



Impact Factor (SJIF): 4.542

**International Journal of Advance Research in Engineering,
Science & Technology**

e-ISSN: 2393-9877, p-ISSN: 2394-2444

Volume 4, Issue 12, December-2017

PLANNING PROPOSAL FOR SMART VILLAGE “KIM”

Vivek Kevadiya, Darshan Lukhi, Kishan Bhalani

Supervisor

Professor Sachin Bhardwaj

DEPARTMENT OF CIVIL ENGINEERING

CHHOTUBHAI GOPALBHAI PATEL INSTITUTE OF TECHNOLOGY

UKA TARSADIYA UNIVERSITY, BARDOLI, SURAT

2017-2018

ABSTRACT

This project report deals with study and development of village as a smart village. We define smart village as bundle of services of which are delivered to its residence and businesses in an effective and efficient manner. “Smart Village” is that modern energy access acts as a catalyst for development in education , health, security, productive enterprise, environment that in turns support further improvement in energy access.

For the betterment of villages by providing the basic infrastructure facilities the development plan proposals are prepared for the village Kim from Olpad taluka of Surat district. In preparation of development plan proposals the smart village guideline of Govt. of Gujarat is comprehended. The information perceived from the representatives and the individuals are considered in making of the proposals. In this report the discussion is about the necessary components of a village which are required to make it smart according to the guideline.

Different proposals for the area are given after studying the current scenario and collecting socio-economic needs. According to the guideline smart issues are found out. Approach for the proposals considers steps including meetings with the village representatives, field visits, study of existing scenario, household surveys, population forecasting, and Gap analysis with the NBC norms, approximate cost estimation and planning strategies.

Village meetings are arranged and field visits are done to know about the basic village characteristics and their culture. Study of existing scenario is required to decide vision of the future planning. Household surveys are done to know about the public opinion about the existing facilities so that priorities of new proposals can be decided. Gap analysis is done on the basis of projected population of 2021. So that lack of facilities can be found out and it helps to prioritize the proposals.

1. INTRODUCTION

In India there are about five lakh villages and around 70% of our population resides in them. Hence the villages have to play a crucial role in bringing about overall development in the country. The flourishing of these Villages can come just through giving infrastructure, modern support and employment opportunities. Providing urban amenities in rural areas visualizes four types of availability: Physical, electronic, knowledge and economic network's for sustained development in villages.

The government decided to make 300 villages self-reliant, clean and hygienic during next three years. But the success of this programme is depends on the collaborative efforts and active people participation.

Mahatma Gandhi's idea of country advancement rotates around making model villages for Transforming “Swarajya to Surajya” i.e. good governance which is participatory in nature. The task before every lover of the country is how to reconstruct the villages of India so that it may be as easy for any-one to live in them as it is supposed to be in the cities.

“An ideal Indian village will be so constructed as to lend itself to perfect sanitation. It will have cottages with sufficient light and ventilation built of a material obtainable within a radius of five miles of it. The village lanes and streets will be free of all avoidable dust. It will have wells according to its needs and accessible to all. It will have houses of worship for all; also a common meeting place, a village common for grazing its cattle, a co-operative dairy, primary and secondary schools in which industrial education will be the central fact, and it will have Panchayat for settling disputes. It will produce its own grains, vegetables and fruit, and its own khadi. This is roughly my idea of a model village.”

PROFILE OF THE KIM VILLAGE

1.1 Location

The Surat district is divided into ten revenue Taluka. Olpad is one of the Taluka of Surat district. It combines 103 villages and 2 census town (Kim & Sayan) and total population of the Olpad taluka is 185841 (census 2011). Kim is a Village in Olpad Taluka in Surat District of Gujarat State, India. It is located 30 KM towards North from District headquarters Surat. 20 KM from Olpad. 239 KM from State capital Gandhinagar. KIM Gram Panchayat covers approximately 230 hac. area extending between 21°24'23.10"N latitude and 72°55'20.40"E longitude and 19 m altitude from sea level. It is situated on crossing of Gujarat state highway 65 and on Surat Vadodra Railway Line.

It shares its boundary with “Borsara in East, Mulad in West; Kathodra in North and Kudsad in South.” Location of study area is described in detail in the Map as shown in figure 1.1.

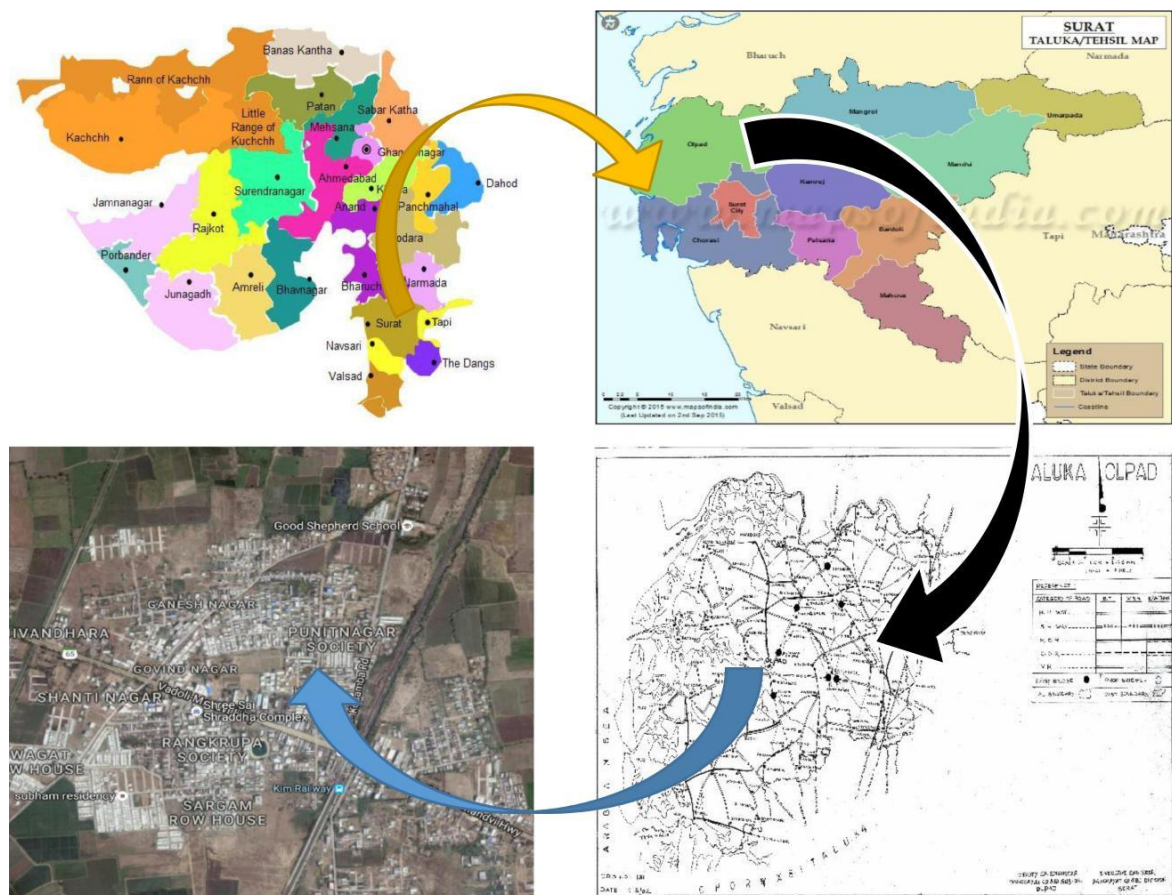


Figure 1.1 Location map of kim village

1.2 CLIMATE, VEGETATION & SOIL

CLIMATE

KIM's climate is classified as tropical. The summers here have a good deal of rainfall, while the winters have very little. In KIM, the average annual temperature is 27.2 °C. The average annual rainfall is 1192 mm.

VEGETATION

In Gujarat, there are more than 400 types of vegetation available. The vegetation in Gujarat incorporates one of the biggest dry deciduous forests in the western locale of India including trees like: teak, Boswelliaserrata, Anogeissuslatifolia, Diospyros, and so forth. As well south Gujarat is having the seashore adjacent consequently mangrove additionally existing in the meantime. Attributable to the parched atmosphere, the greenery of Gujarat 18additionally have an extensive variety of xerophytic vegetation. This sort of vegetation include: Acacia Arabica, Acacia leucophloea, Capparisophylla, Zizyphusmauradiana, and so forth.

SOIL

Dominantly the Soils are shallow, well drained and fine and medium textured. They are somewhat alkaline, slight to solid saline. Soil profundity in South Gujarat is very much appropriated in two sections. The Soils in western side are dominantly profound taken after by modestly shallow and in eastern part soils are moderately shallow taken after by reasonably shallow. Soils in South Gujarat when all is said in done shifts from fine to medium finished. (Clayey to loamy earth). Soil Drainage in South Gujarat is well to respectably deplete in general. Soil saltiness in South Gujarat varies from slight to solid saltiness class. The Soil salinity in South Gujarat in general has a place with slight salinity class.

1.3 GROWTH PATTERN

In 2000, as the Government records divide the Kathodra village in 2 Gram Panchayat; Kathodra and Kim. At that time Kim Gamtal area was 109 ha. Over the period of time the Gamtal area expands, at present it cover approx. 130 ha. Growth pattern of Kim village is shown in Figure 1.2

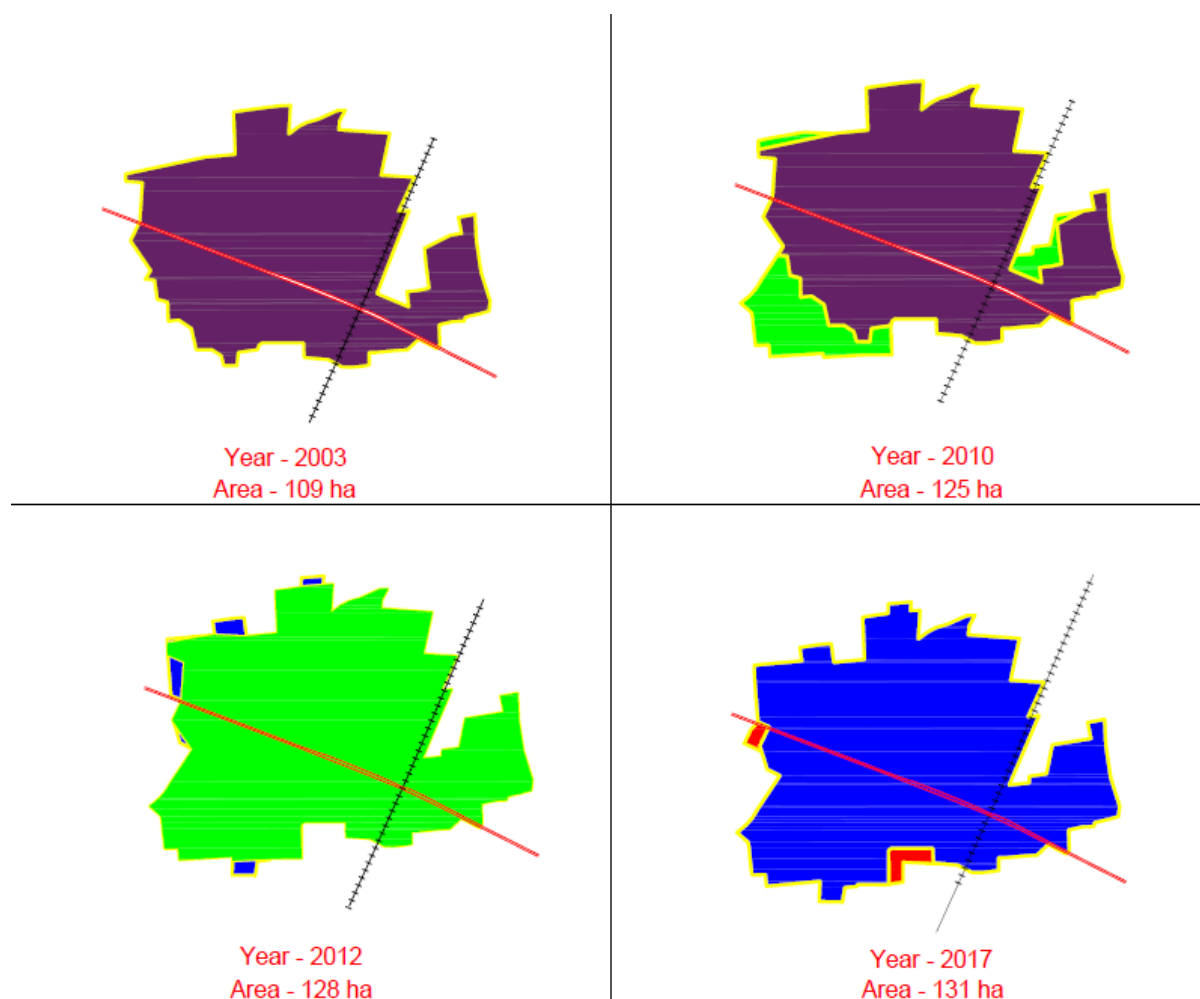


Figure 1.2 Growth pattern of kim village

1.4 Demographic Feature

Table 1.1 Demographic profile of Kim village

Description	Census 1991	Census 2001	Census 2011	Growth (from 2001 to 2011)
Area	--	109 Ha.	130 Ha.	21 Ha.
Population	7990	12804	18638	5834
Males	4130	6932	9969	3037
Females	3860	6772	8669	1897
Literacy	60.5%	73.6%	78.20%	4.6%
NO. of Household	1555	2797	5462	2665

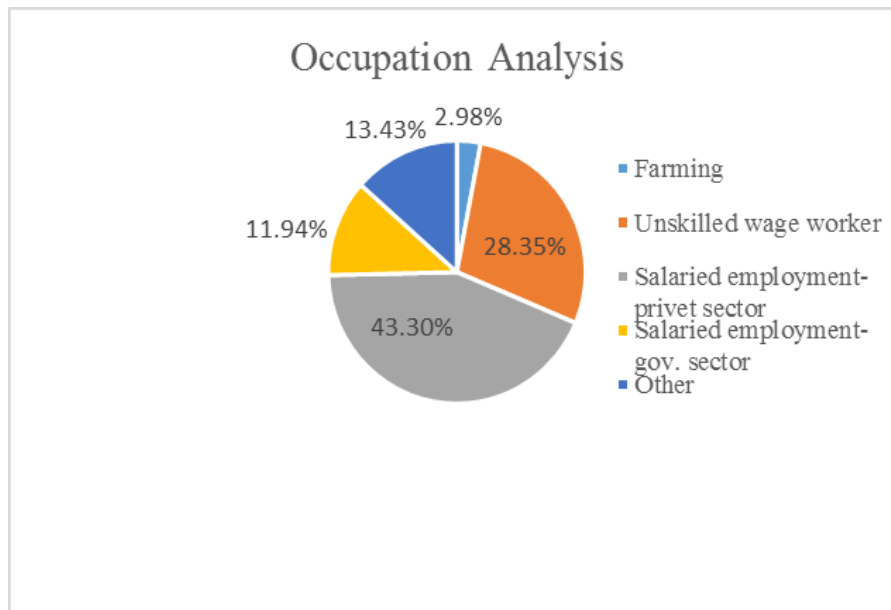


Figure 1.3 Occupation Status

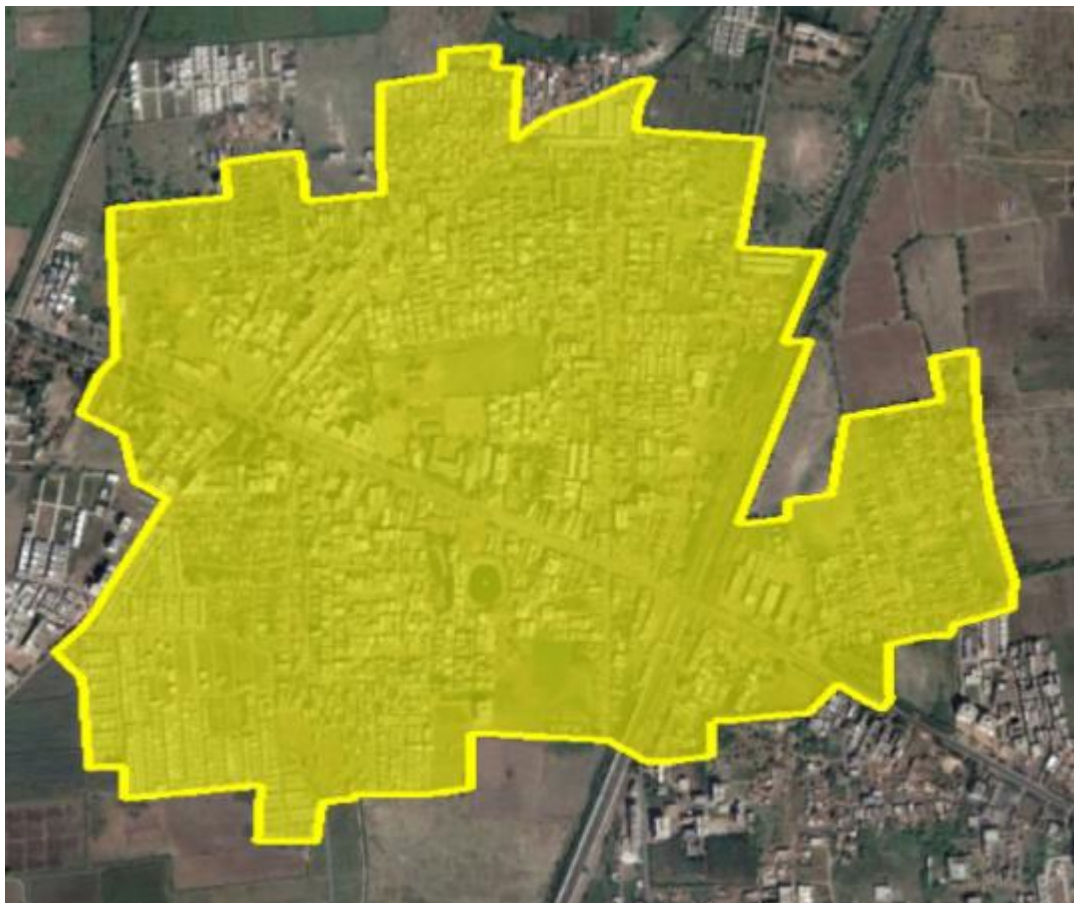


Figure 1.4 Base map of kim village

1.5 Education

They have hierarchy of educational facilities from pre-primary school to college. There are 3-government pre-primary schools, 1-primary school, 1- trust school, and 2 colleges. Also it is noted that there is 100% enrolment and 0% dropout ration in schools.

1. School Run by District Panchayat

- i. Main primary School/Main Bazar Kim (std. 1-8)
- ii. Primary school/Asiana nagar, Kim (Std. 1-8)
- iii. Primary school/Sivaji nagar Kim (Std. 1-7)
- iv. IPI, Amrut nagar, Kim

2. Private trust school

- i. P.K Desai Vidhyalay, Kim
- ii. P.H Umrao collage of arts and commerce
- iii. Valmiki school Amrut nagar, Kim
- iv. Shri Sai public school, Ganesh Nagar, KIM
- v. Care English medium school, Kathodra road, KIM

3. Anganwadi

No. of Anganwadis in village = 7



Figure 1.5 Primary schools of kim village



Figure 1.6 Anganwadi of kim village

1.6 Drinking water and sanitation

There is timely cleaning of the water tank, checking cleanness of drinking water. They have 2 overhead tanks for the drinking purpose with separate connections to individual houses. Total 15 – Bore & 1- Jam is also All Rights Reserved, @IJAREST-2017

available. Cleanliness is observed by regular means by regular chlorination in accordance with Gujarat state water supply board and public participation. There is a toilet in almost all the individual houses

1.7 Health

There is 1 PHC & One Jan – Aushdhi Centre in the village. 100% children are vaccinated. They use the technology for delivery of the pregnant women.



Figure 1.7 Primary Health Centre of kim village

Total rooms in health centre = 11

Staff quarters = 2 rooms

Facilities at PHC

- ☐ O.P.D – between 09:00 a.m. – 01:00 p.m. & 04:00 p.m. – 06:00 p.m.
- ☐ Emergency/Delivery – 24*7
- ☐ Medical Store
- ☐ If serious case than refer to civil hospital after primary treatment/stabilized.
- ☐ Used for 52045 population (of Kim & nearer village)
- ☐ Asha worker (health)
- ☐ 6 bed Facility
- ☐ Free of cost medicine
- ☐ Mamta Divas (Wednesday, Monday, Saturday)
- ☐ Only for Primary facility
- ☐ 100% Rasikaran
- ☐ ILR (Ice line refrigerator) & deep Freezer
- ☐ Toilets



Issues & Requirements in PHC

After visiting and surveying the PHC following issues in the primary health centre can be seen:-

- ☐ Open waste dumping site beside PHC
- ☐ No Boundary wall
- ☐ Needs to reconstruct
- ☐ Need boundary wall with proper lighting
- ☐ Staff Quarters required
- ☐ Weekly Specialist (Paediatrician & Gynaecologist)
- ☐ No Ramp For Stretcher
- ☐ No Pc (min. 2 pc required)
- ☐ No proper Road at entrance

1.8 Solid waste management

There is one dumping site in the village. It is nearby the health centre.



Figure 1.9 Solid Waste Dumping Site, KIM

There is 83.58% door to door collection of household waste. Three tricycle and one truck is used for collection of the garbage this garbage further taken to the dumping site.

1.9 Village Details

Table 1.2 Kim Village Detail

Description	Details
Number of members of Panchayat	19 no's
No. of social justice committee members	5 no's
Dispensary	5-private, 1- PHC, and 22 Clinics
Post office	1
Gardens	3
No. of wards	20
No. of BPL families	47
Government bank	3

2. SMART VILLAGE CONCEPT

According to the Smart village guideline – “A village which has foresight for the development and proper planning to keep the village clean, healthy, green, pollution free, crime free and disease free with co-ordination of various community development and welfare schemes of Government. A village which makes the people “Samaras” and economically self-dependent by achieving determined goals for people’s wellness and convenience. Smart Village means a village which is aware to increase facilities for the citizen by taking decisions democratically and Smart Village means a village in which the youth, women, farmers, village artisans, backward and deprived people may get equal opportunity for development.”

Gujarat State has been marching from “Swarajya to Surajya” through implementation of various community and welfare schemes of rural development. It is necessary that Gram Panchayats perform their duties and responsibilities by more programmes and self-governance, work as per their expectations with certain goal and with foresight for social, human, economic and personal development and become committed to increase citizen services, create atmosphere of healthy competition. As a result, the villages would become prosperous and smart, migration from villages toward cities would decrease. For the above purpose, the matter of “Smart Village Competition” and allotment of grant for it was under consideration of the Government. After due consideration, it is decided to implement “Smart Village Scheme” with the purpose to take initiative with certain goal and in certain direction and to increase spirit of healthy competition.

- ☐ Under this programme, 300 villages will be selected for Smart Village program.
- ☐ Villages will be shortlisted by the state-level committee consisting of experts on the basis of ☐ Gram Panchayat’s performance through a transparent process.
- ☐ It seeks to make villages ‘smart’ on the lines of Smart Cities that will help them become self-reliant, clean and hygienic.
- ☐ Toilets, cleanliness, drop-out rate in primary schools, malnutrition ratio, Anganwadi facilities, vaccination of children are some parameters on which village will be adjudged as ‘Smart Village’.
- ☐ These villages will get 80 lakh to 2 crore rupees cash assistance from the state government to improve public facilities in the villages.

3. TASKS OF PROJECT

To identify the proposals meetings and visits are done to the village. After meetings and visits the requirements are identified at different locations. The measurement of the respective sites for the proposals has taken and proposals are given.

- Meeting with village representative at village Panchayat
- Meeting with village representative.
- Village visit for identification and measurement of location for proposals.
- Survey conducted for the public consultation.



Figure 3.1 Gram Panchayat of kim village

4. PROPOSALS IDENTIFICATION

4.1 Gap Analysis

From the data collection and survey conducted of various infrastructures and facilities in the town, a Gap analysis is been done. In this gap analysis, the existing scenario of infrastructure in the town has been compared with the required facilities according to the norms.

The gap analysis is been done for the 2011 population & for the forecasted population of the year 2021, and the infrastructure facilities are been compared with standard norms and guideline. National Building Code (NBC) is been referred for the comparison.

Table shows the Gap Analysis for the infrastructure facilities in the Town. In this table Existing Infrastructures for Education, Health, Cleanliness, etc. are being compared with required facilities according to the norms. Proposals for all the infrastructures are given in this table, the location of the proposals are also mentioned.

Table 4.1 Gap Analysis

Gap analysis of different infrastructures in KIM village						
Sr. No.	Smart Feature	Planning Commission/national Building code (NBC) Norms	Required no. according To norms (population)		Existing No.	Proposals
			2011 (18638)	2021 (25058)		
1	Education					
	Anganwadi	One per 2500 population	7	10	7	3
	Primary school	One per 4000 population	4	6	4	2
	Secondary school	One per 15000 population	1	-	1	Sufficient
2	Health					
	Maternity home	Need	-	-	-	1
	PHC/CHC	One per 20000 population	1	1	-	Sufficient
	Hospital	One per 80000 population	N/R			
3	Cleanliness					

	Public Toilets			8	4	
	Drainage line	79.1% household connected to drainage line				
	Organic waste				Waste Digester	
	Dumping site	Available near PHC			Waste compost Machine	
	Door to door collection	83.58% Door to door waste collection in village				
4	Survey Based Demand Proposal					
	Garden development	Need	-	-	-	1

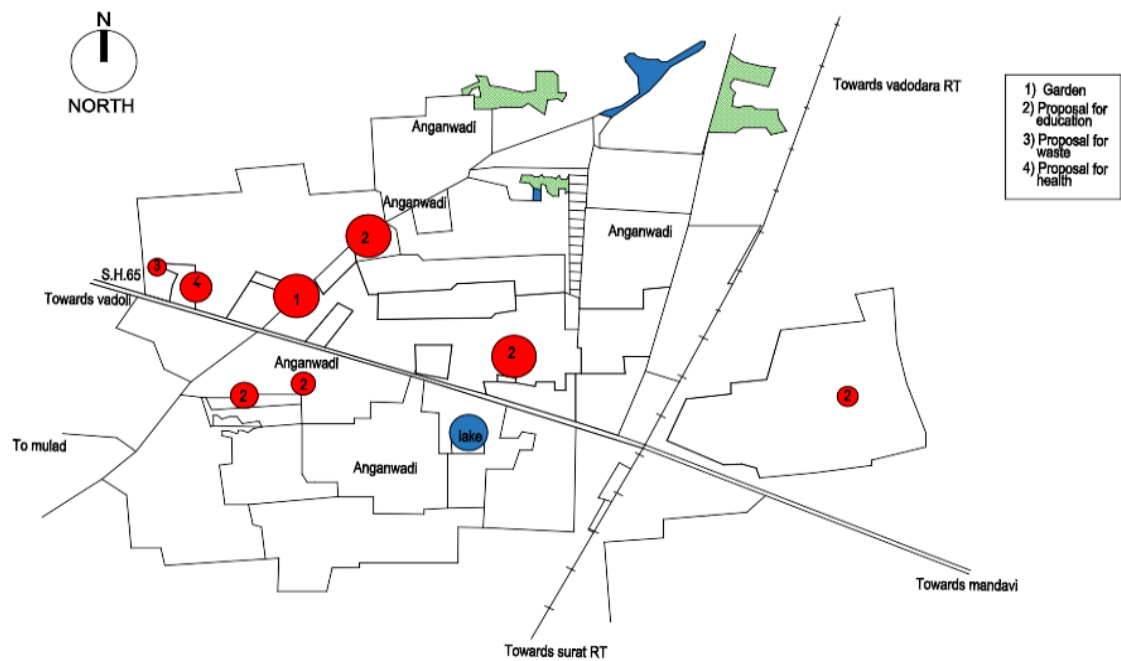


Figure 4.1 Proposal map

5. CONCLUSION

The review has demonstrated that if appropriate arranging will be there in village, then the migration from the village would be minimized; by providing good quality of life, decrease school dropout, improvement facilities for ladies, cleanliness can be accomplished by the best level of administrations gave by the organization. The improvement get ready for the following couple of years will help in the beautification and advancement of the village. After implementation of the development plan the villages will able to represent the area at global level.

KIM have the facilities like water supply, roads, drainage, solid waste management system, education, shopping centre, etc. The smart village development plan proposal is including the facilities-

- Panchayat – Proposal for new entry gate for identification of village.
- Education – Proposal for Mid-Day Meal shade in primary school to provide hygienic space, Drainage line in Kim Primary School, Staff & principal room in school, Computer lab.
- Women Empowerment – Proposal for Mahila Rojgar centre.
- Cleanliness – Proposal for compound wall on solid waste dumping site to prevent the nuisance, waste compost machine, Drainage line to Kim river (approx. 7km)
- Roads – Paver block at different location along the internal roads in village
- Health – Maternity home in PHC, Boundary wall of PHC, PHC entry gate, Urgent Renovation is needed.