



1.1 INTRODUCTION

NHAI has been entrusted to implement the development of some of the stretches of National Highways under National Highway Development Programme on EPC/BOT basis. As part of this endeavor, the Public Works Department (PWD) of Government of Goa has decided for the development of existing 2/4 lane Patradevi to Pollem Section of NH-17 into 4 lane configuration. The proposed project road of NH-17 starts at Km. 475.040 near Patradevi and ends at Km. 611.000 near Pollem in the state of Goa.

1.2 PROJECT ROAD DESCRIPTION

The project road runs through three different type of terrains amidst geographically rich Western Ghats. A considerable 136 kilometer long Project Highway is a part of NH-17 (Panvel-Goa-Karwar) which starts at Km. 475.040 at Patradevi and passes through some important villages and towns e.g Torxem, Tabmoxem, Uguem, Naibag, Pernem, Dhargal, Colvale, Mapusa, Bastora, Guirim, Socorro, Panjim, Bambolim, Cortalim, Nagoa, Verna, Nuvem, Navelim, Dramapur, Sirlim, Chinchinim, Cuncolim, Bali, Padi, Quepem, Canacona, Nagorcem-Palolem, Loliem and Pollem in the state of Goa. The entire stretch of NH-17 lies in the states of Maharashtra, Goa and Karnataka which facilitates as an important link between Western and Southern india. The influenced areas of the proposed project comprise of two districts namely North Goa and South Goa.

Table 1.1: Description of Project Road

Road Section	State	Existing Chainage (Km)		Existing Length (Km)	Design Change (Km)		Design Length (Km)
		From	To		From	To	
Patradevi to Pollem	Goa	475.040	611.000	136	475.000	610.500	135.500

1.3 IMPORTANCE OF THE PROJECT ROAD

The existing road holds strategic importance in the state of Goa for the following three reasons (i) NH-17 is one of the two major land transportation



routes of the state; (ii) it would also increase the connectivity of the project area to the sea port of Goa viz., Madgaon. The project, once completed, is expected to increase the connectivity amongst various settlements in the project area, as well as the state as a whole, to the surrounding region and rest of the country.

1.4 EXISTING CHARACTERISTIC OF THE ROAD

The existing project stretch is of 2/4 lane carriageway. Major portion of the project road is two lane with 7.0m width throughout the corridor except built up locations(four lane carriageway). The project road passes through the two districts of goa namely North Goa district and South Goa district. A considerable about 10km length of the project stretch passes through Reserve Forest/Ghat Section/Wild Life Sanctuary(WLS). The proposed right of way in Reserve Forest/Ghat Section/WLS area is restricted to 30 m.

Table 1.2: Existing Settlement along the Project Road

Existing Chainage From (Km)	Existing Chainage To (Km)	Name of the Village	Taluka/ Tehsil	District
477.100	479.300	Torxem	Pernem	North Goa
480.272	480.636	Tamboxem		North Goa
480.809	481.476	Uguem		North Goa
482.850	483.050	Amberem		North Goa
490.232	490.431	Pernem rural		North Goa
490.828	492.242	Malpem		North Goa
492.747	495.180	Oshalbag		North Goa
495.869	497.337	Dhargal		North Goa
498.545	499.446	Colvale	Bardez	North Goa
499.747	500.149	Binani IDC		North Goa
502.256	502.754	Tivim Industrial Estate		North Goa
503.153	504.150	Karaswada		North Goa
507.760	508.744	Guirim		North Goa
511.367	514.456	Porvorim		North Goa
519.800	520.700	Durgawadi	Tiswadi	North Goa



Table 1.2: Existing Settlement along the Project Road

Existing Chainage From (Km)	Existing Chainage To (Km)	Name of the Village	Taluka/ Tehsil	District
521.800	522.800	Bambolim	Tiswadi	North Goa
535.600	536.400	Cortalim	Mormugoa	South Goa
537.300	539.196	Kesarvale – Verna IDC	Salcete	South Goa
539.588	539.980	Nagoa	Salcete	South Goa
554.900	555.298	Calvaddo	Salcete	South Goa
556.528	556.850	Sirlim	Salcete	South Goa
567.536	568.090	Balli	Quepem	South Goa
603.435	604.128	Mashem	Canacona	South Goa
607.263	611.000	Pollem	Canacona	South Goa

Source: Road Inventory Survey, Aarvee Associates, 2015



Fig. 1.1: Starting Point of the Project



Fig. 1.2: End of the Project Stretch

1.5 ROW STATUS

According to IRC guidelines, minimum Right of Way (ROW) of 45 meter should be available for development of a 4-lane highway. The existing ROW as identified by consultants varies from 30-35 m. The proposed cross sections indicate that about 45 meter land is required to accommodate various features of proposed road. The Land Acquisition Plan has been prepared to have uniform proposed ROW of 45m except WLS area in accordance with the PWD/NHAI/Ministry guidelines.



1.6 NEED OF SOCIAL IMPACT ASSESSMENT

The loss of private assets resulting in loss of income and displacement has made social impact assessment an important input into the project design while initiating and implementing developmental interventions. An understanding of the issues related to social, economic and cultural factors of the affected people is critical in the formulation of an appropriate rehabilitation plan. A detailed social impact assessment (SIA) study therefore shall be carried out to make project design responsive to social development concerns. SIA also helps in enhancing the project benefits to poor and vulnerable people while minimizing or mitigating concerns, risks and adverse impacts.

1.7 OBJECTIVE OF THE STUDY

The main objective of the study is to ensure that the project addresses the adverse impacts on the livelihood of the people and that nobody is left worse off after implementing RAP and those affected have access to project benefits, both during project construction as well as operation.

The report aims to highlight the social problems and suggests general and typical mitigation measures to alleviate social problems the project-affected people may face such as loss of livelihood, displacement and loss of access to community facilities through widening of roads, bypasses, service roads, underpasses and other facilities. The specific objectives of the RAP are as follows:

- To carry out a socio-economic, cultural and political/institutional analysis to identify the project stakeholders and social issues associated with the project;
- To assess the extent of asset loss and undertake the census of potential project affected people;
- Identify likely loss of community assets including the religious structures and common property resources (e.g. forest, grazing land) and to gauge the impacts on the local population;



- To develop a Resettlement Action Plan (RAP) in consultation with the affected people and project authorities;
- To identify likely occurrence of HIV/AIDS resulting from the influx of outside labourers and others and develop a strategy to reduce their incidence; and
- To develop a consultation framework for participatory planning and implementation of proposed mitigation plan.

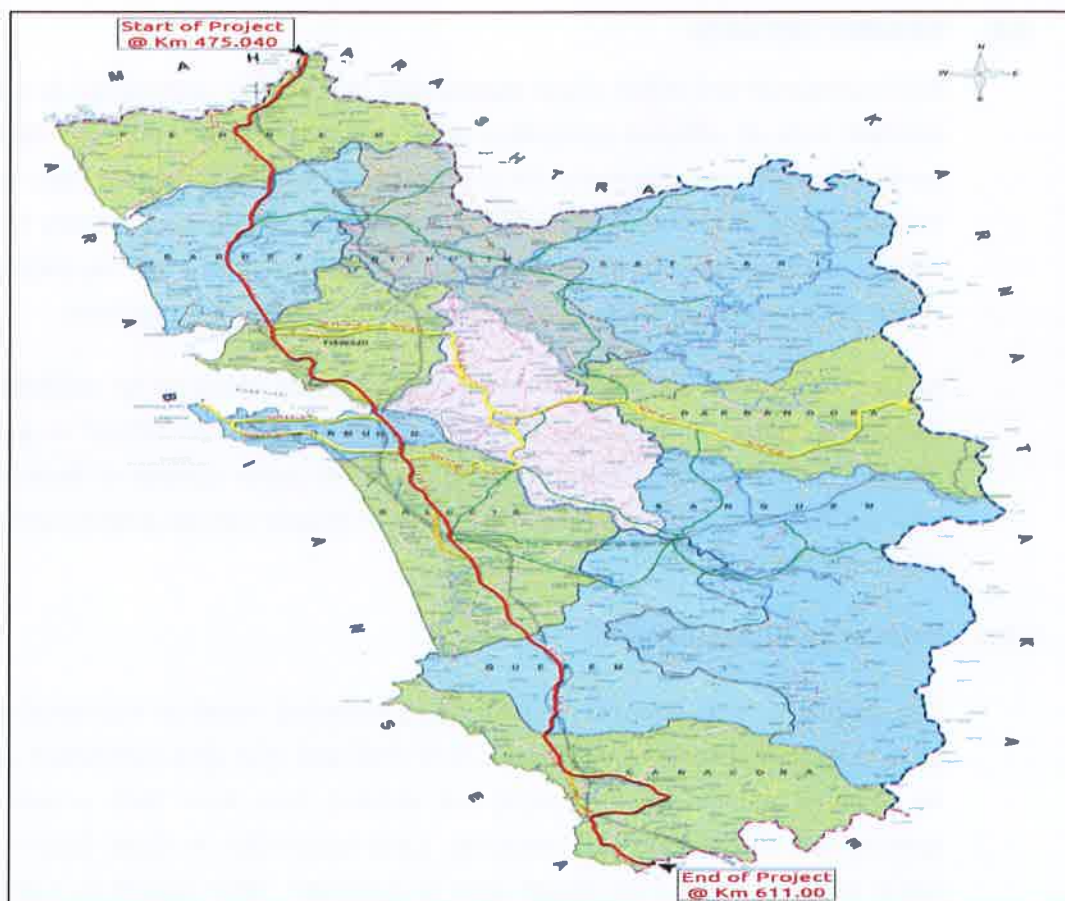


Fig 1.3: Location Map shows the Project Road Stretch



1.8 TYPE OF LAND ALONG THE PROJECT ROAD

In project districts, the land usage is characterized by agricultural lands, barren, built up area, forest, plantation, marsh land and water bodies etc. Apart from Panaji city, the project road traverse through 43 villages having residential and commercial establishments along the road. Some section of the road traverses through Ghat section and Reserve Forest. Most of these forest are tropical evergreen type but it also has a mixed vegetation of wet deciduous type at higher altitudes of ghat. Agricultural and plantation fields are also observed in some stretch of the project road.

1.9 PROJECT IMPACTS

Reconnaissance and initial social assessment survey was undertaken to take a detailed note of affected properties within proposed RoW. However, detailed survey needs to be undertaken for preparation of the Resettlement Plan as per the policy and guidelines of Central Government and State Government. In this regard, surveys relating to social assessment of the impact will be conducted within 22.5 m on either side of the road from the proposed centre line.

As per the preliminary assessment and land records obtained for ascertaining ownership status, it is found that no scheduled tribe household is getting affected by the widening of the existing road. The exact number of likely to be affected population and thereby magnitude of impact can be determined after the completion of survey.

1.9.1 Need of Land Acquisition

The proposed road improvement including widening involves expropriation of land from the current owners/users. It is assessed that land acquisition would be required only in 90 km. along the existing road from both private and government constituting 200 hectares. Land acquisition in Ghat Section and some pockets of reserved forest area is restricted. With regard to widening, upgradation and improvement of existing alignment, a major extent of 200 ha.



land is required.

A land acquisition plan is separately prepared for this proposed project. The plan includes land acquisition maps of the affected villages showing proposed right of way and land schedule for the affected survey numbers. The land plan schedules include details like ownership status and the survey numbers with required area.

Table 1.3: Requirement of Land in Revenue Villages				
S.No	Taluka	Village	Land to be Acquired(Sq.m)	Land to be Acquired(Ha.)
North Goa District				
1	Pernem	Torxem	86429.402	8.643
2		Tamboxem	20011.779	2.001
3		Uguem	28489.64	2.849
4		Amberem	11764.444	1.176
5		Poroscodem	38491.71	3.849
6		Pernem	102881.47	10.288
7		Virnora	3143.37	0.314
8		Dhargalim	70599.682	7.06
9	Bardez	Colvale	47351.881	4.735
10		Mapusa	40648.842	4.065
11		Bastora	22962.446	2.296
12		Guirim	37508.354	3.751
13		Socorro	81181.739	8.118
14		Salvador Do Mundo	1400.12	0.14
15		Pilerne	2579.248	0.258
16		Penha De Franca	14006.258	1.401
17	Tiswadi	Morambi O Pequeno	9129.152	0.913
18		Murda	19495.405	1.95
19		Cujira	22600.549	2.26



20		Calapor	17403.463	1.74
21		Bambolim	3555.677	0.356
South Goa District				
22	Marmugao	Cortalim	29409.208	2.941
23	Salcete	Nagoa	20598.304	2.06
24		Verna	86185.414	8.619
25		Nuvem(LOP)	29030.642	2.903
26		Navelim	2574.083	0.257
27		Dramapur	8881.711	0.888
28		Sirlim	14234.812	1.423
29		Chinchinim	107430.42	10.743
30		Sarzora	49918.027	4.992
31		Talvorda	31060.001	3.106
32		Veroda	30858.033	3.086
33	Quepem	Cuncolim	181528.954	18.153
34		Bali	138243.618	13.824
35		Bendordem	72554.371	7.255
36		Cordem	83230.549	8.323
37		Padi	107610.197	10.761
38	Canacona	Barcem	143821.256	14.382
39		Canacona	56040.42	5.604
40		Nagorcem Palolem	8707.666	0.871
41		Loliem	124149.236	12.415
Total Area to be Acquired			2007701.553	200.769

Source: Land Plan Schedule, Aarvee Associates, Hyderabad, 2015-16

1.9.2 Magnitude of Impact on Structure

Census of all the structures lying within proposed RoW is undertaken to assess the project impact on the population for displacement, resettlement and rehabilitation. As per our preliminary survey it was estimated that about 527 structures consisting of private [residential, commercial, mixed structure(res+com)], government, religious, community and others might be affected by the proposed road. The project affected person may be titleholder or non titleholder e.g., encroacher, squatter, tenant, kiosk owner etc. About



179 structures belonging to non titleholders were found within existing RoW. Of the 273 Titleholders' properties, 75 structures owned by religious and government would be affected. Of the total likely to be impacted structures, commercial structures constitute a major chunk.

The impact on structures owned by schedule tribe households/community can be ascertained after the completion of census survey exercises. The survey activities are underway and as per firsthand information and discussion with various stakeholders it is reached into conclusion that people belonging to ST community may hardly get affected.

Table 1.4: Ownership Status of the Structure

Private	Titleholder		Non- Titleholder	Total
	Religious	Government		
273	37	38	179	527

Source: Preliminary Survey Data, Aarvee Associates, 2015-16

