) Located on a National Highway or a prominent State Highway,

3) Have enough area available for future growth, and,
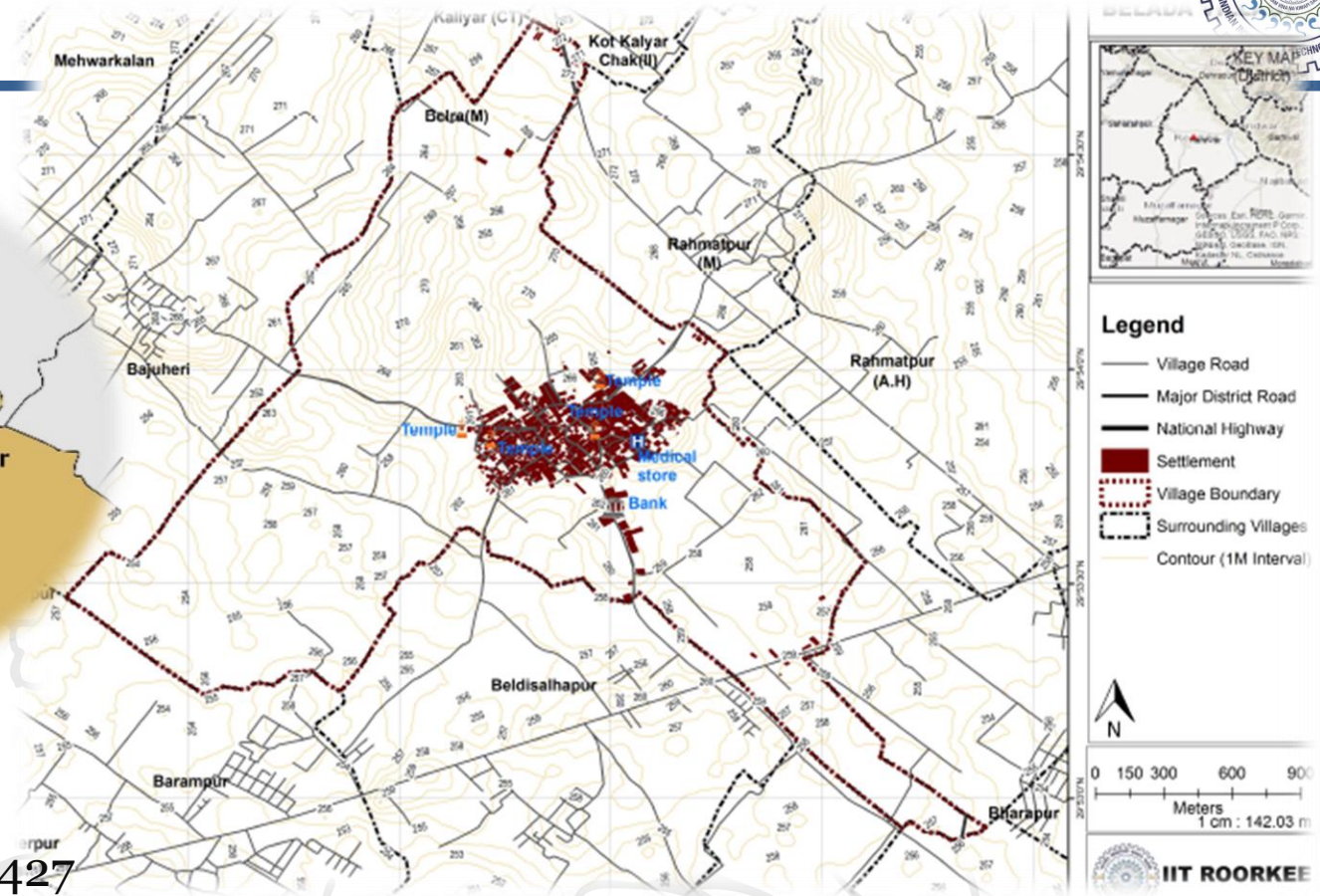
4) Located not very close to a large city,
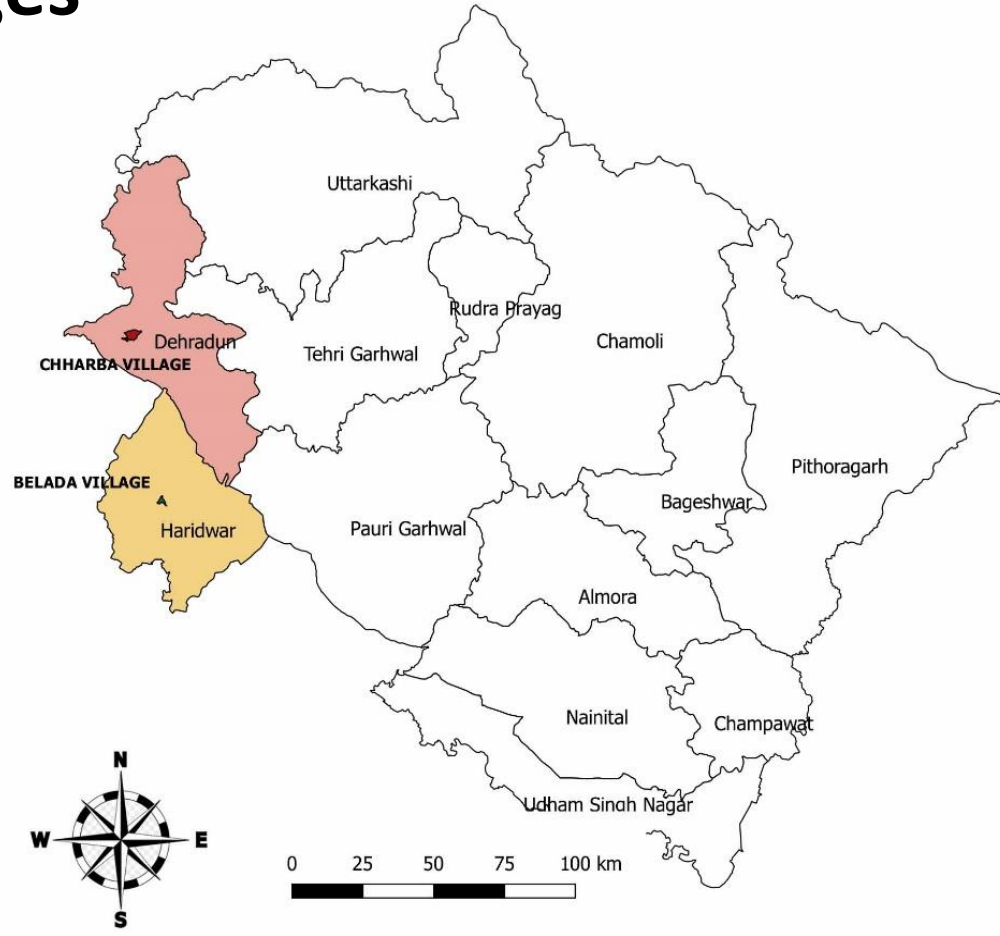
Belada and **Chharba.**

Village code	Village name	District	Area in Ha	Population	Adjacency
045088	**Chharba**	Dehradun	1567	7268	NH 307
056427	**Belada**	Haridwar	395	7185	NH 334

Village: **Belada**
Distt: **Haridwar**

Belada

- Village code 056427
- Community Development (C.D.) Block: Roorkee
- Tehsil: Roorkee, District: Haridwar
- Area: 395.1 Hectares, Population: 7185
- Households: 1187 (as per 2011 Census).
- Nearest railway station: Roorkee railway station (12 kms away)
- Nearest Airport: Jolly Grant Airport (70 kms away).

Socio-economic & Demographic characteristics

	Number of Households	Total Population Including Institutional and Houseless Population			Population in age group 0-6		
		Person	Male	Female	Person	Male	Female
2001	895	5536	2904	2632	1152	607	545
2011	1187	7185	3778	3407	1195	647	548

	SC/ST Population						Literacy		
	Scheduled caste Population			Scheduled Tribe Population					
	Person	Male	Female	Person	Male	Female	Person	Male	Female
2001	1768	925	843	17	10	7	2594	1606	988
2011	2508	1337	1171	4	2	2	4,247	2,498	1,749

Belada: **Situation Assessment**

Population distribution of working population

	2001			2011		
	Person	Male	Female	Person	Male	Female
Main Workers						
Total Workers	1472	1319	153	1884	1751	133
Main Workers	1108	1039	69	1765	1643	122
Cultivators	280	276	04	296	288	8
Agriculture Workers	142	135	07	216	203	13
Household industry Workers	94	63	31	88	77	11
Other Workers	592	565	27	1165	1075	90

Marginal Workers

Marginal Workers	364	280	84	119	108	11
Cultivators	02	01	01	-	-	-
Agriculture Labourers	184	151	33	11	09	02
Household industry Workers	44	17	27	4	4	-
Other Workers	134	11	23	104	95	09
Non Workers	4064	1585	2479	5301	2027	3274
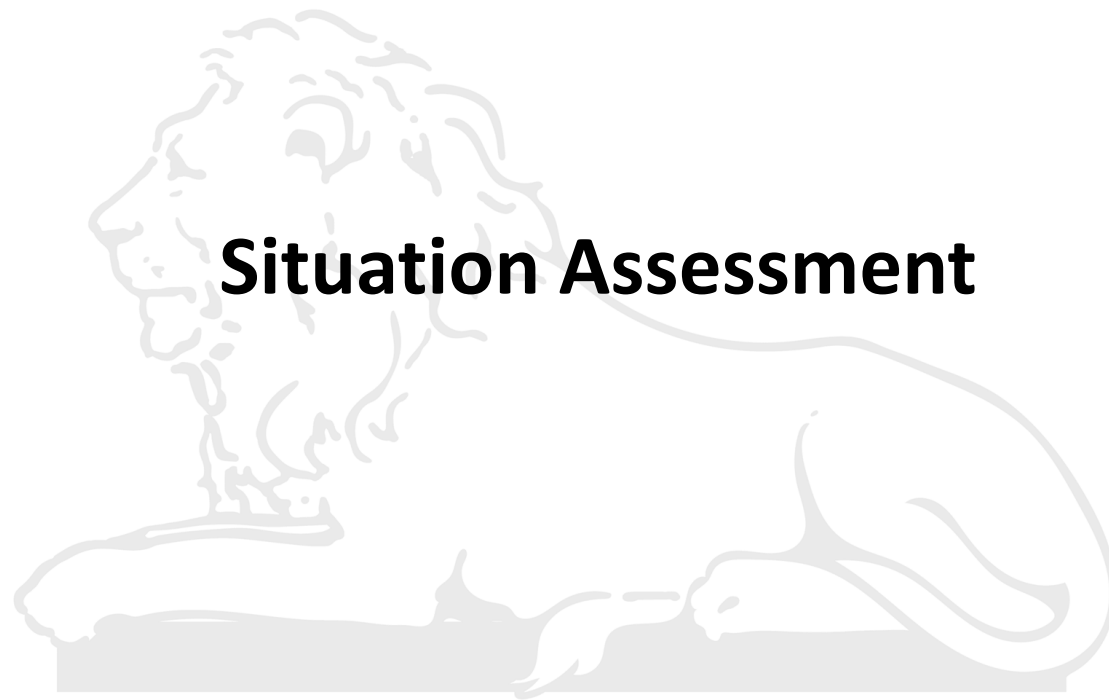
Situation Assessment

Situation Assessment

Existing Infrastructure

Educational facilities	
Pre-Primary school (PP)	1 No.(s)
Primary school (P)	2 No.(s)
Middle school (M)	<5km
Secondary School (S)	5-10 Km
Senior Secondary school (SS)	<5 km
Degree college of arts science & commerce (ASC)	<5 km
Engineering college(EC)	<5 Km
Medical college (MC)	>10 Km
Management Institute	>10 Km
Polytechnic (Pt)	<5 Km
Vocational training school /ITI	< 5Km
Non-formal training centre (NFTC)	5-10 Km
Special school for disabled (SSD)	5-10 km

Medical Amenities	
Community health centre (CHC)	5-10 km
Primary health centre	<5km
Primary health sub centre (PHS)	1 No.(s)
Maternity and child welfare centre (MCW)	1 No.(s)
T.B. clinic (TBC)	5-10 km
Hospital-allopathic (HA)	5-10 km
Hospital-alternative medicine (HO)	5-10 km
Dispensary (D)	5-10 km
Veterinary hospital (VH)	1 No.(s)
Mobile health clinic (MHC)	5-10 km
Family welfare centre (FWC)	1 No.(s)

Belada: **Situation Assessment**

Existing Infrastructure

Communication and transport facilities	
Post office(PO)	5-10 km
Sub post office (SPO)	Available
Post & Telegraph office (P&TO)	5-10 km
Telephones (Land lines)	Available
Public call office (PCO)	Available
Mobile phone coverage	5-10 km
Internet cafes/ Common service centre (CSC)	5-10 km
Private courier facility	Available
Bus service (Public & Private)	Available
Railway stations	5-10 km
Auto/Modified Autos	5-10 km
Taxis and Vans	5-10 Km
Tractors	Available
Cycle-pulled rickshaws(Manual & Machine driven)	Available
Carts driven by animals	<5 Km
Sea /River ferry service	>10 km

Availability of drinking water – Yes/No	
Tap water (Treated/Untreated)	No
Well water (Covered / Uncovered well)	No
Hand Pump	Yes
Tube wells / Bore well	Yes
Spring	No
River / Canal	No
Tank / Pond / Lake	No
Others	No

Availability of toilet & others Yes / No	
Community toilet including bath	No
Community toilet excluding bath.	No
Rural sanitary mart or sanitary hardware outlet available near the village.	No
Community bio- gas or recycle of waste for productive use.	No

Belada: **Situation Assessment**

Existing Infrastructure

Highways, village roads, banks & credit societies	
Connected to national highway(NH)	Available
Connected to state highway(SH)	Available
Connected to major district road (MDR)	Available
Connected to others district road	Available
Pucca roads	Available
Kutchcha roads	Available
Water bounded macadam(WBM) roads	Available
Navigable waterway (river/canal)(NW)	>10 km
Footpaths (FP)	Available
Banks Commercial & Co-operative	Available
ATM	Available
Agricultural Credit Societies	Available

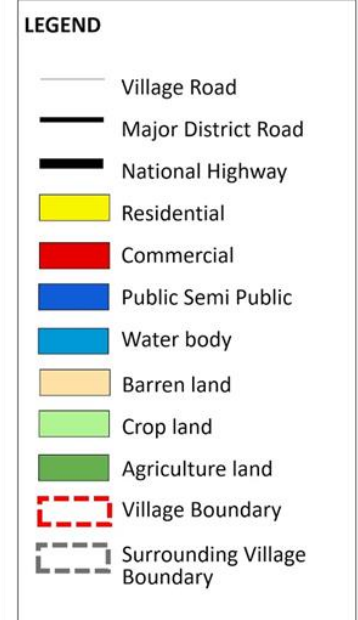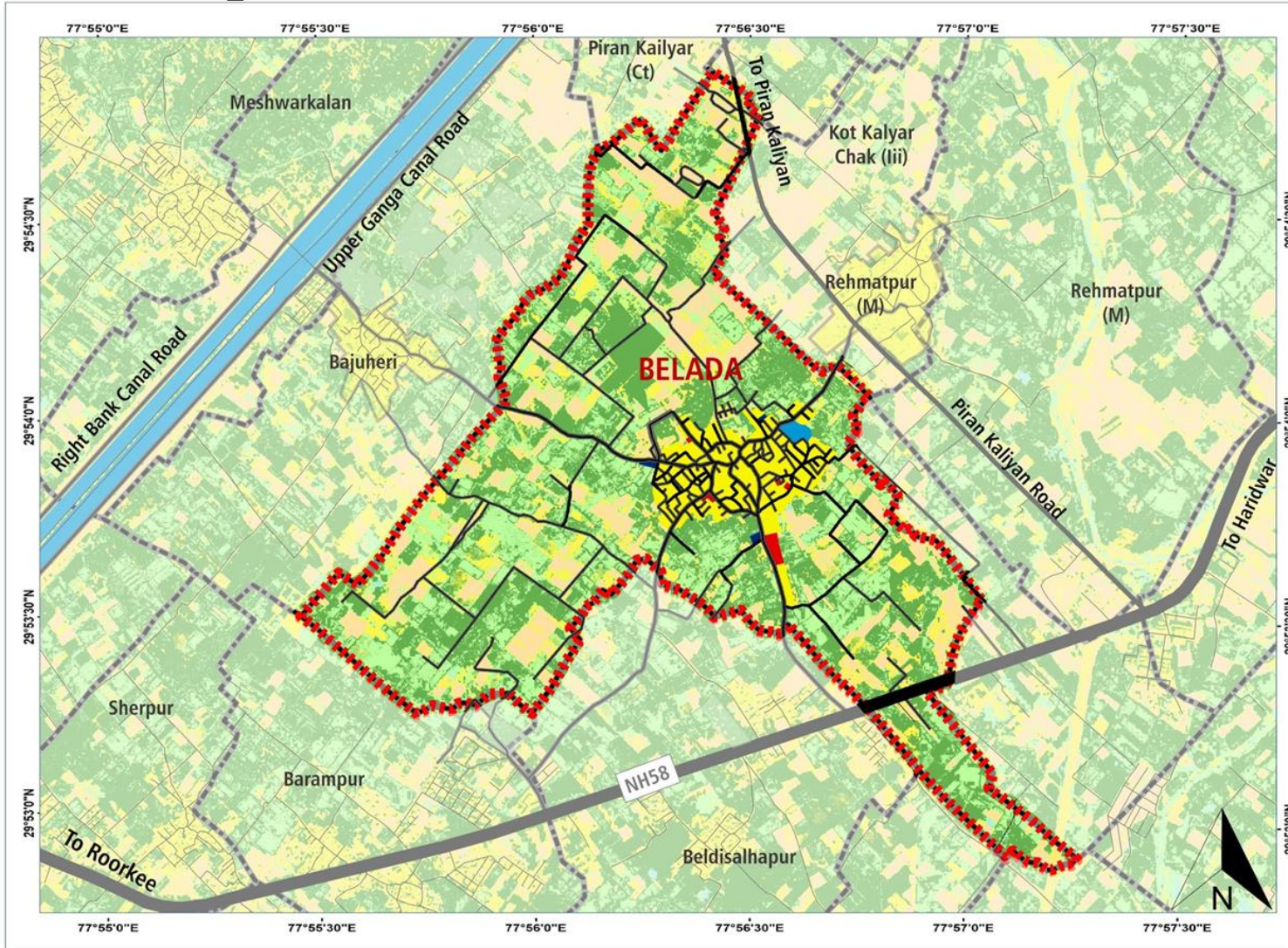| Availability of electricity (Yes/No)	
Power Supply for Domestic Use (ED)	Yes
Power Supply for Agricultural Use (EAG)	No
Power Supply for Commercial Use (EC)	Yes
Power Supply for All Uses (EA)	Yes

Socio cultural and Miscellaneous facilities	
Self Help Group (SHG)	Available
Public distribution system (PDS) shop	Available
Mandis / Regular market	5-10 km
Weekly Haat	5-10 km
Agricultural marketing society	5-10 km
Scheme (Nutritional Centres) Integrated Child Development	Available
Anganwadi Centre (Nutritional Centres)	Available
Others (Nutritional Centres)	<5 km
ASHA (Accredited Social Health Activist)	Available
Community centre with/without TV	>10 km
Sports Field,	>10 km
Sports Club / Recreation Centre	>10 km
Cinema / Video Hall	>10 km
Public Library	>10 km
Public Reading Room	>10 km
Newspaper Supply	Available
Assembly Polling station	Available
Birth & Death Registration Office	Available

Base Map

Settlements Map
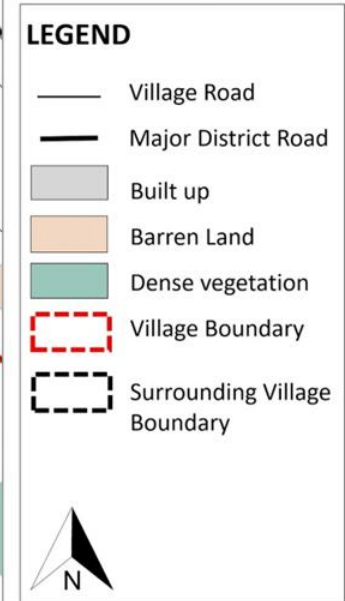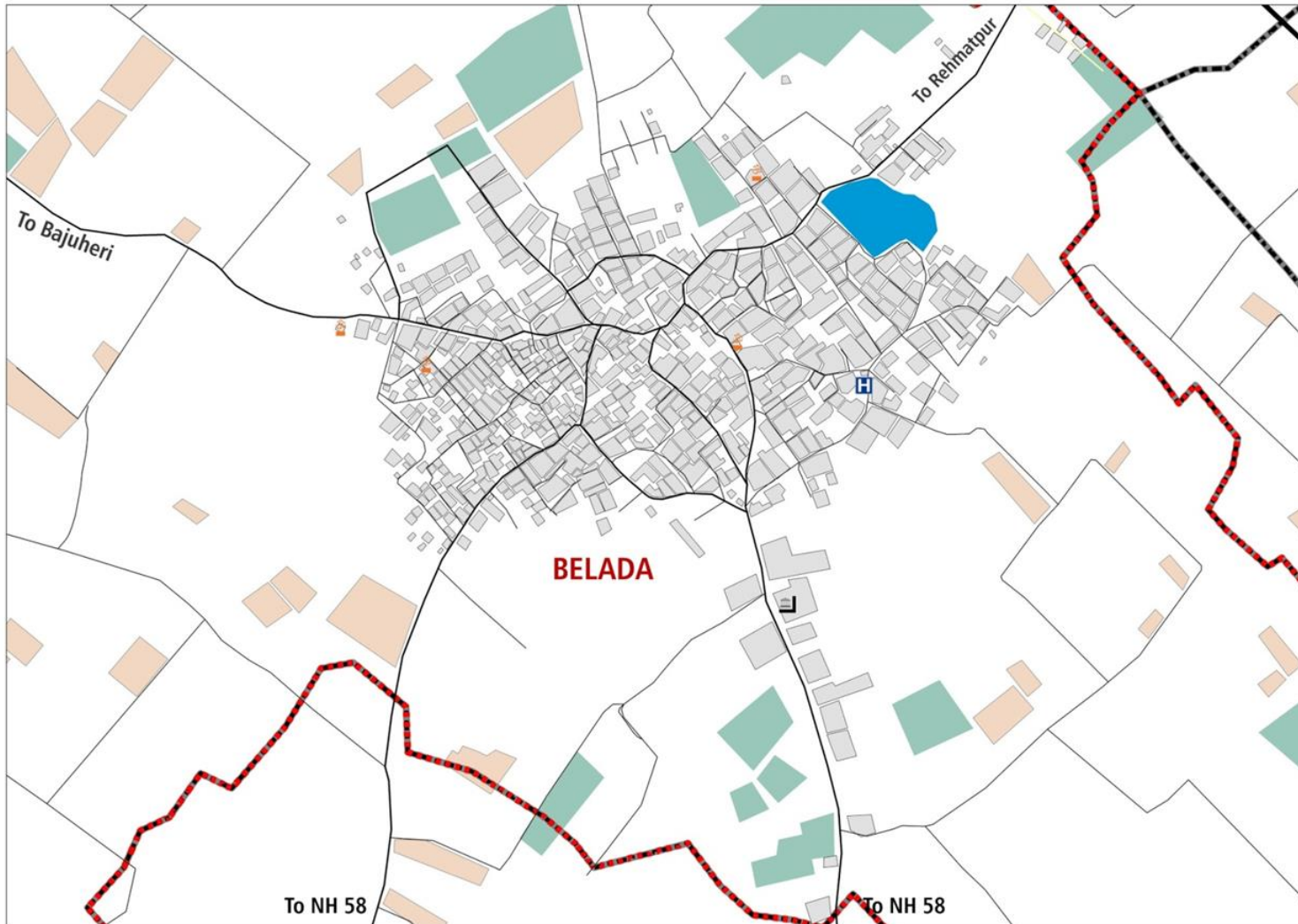
Existing Land Use Land Cover
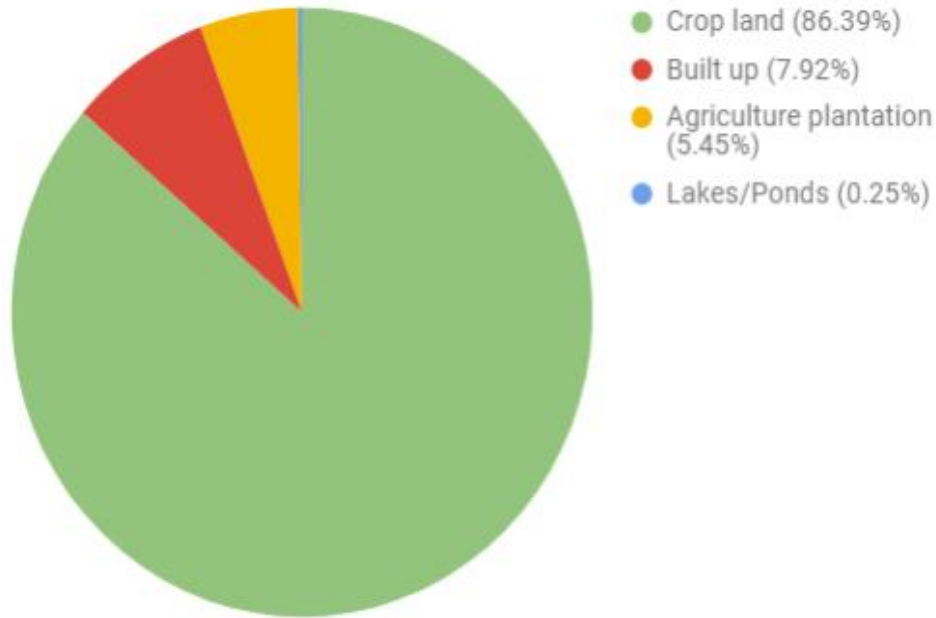
Land Use Land Cover distribution of Belada

- Crop land (86.39%)
- Built up (7.92%)
- Agriculture plantation (5.45%)
- Lakes/Ponds (0.25%)

- Total built up area is only about 8% of the total village area

Household Survey using GPSDP Survey application

Household Survey: Type of structure of houses

- SemiPucca (26.7%)
- Pucca (59.2%)
- Kachcha (12.2%)
- Other (1.9%)
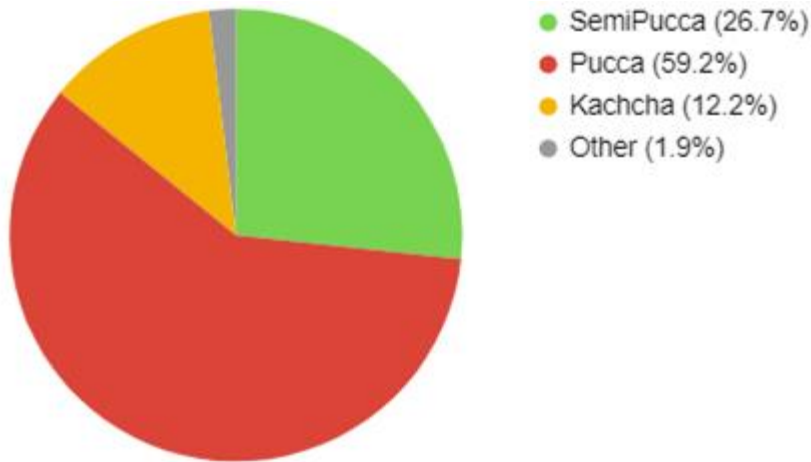
Distribution of types of structure of houses

- Concrete (67.6%)
- Mud (4.9%)
- Other (4.5%)
- Tin (4.5%)
- Grass (1.3%)
- Thatch (7.4%)
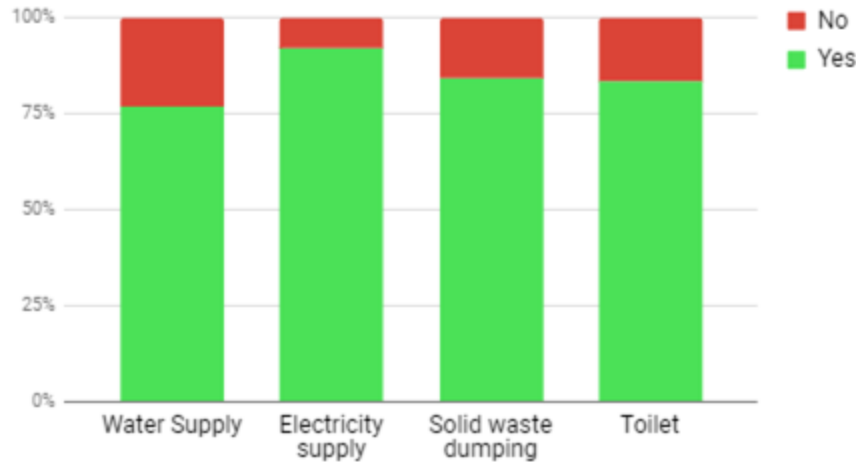- Stone With Mortar (7.1%)
- Unburned Bricks (1.9%)
- Bamboo (0.6%)
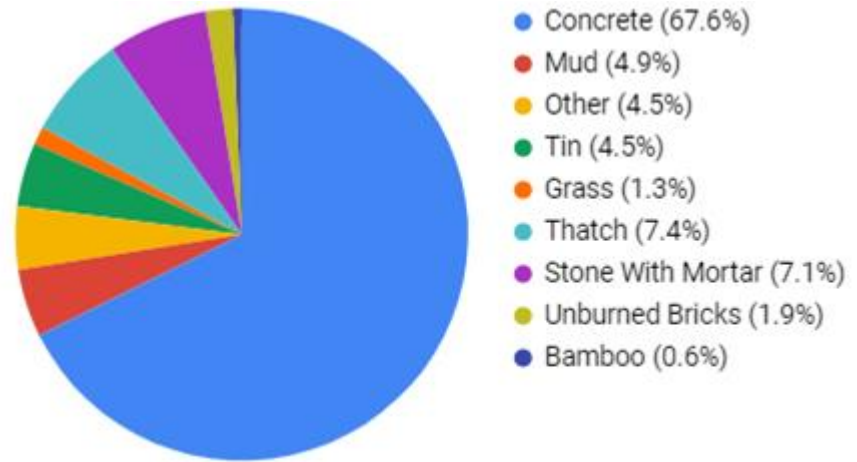
Distribution of houses with types of roof materials

- *Although almost 60% of the houses are pucca houses, there are still 12.2% of kachcha houses in the village.*

- *Concrete most widely used roofing material in almost 68% of the houses, also in accordance to 60% of pucca houses*

Household Survey: Infrastructure status

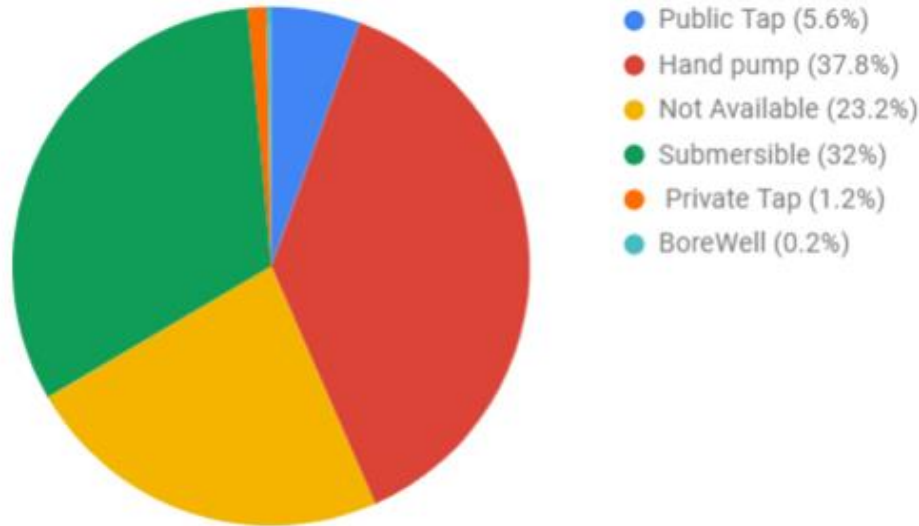Distribution of availability of physical infrastructure
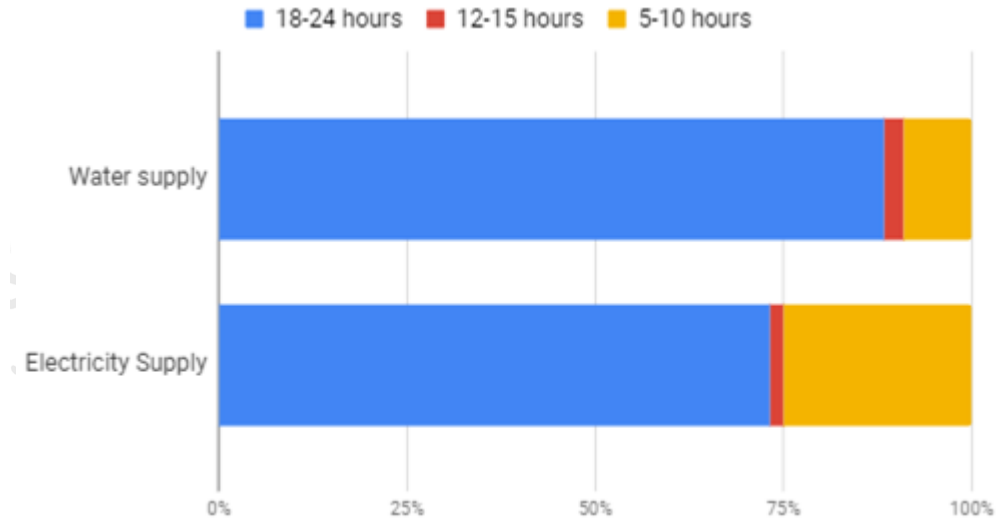
Status of continuity of water and electricity supply to the houses

- *more than 75% of the houses have access to the above mentioned physical infrastructure*

- *25% households have only 5-10 hours of electricity supply*

Household Survey: Physical infrastructure

- Public Tap (5.6%)
- Hand pump (37.8%)
- Not Available (23.2%)
- Submersible (32%)
- Private Tap (1.2%)
- BoreWell (0.2%)

Distribution of types of water supply to the houses

- Private (79.2%)
- Open Defecation (9.4%)
- Community (6%)
- Public (5.4%)
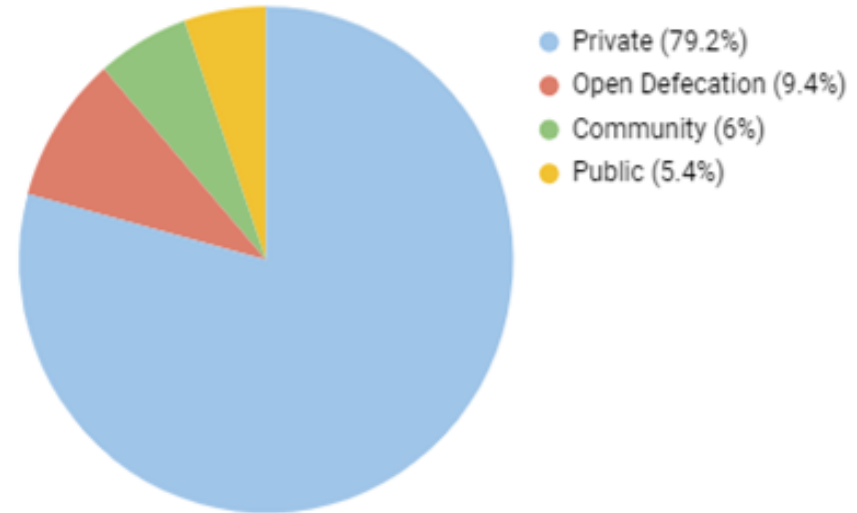
Distribution of types of toilets among households

- *only 1.2% of the houses have private tap for water supply and that majority of the households are dependent on hand pumps*

- *almost 10% of the households still use open defecation*

Infrastructure Inventory survey: Household conditions

Single and double storey Pucca houses in the village

Semi pucca houses in the village, Source- IITR survey team

Infrastructure Inventory survey: Household conditions

Dilapidated housing condition and Kachcha houses of poor rural people

Infrastructure Inventory survey: Sanitation facilities

Households with no toilet facility

Wastewater flowing over access roads

Infrastructure Inventory survey: Sanitation facilities

Lack of proper drains and uncovered drains

Infrastructure Inventory survey: Solid Waste Dumping

Open dumping as Solid Waste Management in the village

Infrastructure Inventory survey: Road conditions

Varying Right Of Ways of roads in the village

Villagers Aspirations and preferences

Belada: **Opinion survey**

Spatial Planning for Rural Areas of Uttarakhand: A pilot study
Indian Institute of Technology Roorkee

Vision and priority questionnaire: for (Tick): Belada ☐ Chharba ☐
परिकल्पना और प्राथमिकता प्रश्नावली: बेलदा ☐ छरबा ☐

Name (नाम):_____ Age (आयु) _____ years (वर्ष).

Gender (लिंग)   Male (पुरुष) / Female (महिला).   Position (स्थिति): _____

Mobile (मोबाइल):_____ Occupation (व्यवसाय): _____

Living in the village since (गाँव में निवास) :_____ years (वर्ष): _____

Owned vehicle (स्वामित्व वाला वाहन): _____

Cycle (साइकिल)/Two Wheeler (दो पहिया वाहन)/Car (कार)/ Others (अन्य):_____

Own House (खुद का घर) / Rented house (किराए का घर)

Education level (शिक्षा स्तर):_____

Upto 10th/12th/ Graduate/Post Graduate or above (10 वीं /12 वीं / स्नातक / स्नातकोत्तर या उससे ऊपर)
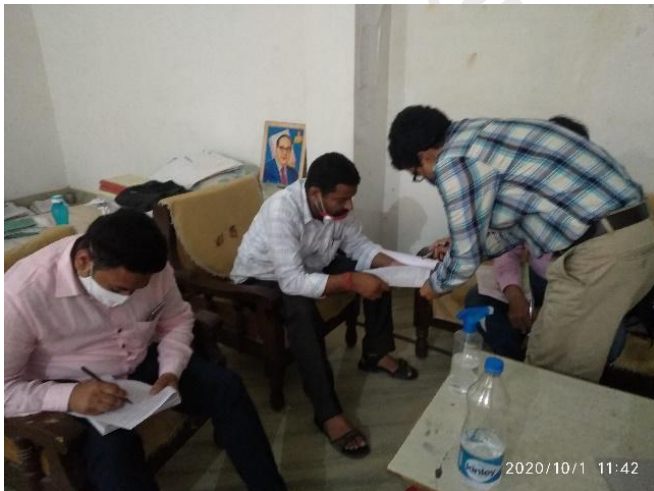
1. I wish to **visualize** my village as (मैं अपने गाँव की कल्पना करना चाहता हूँ)

   _____

   _____

2. By 2040, I wish to have the following in my village for **job generation and growth** (Please put 1, 2, 3 only boxes that you wish.
   (2040 तक, मैं चाहता हूँ कि मेरे गाँव में नौकरी सृजन और विकास के लिए कृपया (1, 2, 3 केवल वही रखें जो आप चाहते हैं)

   i. Large industry (बड़ा उद्योग) ☐
   ii. Tourism-based industry (पर्यटन आधारित उद्योग) ☐
   iii. A large health facility (एक बड़ी स्वास्थ्य सुविधा) ☐
   iv. University (विश्वविद्यालय) ☐
   v. Government offices (सरकारी कार्यालय) ☐
   vi. Micro and small industry (सूक्ष्म और लघु उद्योग) ☐
   vii. Construction industry (निर्माण उद्योग) ☐
   viii. Better Agriculture (बेहतर कृषि) ☐

   ix. Any other (pl write) (कोई अन्य (कृपया लिखें))_____

   _____

3. For future employment generation and good services, if **land** is required, we are willing to share part of our land with the exchange of (pl tick)

A collaborative project of **Ministry of Panchayati Raj, Government of India and Panchayati Raj Deptt, Government of Uttarakhand**
Contact: Dr. Uttam K Roy (7417089168) or Dr. S. Sadhukhan (9775549917),
Project executed by Department of Architecture and Planning, IIT Roorkee
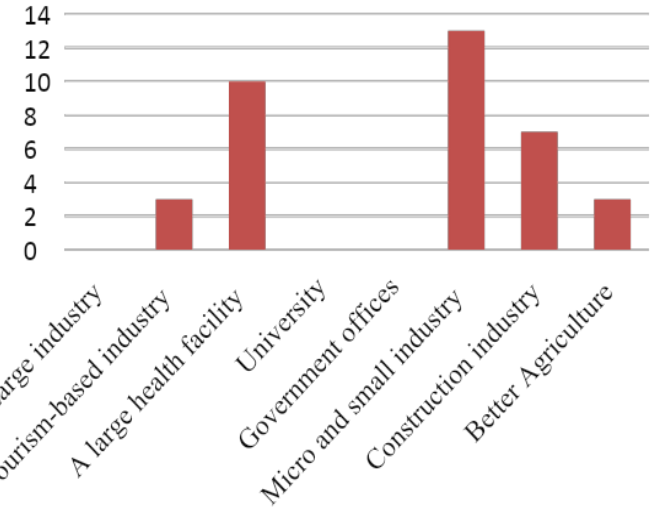
- **Insights for Job generation and growth**

By 2040, I wish to have the following in my village for **job generation and growth** (Please put 1, 2, 3 only boxes that you wish.
(2040 तक, मैं चाहता हूँ कि मेरे गाँव में नौकरी सृजन और विकास के लिए कृपया (1, 2, 3 केवल वही रखें जो आप चाहते हैं)

i.   Large industry (बड़ा उद्योग)

ii. Tourism-based industry (पर्यटन आधारित उद्योग)

iii. A large health facility (एक बड़ी स्वास्थ्य सुविधा)

iv. University (विश्वविद्यालय)

v.   Government offices (सरकारी कार्यालय)

vi. Micro and small industry (सूक्ष्म और लघु उद्योग)

vii. Construction industry (निर्माण उद्योग)

viii. Better Agriculture (बेहतर कृषि)

ix. Any other (pl write) (कोई अन्य (कृपया लिखें)) _____

Majority of the respondents opted for having a large health facility, micro and small industry and construction industry for employment generation and growth in the village.

| Facility	Average score (out of 3)	Total score
Large industry	0.00	0
Tourism-based industry	2.33	7
A large health facility	2.10	21
University	0.00	0
Government offices	0.00	0
Micro and small industry	2.23	29
Construction industry	1.71	12
Better Agriculture	1.67	5

- **Insights for willingness to share land and compensation**

Majority of the respondents willing to share land for infrastructure development of the village want a job in compensation for land sharing.
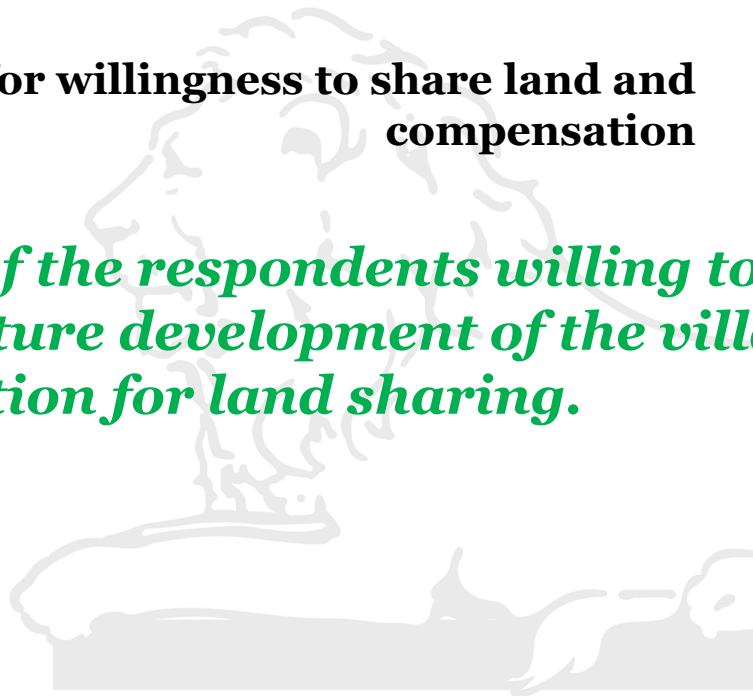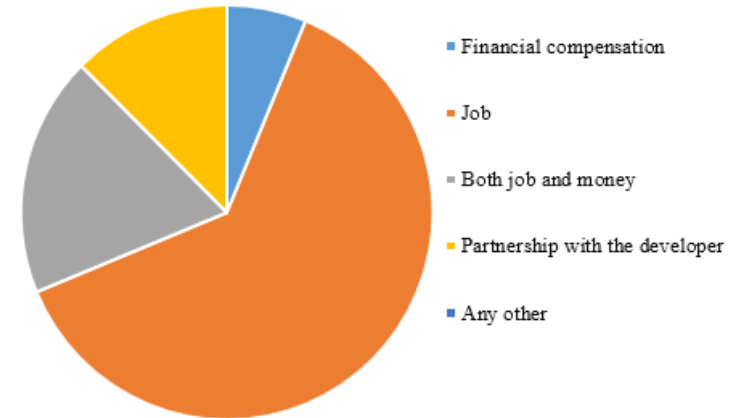
- **Insights on Willingness to change occupation to live inside and nearby village**
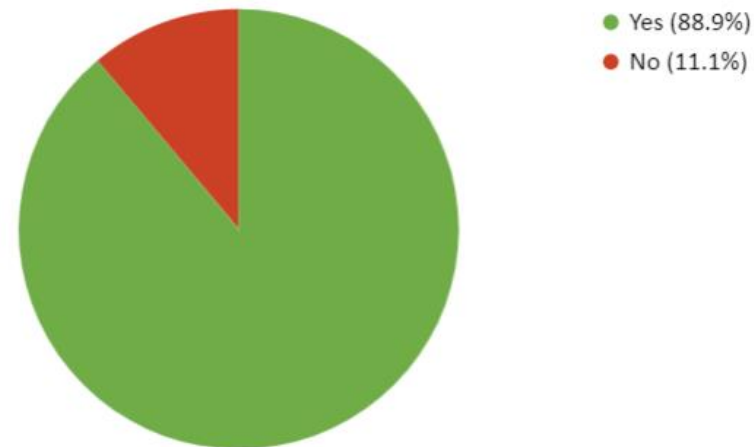
- **Assessment for condition of facilities**

  The respondents were asked to rate the condition of a list of facilities in the village on a scale of 1 to 5, where,

  1: Absent

  2: Poor condition

  3: Fair condition

  4: Good condition

  5: Very good condition

- *telecommunication services, sanitation and preprimary and primary schools are in better conditions*
- *fire services, vocational training services, police post and training centres are in poorer conditions*

Facility	Total score	Geomean (out of 5)
House condition	42	2.90
Electricity	46	3.26
Telecommunication services	**51**	**3.89**
Water supply to households	43	2.93
Drainage	45	3.16
Waste Disposal	41	2.87
Sanitation	**47**	**3.53**
Pre and primary Schools	**48**	**3.38**
Secondary schools	16	1.08
Healthcare centre	40	2.81
Cooking gas	23	1.51
Public transport to nearest towns	46	3.16
Roads	44	3.17
Support for agriculture	26	1.67
Water supply for irrigation	45	3.16
Ware house/storage	15	1.05
Fire services	**14**	**1.00**
Parks and playgrounds	15	1.05
Market and shops	41	2.78
Community centre	22	1.43
Vocational training services/ Skill Development Centre	**14**	**1.00**
Police post	**14**	**1.00**
Coaching or training centre	**14**	**1.00**

- **Assessment for condition of facilities**
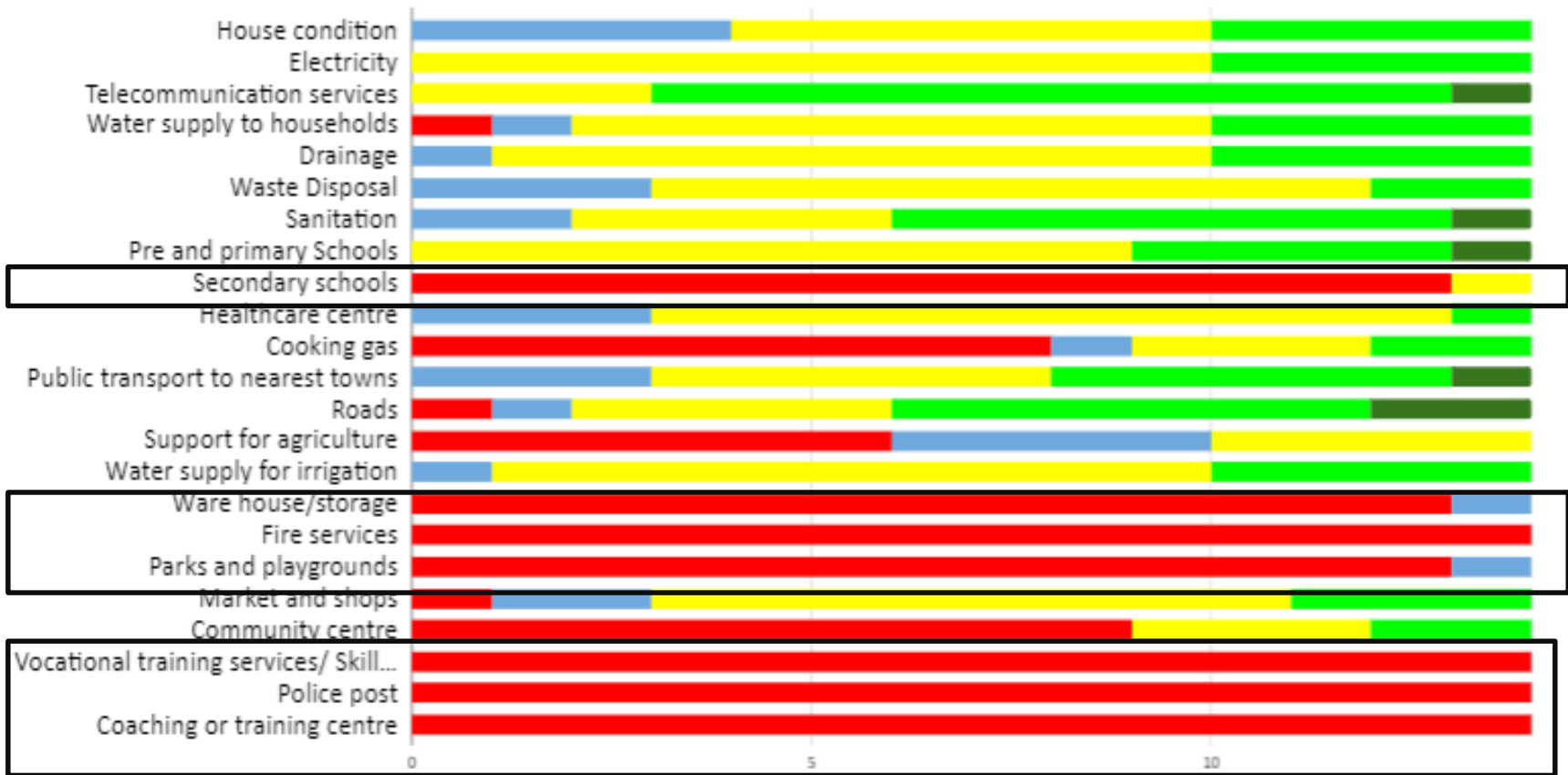
Distribution of rating of condition of the facilities

- **Priority for improvement of conditions of facilities**

The respondents were asked to rate on a scale of 1 to 5, to rate their priority for improvement of the conditions of a list of facilities, where,

1: Not required

2: Less Priority

3: Medium Priority

4: High Priority

5: Very High Priority

- *sanitation, schools, healthcare, training centres are highly prioritized*
- *fire services, electrification, telecommunication services are less prioritised*

Facility	Geomean (out of 5)	Total score
Permanent House	3.085417	44
Electrification	2.617491	38
Telecommunication services	2.199974	33
Water supply to households	3.43508	49
Drainage	3.471136	52
Waste Disposal	3.945062	56
Sanitation	4.3119	61
Schools	4.920938	69
Healthcare centre	4.431093	63
Cooking gas	3.667424	52
Public transport	2.500344	37
All weather roads	3.105967	47
Support for agriculture	3.12943	48
Water supply for irrigation	3.263616	49
Ware house/storage	3.031245	47
Fire services	2.379566	37
Parks and playgrounds	4.304601	62
Market and shops	3.033935	44
Community centre	3.678134	53
Vocational training services/ Skill Development Centre	4.920938	69
Police post	1.10409	17
Coaching or training centre	5	70

- **Priority for improvement of conditions of facilities**
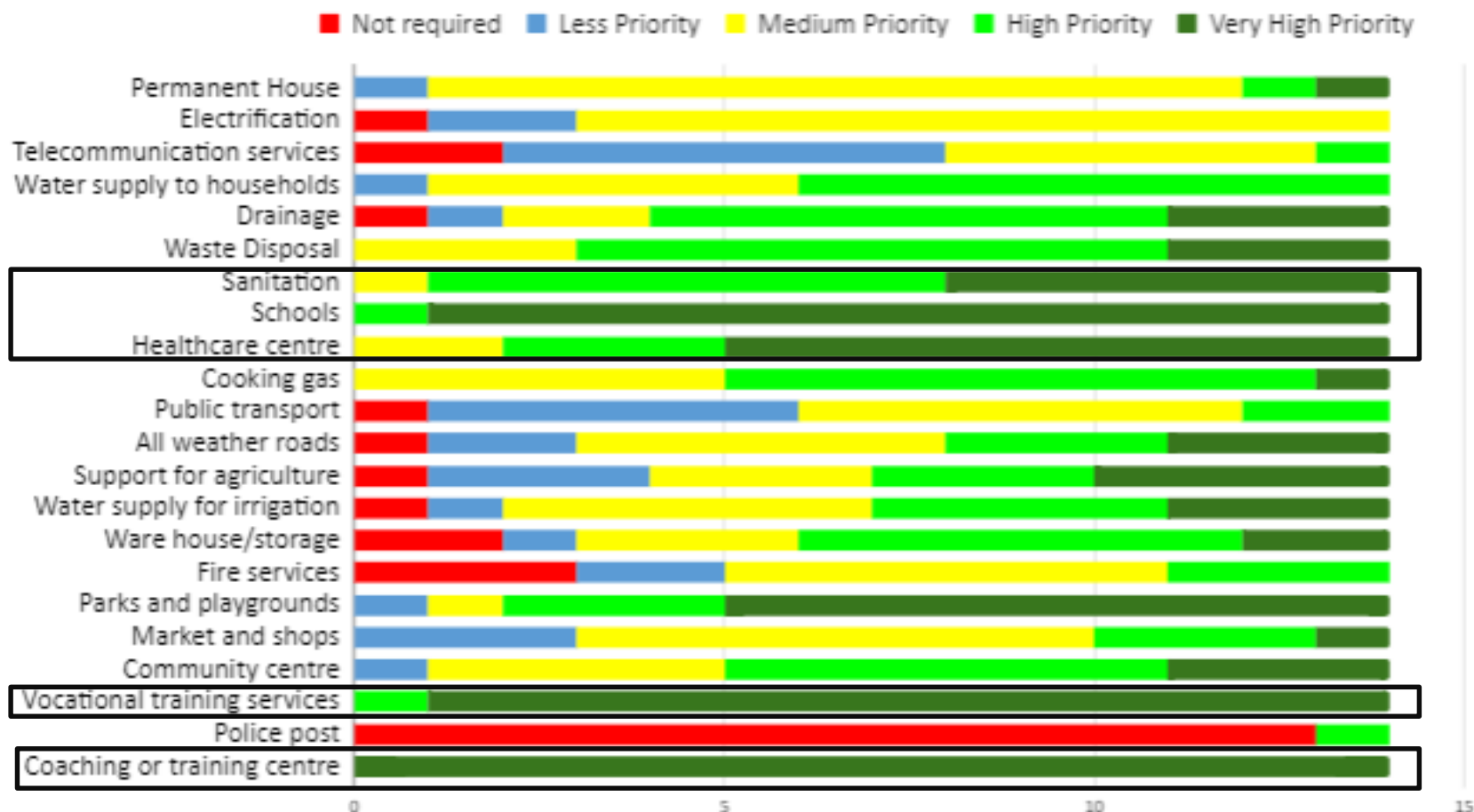
Distribution of rating of priority for the facilities to be improved

Projections

Population Projection

Population in 2001	5536 (Census 2001)
Population in 2011	7185 (Census 2011)
Population in 2020	11,761 (Gram Pradhan)

Ratio method 1, using constant decadal population growth rate

Population in 2031	**18,818**
Population in 2041	**30,109**

Ratio method 2, using increasing decadal population growth rate

Population in 2031	**22,346**
Population in 2041	**51,396**

Ratio method 3, using accelerated decadal population growth rate

Population in 2031	**29,402**
Population in 2041	**73,506**

Estimation of Land: Normative approach

Category	Existing area 2021	Area Required 2021- 2031 (Additional Population size 10,585)	Area Required 2031-2041 (Additional population size 29,050)
Residential		26.4 Ha	@400 persons/Ha = 75 Ha
Social Infrastructure (Education/ institution/ healthcare/ recreation)		10 Ha	30.3 Ha
Physical Infrastructure (Electricity/Water supply/ drainage/ solid waste management as per URDPFI guidelines)	31.21 Ha	4 Ha	8 Ha
Road Network		7 Ha (@10-15% of total area)	20 Ha (@10-15% of total area)
Industrial		2-3 Ha (@5% of total area)	5 Ha
Total area requirement		**50 Ha**	**136 Ha**

Estimation of infrastructure: Normative approach

Social infrastructure	Population served per unit	Total Requirement in 2041 (No.s) (X)	Existing No.s (Y)	Additional No.s required (X-Y)	Additional Land area required (Ha)
Education					
Pre Primary, Nursery School	2500	20	1	19	1.52
Primary School (class I to V)	5000	10	2	8	3.2
Senior Secondary School (VI to XII)	7500	7	0	7	12.6
Healthcare					
Dispensary	15000	3	0	3	0.3
Nursing home, child welfare and maternity centre	45000 to 1 lakh	1	1	0	0
Family Welfare centre	50,000	1	1	0	0
Diagnostic centre	50,000	1	0	1	0.08
Socio-cultural					
Anganwadi - Housing area/ cluster	5000	10	1	9	0.18
Community Room	5000	10	1	9	0.68
Community hall, mangalkaryayala, barat ghar/ library	15000	3	1	2	0.4
Religious Facility	5000	10	6	4	

Social infrastructure	Population served per unit	Total Requirement in 2041 (No.s) (X)	Existing No.s (Y)	Additional No.s required (X-Y)	Additional Land area required (Ha)
Open spaces and Sports facilities					
Local parks	5000	10	0	10	5
Community playgrounds	15000	3	0	3	3
Residential unit play area	5000	10	0	10	5
Neighbourhood Play area	15000	3	0	3	4.5
Distribution services					
Milk distribution	5000	10	0	10	0.15
LPG Godown/ Gas godown	40000 to 50000	1	0	1	0.05
Commercial centres					
Convenience Shopping	5000	10	0	10	1.5
Local shopping including service centre	15000	3	0	3	1.38
Weekly Markets	50000	1	0	1	0.4
Communication facilities					
Post office counter without delivery (Floor area to be provided in local shopping centre)	15000	3	1	2	0.016
Bank with extension counters with ATM facility	15000	3	1	2	0.016
Police, Civil Defence and Home Guards					
Police Post	40000-50000	1	0	1	0.16

| Physical infrastructure			
Population projection for 30 years (2051): 20,522- 35,857			
Infrastructure	Unit requirement	Requirement for 2041	Requirement for design period of 30 years (2051)
Water supply	Recommended maximum water supply levels (lpcd) : 70	3.6 MLD	7.5MLD
Land requirement	0.1 Ha for upto 5MLD, 0.19 Ha for upto 10MLD	< 0.1 Ha	0.19 Ha
Sewerage and sanitation	Recommended wastewater flow: 80% of water supply	2.88 MLD	6.04 MLD
Land area requirement for sewage treatment (Sludge drying beds and waste stabilization pond)	0.8-2.3 Ha/MLD	4.5 Ha	9.3 Ha
Electricity	1 electric substation of 11KV for 15000 population	3 electric substation of 11KV	7 electric substation of 11KV
Solid Waste Management	Waste generation per capita per day: Residential : 0.3-0.6kg/capita/day + 30% of residential waste	30 TPD	63 TPD
Recommended solid waste treatment technique: Biomethanation			

Development Issues & Proposal

Proposal Discussion

Development Issues & Potentials

- **New generation is not doing agriculture due to de-linked growth opportunity**

- **Small scale industry not being marketted and linked with market**

- **Willingness to adjust land, possible for using state land pooling policy as allowed by the state T & CP Act**

- **New leaderships in the youth wants futuristic development keeping the agriculture**
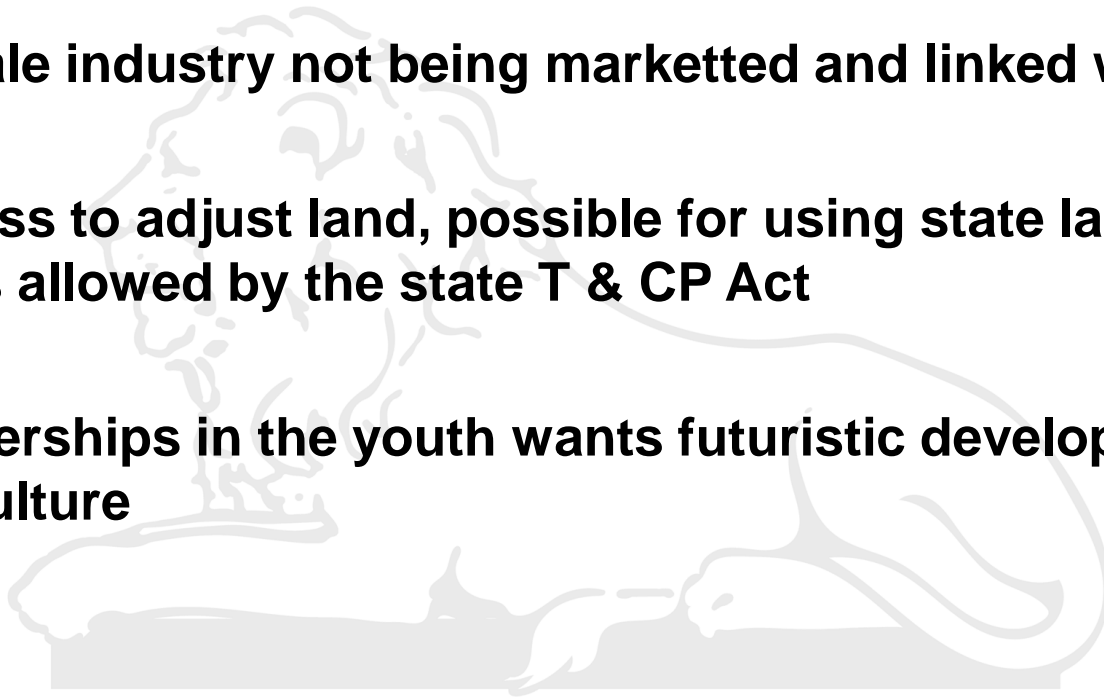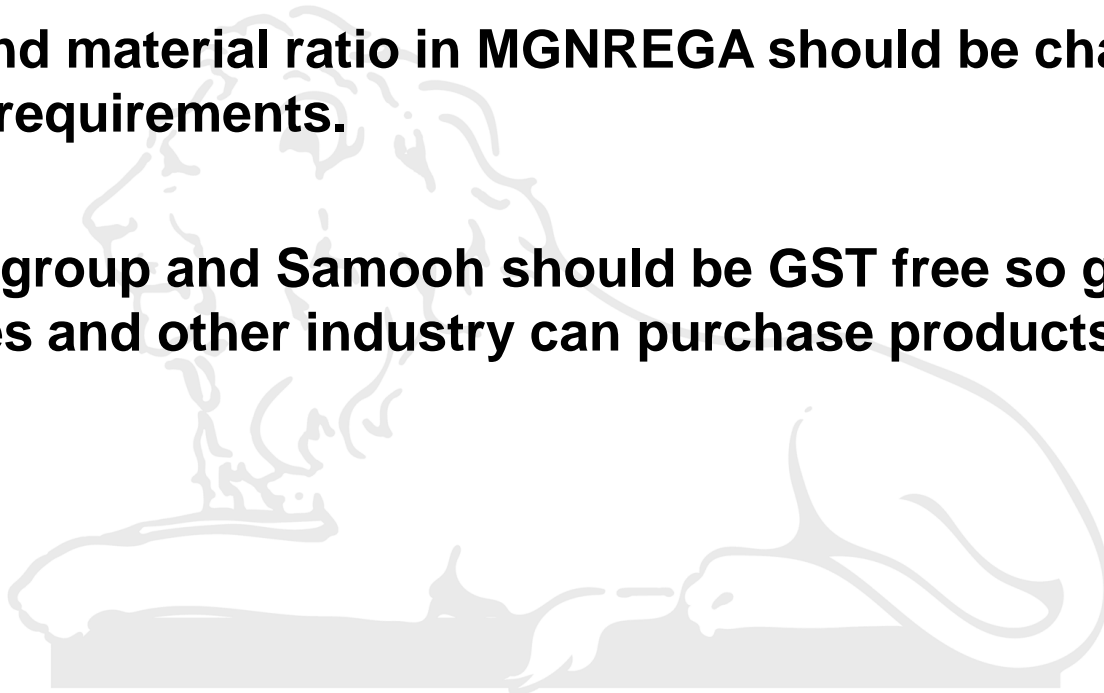
Development Issues

- **MGNREGA should be merged with the agricultural activities so farmers also get the labour for agricultural work and agriculture sector also got encouraged.**

- **Agricultural labour should be provided through the MGNREGA to the government and individual farmers.**

- **Activities and norms of MGNREGA should be area-specific or follow the local character of the area.**
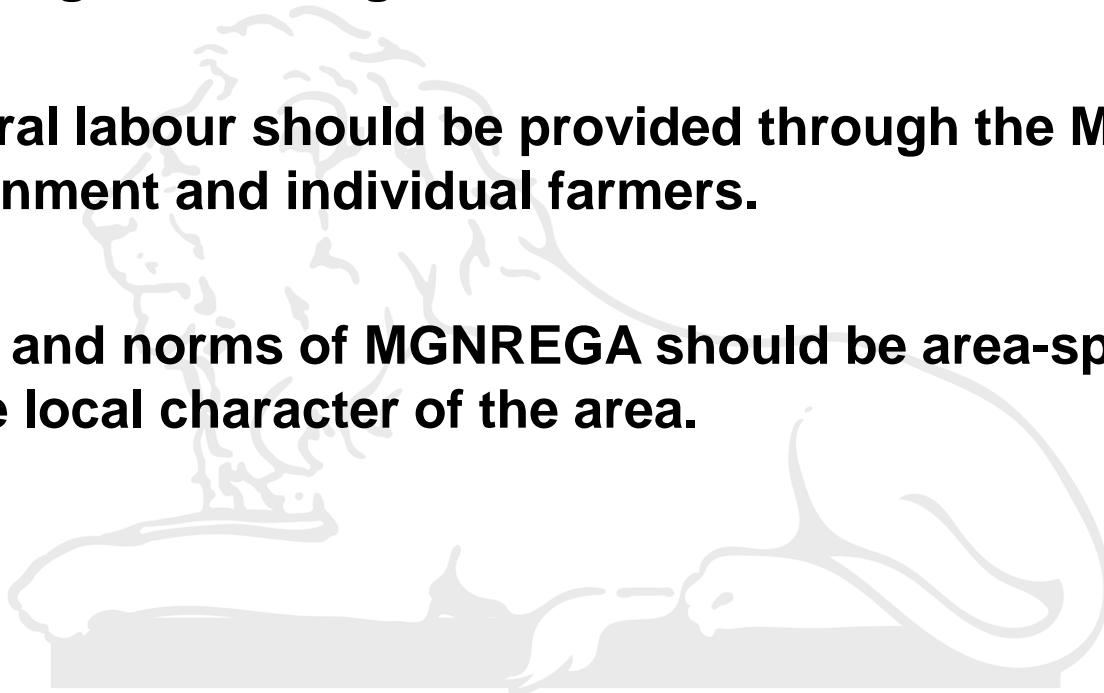
Development Issues

- Drainage, pathways and roads works come under the MGNREGA so pradhan can decide and develop their village.

- Labour and material ratio in MGNREGA should be changed as per the work requirements.

- Self-help group and Samooh should be GST free so government authorities and other industry can purchase products directly from them.
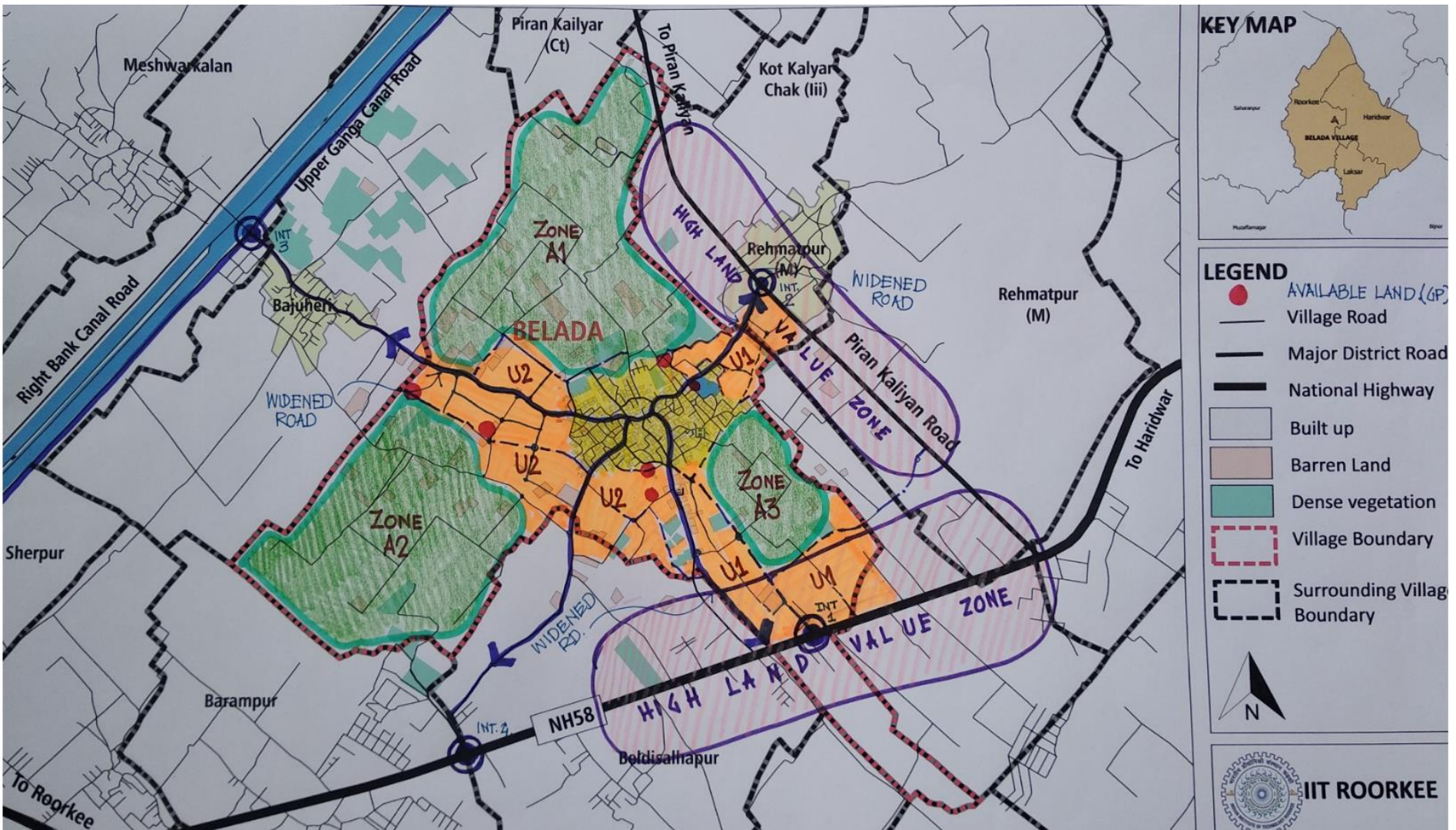
Development Issues

- **Need to introduce new agricultural technique and skills development centre to the farmers so they don't leave their profession.**

- **Preservation of the local skill**

- **Employment generation in their locality.**

- **Need for Digital literacy.**
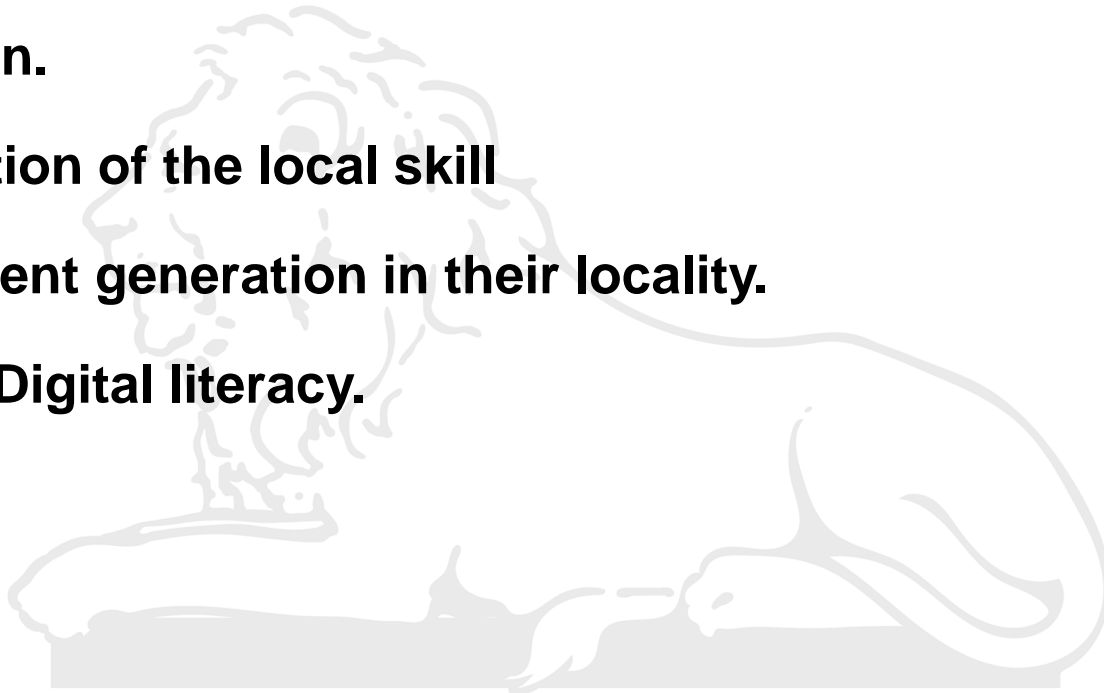
Land suitability and availability

Broad participatory Zoning

- ## Zone A1, A2= Agriculture priority zone
  - Revamped agriculture, support from MnREGA, training and skill development, non-agriculture maximum 10% allowed only in barren land except cultivators own residence

- ## Zone A3= Agriculture promotion zone
  - Agriculture promotion, market linkin, prototyping, placment office, non-agriculture maximum 20% allowed inlcuding cultivators own residence

- ## Zone U1=Urbanisation priority zone
  - Organised job promotion and investment, land banking, inviting insttional and small/medium industries, 50-60% urbanisation in the available pockets, mixed use for flexibility

- ## Zone U2=Urbanisation for 2041
  - Organised job promotion and investment, land banking, inviting institutional and small/medium industries, 50-60% urbanisation in the available pockets

Strategic recommendation

- Widening of four major connecting roads to 24 m
- Development of selective new road using land readjustment
- Development four major intersections in the periphery with the state government facilitation
- Agriculture promotion zone in the transitional areas of zone A and zone U
- Develop panchayat capacity in phases to handle core urban services (WS/SWM/Sanitation/Road)
- Initiate a village Day focussed on the celebration and success of development work
- Consultation group with neighbouring GP pradhans and state officials

Priority of future infrastructure

| Social infrastructure	Population served per unit	Total Requirement in 2041 (No.s) (X)	Existing No.s (Y)	Additional No.s required (X-Y)	Additional Land area required (Ha)
Education					
Pre Primary, Nursery School	2500	20	1	19	1.52
Primary School (class I to V)	5000	10	2	8	3.2
Senior Secondary School (VI to XII)	7500	7	0	7	12.6
Healthcare					
Dispensary	15000	3	0	3	0.3
Nursing home, child welfare and maternity centre	45000 to 1 lakh	1	1	0	0
Family Welfare centre	50,000	1	1	0	0
Diagnostic centre	50,000	1	0	1	0.08
Socio-cultural					
Anganwadi - Housing area/ cluster	5000	10	1	9	0.18
Community Room	5000	10	1	9	0.68
Community hall, mangalkaryayala, barat ghar/ library	15000	3	1	2	0.4
Religious Facility	5000	10	6	4	

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Recommended solid waste treatment technique: Biomethanation			

Possibilities and policy directions

- Land readjustment and participatory planning

- Cooperative based land pooling

- Revamping MNREGA and linking with non-classified but relevant sectors of development

- Linking with RURBAN scheme for trans-urban infrastructures

- Development of local tranports
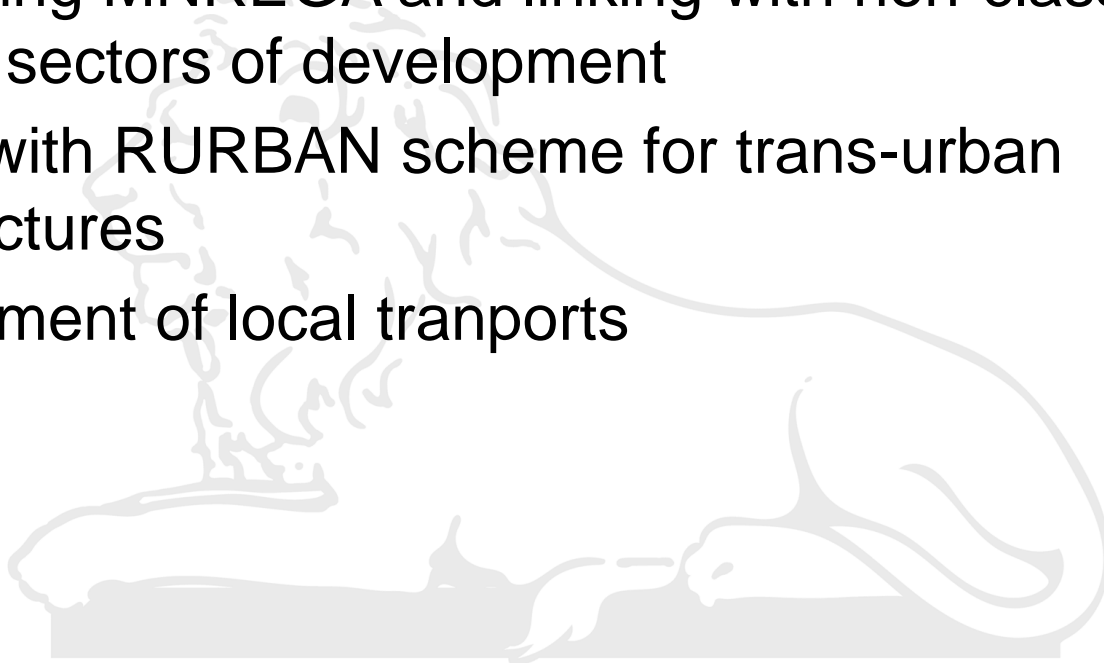
Village: **Chharba**
Distt Dehradun
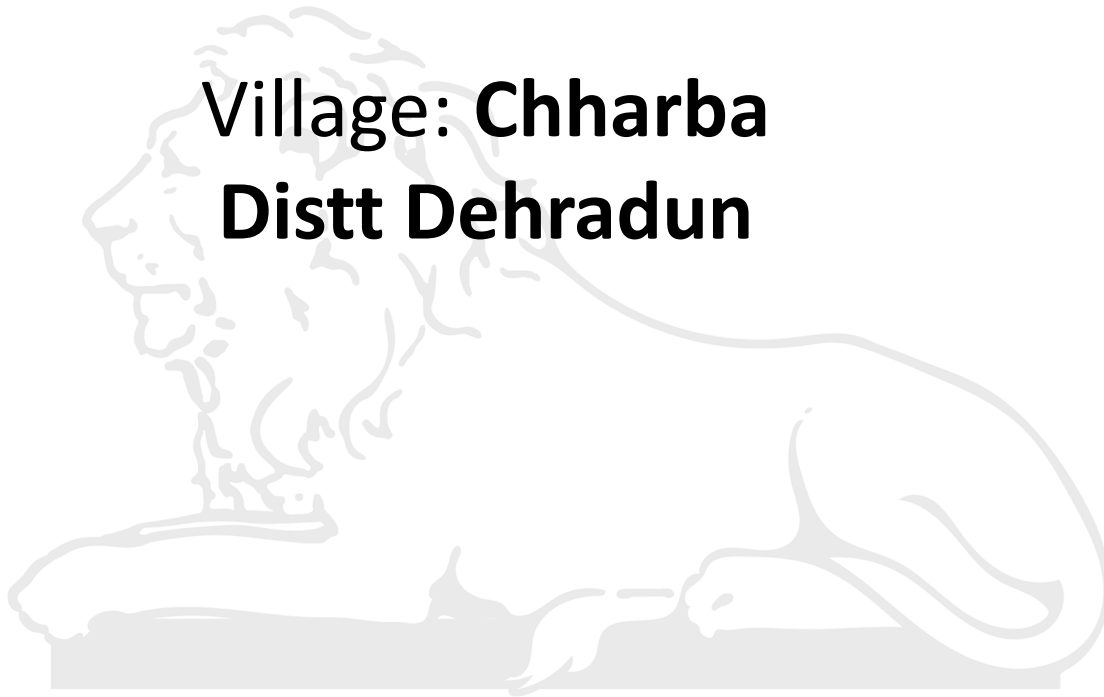
Chharba
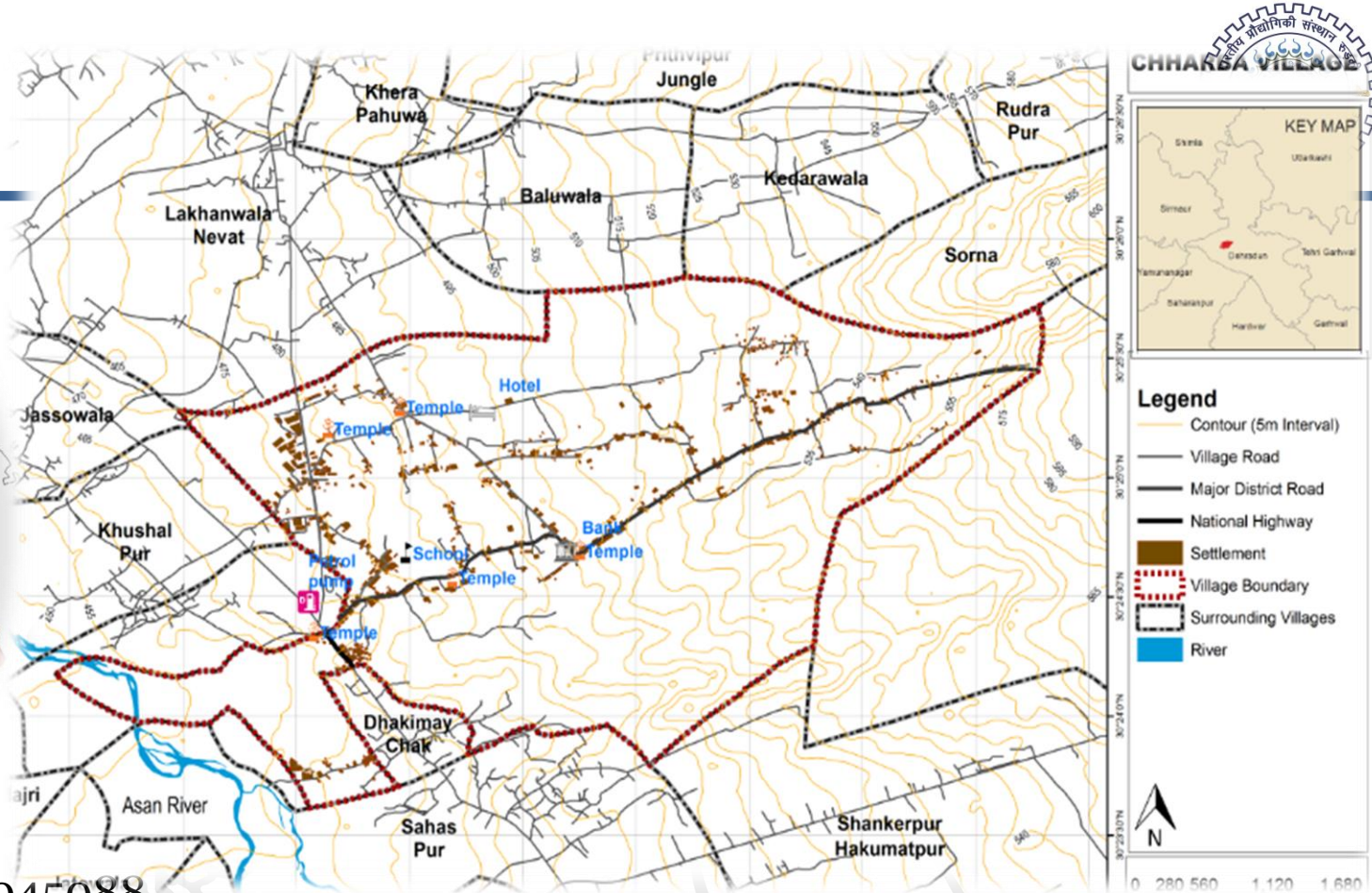
- Village code 045088
- Community Development (C.D.) Block: Sahaspur, Tehsil: Vikasnagar
- District: Dehradun, Area: 1567.90 Hectares
- Population: 7268, Households: 1425 (as per 2011 Census).
- Another major road named Langha road connecting Chharba to Vikasnagar.
- Nearest railway station: Dehradun (30 kms away)
- Nearest airport: Jolly Grant Airport (60 kms away).

Status of Chharba works

- Situation assessment is complete

- Surveys are ongoing

- Will be presentedin the final reports and presentations

Team members

1. **Dr. Uttam Kumar Roy (PI)**

2. **Dr. Shubhajit Sadhukhan (Co-PI)**

3. Prof. Dr. Manoranjan Parida, Advisor

4. Prof. Dr. P. S. Chani, Advisor

5. Prof. Dr. Ashish Pandey, Advisor

Research Assistants

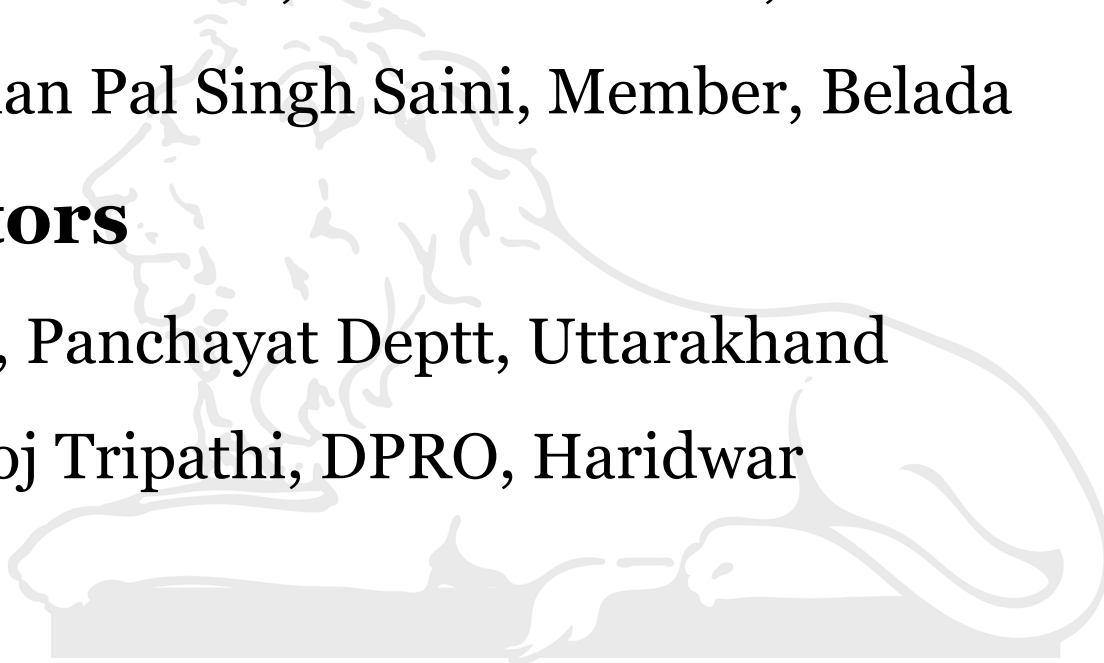Ankita Sil, Amar Singh, Mayank Singh, other part time Surveyors

Major Contributors

1. Mr. Sachin Kumar, Gram Pradhaan, belada

2. Mr. Kishan Pal Singh Saini, Member, Belada

Facilitators

3. Director, Panchayat Deptt, Uttarakhand

4. Mr. Majoj Tripathi, DPRO, Haridwar

Thanks
Village Pradhan and members
state government officials
&
MoPR, Govt of India