

Infrastructural Development under BADP in Dibang Valley District of Arunachal Pradesh

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Abstract: *Border Area Development Programme (BADP) was started in western international border with Pakistan, during the Seventh five-year Plan (1986-87) with the twin objectives of balanced development of sensitive border areas through adequate provision of infrastructure facilities and promotion of a sense of security amongst the local population. However, in the case of Arunachal Pradesh, BADP was first introduced in 1997-98, allocating Rs 4.00 crores for implementation across 33 schemes. This study made an attempt to investigate the overview infrastructure development status of BADP in Arunachal Pradesh. Further, the purpose of the study is to investigate the attitudes towards the assets created under BADP. The study is descriptive and analytical in nature. For the present study, Stratified Random Sampling under Probability Sampling Techniques was used. 40 samples were randomly taken from study areas.*

Keywords: International BADP, infrastructure, security and development

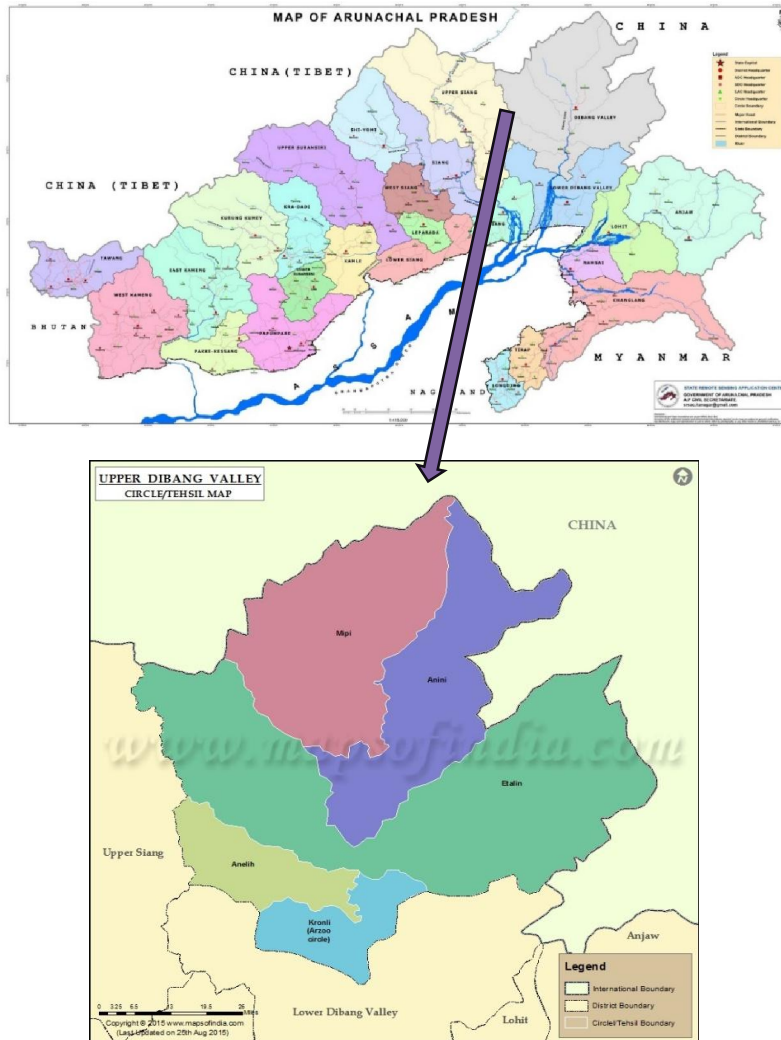
I. INTRODUCTION

Border Area Development Programme (BADP) was started in western international border with Pakistan, during the Seventh five-year Plan (1986-87) with the twin objectives of balanced development of sensitive border areas through adequate provision of infrastructure facilities and promotion of a sense of security amongst the local population. The core objective of the BADP was to balanced development of land border areas states bordering with Pakistan: namely Rajasthan, Gujarat, Punjab and Jammu & Kashmir of Indian states. The programme was revamped in the Eighth Plan (1993-94) and extended to States, which have an international land border with Bangladesh. Again, During the Ninth Plan, the programme has been further extended to States, which border Myanmar, China, Bhutan and Nepal and the Programme at present covers all the seventeen States, which share international border with the neighbouring countries. In Arunachal Pradesh, BADP was introduced in the year 1997-98 for Indo-Myanmar border with an allocation of amount Rs 4.00 crores. Further, in the year 1998-99 the programme was also covered in China and Bhutan border. This programme was initiated under the ministry of Home Affairs, Government of India to adopt a comprehensive approach to Border Management in international land border. The Border Area Development Programme (BADP) is a wholly funded by government of India and it is considered as centrally funded Area programme (Planning Commission, 2007). Arunachal Pradesh, covering an area of 83,743 square kilometres, shares extensive international borders: 217 km with Bhutan to the West, 1126 km with China to the North and North-East, and 520 km with Myanmar to the East (Planning Commission, Govt. of India, 2001). In total, the state has an international boundary length of 1863 km, making it the longest border among the North-Eastern States. Since from 1997, total funds allocated to Arunachal Pradesh amount to Rs 1,382 crores which is approximately 10 percent of the total allocations nationwide. The programme is implementing in 46 border blocks spanning 15 districts within Arunachal Pradesh.

In Dibang Valley District, BADP schemes are implemented for construction of basic infrastructural facilities such as in construction of teacher quarter, classroom extension, playfield, drainage, etc. moreover, in health sector for construction of staff quarter, purchase of ambulance and purchase of medical equipment. Apart from that, BADP schemes are also implemented in agriculture sector such as community farming, farmers training, etc. huge amount of allocated funds are used for social sector infrastructure such as constructions of community hall. Under *Dibang Valley* district all three blocks are covered under BADP namely-*Anini-Mipi-Alinye, Etalin-Malinye* and *Arzoo-Anelih*. The present study will investigate the three basic research questions will be as follow:

- What is the status of BADP in Arunachal Pradesh?
- What is the role of BADP in infrastructure development in the study areas?
- What are the People's perceptions about the performance of BADP in study area?

Map 1: Map: Location Map of Arunachal Pradesh and Study Area (Dibang Valley)



Sources: <https://arunachaltourism.com/> and <https://www.mapsofindia.com/maps/arunachalpradesh/tehsil/dibang-valley-tehsil.html>

II. LITERATURE REVIEW

There is limited documentation available regarding the Border Area Development Programme (BADP) throughout India. However, the following studies have relevance and are closely associated with the current research:

Amitava Mitra, in his working paper titled "Challenges of Development in the Border Areas: An Empirical Study" (June 2020), aims to analyse the socio-economic, demographic, and infrastructural conditions of the border districts in Arunachal Pradesh. Additionally, he seeks to identify the difficulties and challenges faced by border villages and proposes measures for crafting a future action plan. Based on selected socio-demographic indicators, the study reveals that inhabitants residing in the upper hill ranges of border districts have a lower life expectancy and literacy rate.

Moreover, border districts predominantly rely on agriculture but encounter issues such as low productivity and increased poverty levels.

Infrastructure analysis indicates that eight districts exhibit lower road density compared to the state average of 17 km per 100 sq.km., with Kurung Kumey at a particularly low rate of 2.53 km per 100 sq.km. Border districts in northern and eastern Arunachal Pradesh, especially those adjoining China, demonstrate road densities below the state average of 38.53%. However, Tirap and Changlang exhibit better road connectivity. Furthermore, the study highlights deficiencies in health and education infrastructure, with eight districts lacking a primary health center per 100 sq.km. Identified issues include transportation, education, healthcare, electricity, water access, sanitation, landslides, and isolation.

Kharkongor, in his evaluation report titled "Evaluation study on the Border Area Development Programme in Meghalaya (2003-2009)" (2011), aims to assess fund utilization and analyse the program's physical and financial performance. Additionally, he endeavoured to analyse the program's impact, assess the sense of security among the populace, and evaluate community participation in the scheme's implementation. In his evaluation, it was observed that the execution of the schemes is delegated to the Village Committee established by the village durbar, and their performance is considered satisfactory. Regarding community involvement, approximately 90 percent of respondents expressed satisfaction with people's participation in planning and implementing infrastructure, education, and social sector projects. Moreover, the study reported that BADP projects have significantly contributed to local development according to respondents. The quality of work was generally seen as satisfactory, and projects have also enriched the educational and cultural environment in rural areas. However, some respondents suggested that there is room for improvement in the planning and monitoring of projects.

Lalthanmawii in his research article title "Evaluation of Border Areas Development Programme in Mizoram" (August 2019) The study conducted in Mizoram's border areas evaluates the coverage, allocation, and utilization of funds within the Border Areas Development Programme (BADP) while identifying implementation challenges. Findings indicate that 54 percent of the population in the study area are dissatisfied with BADP's impact. Conversely, satisfaction is noted with the implementation of other schemes like MGNREGA. Convergence strategies often involve combining BADP resources with MGNREGA labor for activities. Despite increased fund allocation under BADP, there's a consensus that the current amount is inadequate for significant improvements in infrastructure and livelihoods in Mizoram's remote border regions.

Pushpita Das in his research paper "Drug Trafficking in India: A Case for Border Security" (2012) The exploration of heroin and hashish producers like the Golden Triangle and Golden Crescent (Afghanistan-Pakistan-Iran) has rendered India's borders susceptible to drug trafficking. Indigenous low-grade heroin production, along with various psychotropic and prescription drugs, and their rising demand in neighbouring countries and the global market, exacerbate the trafficking issue. Trends reveal a shift from natural to synthetic drugs in trafficking patterns. Most drug trafficking occurs via land borders, followed by sea and air routes. India addresses the problem through supply and demand reduction strategies, including legislation, cooperation with NGOs, border security enhancement, and collaboration with neighbours and the international community.

Rupak Bhattacharjee in his research paper titled "Importance of transport infrastructure development in Arunachal Pradesh along the Line of Actual Control" (2021) The study scrutinizes Indian government transportation projects in Arunachal Pradesh, aiming to improve connectivity amid China's infrastructure growth in Tibet. It suggests policy measures for sustainable development and safeguarding India's security and territorial integrity. Challenges include the arduous task of building transport infrastructure in Arunachal's mountainous terrain, compounded by the COVID-19 crisis. The state faces corruption and environmental norm violations in infrastructure projects, heavily relying on central funds due to limited local resources. Rampant corruption, money laundering, and malpractices hinder project implementation. Recommendations urge the Indian government to bridge the connectivity gap with China, despite its resistance, in Arunachal's frontier areas.

Zulfiqur Rahman, Mirza in his research article titled "Territory, Roads and Trans-boundary Rivers: An Analysis of Indian Infrastructure Building along the Sino-Indian Border in Arunachal Pradesh" (2014) The analysis focuses on Indian infrastructure development in Arunachal Pradesh, particularly in territory, road networks, and trans-boundary rivers. Over the past decade, New Delhi has accelerated several infrastructure projects in the region, seen as bolstering military preparedness due to China's territorial disputes. Road projects are depicted as vital for bridging developmental

and connectivity gaps among Arunachal Pradesh's diverse tribes. Moreover, they facilitate transportation of heavy machinery for dam projects, serving both economic and strategic purposes. These efforts aim to assert India's riparian rights over trans-boundary river waters shared with China while enhancing regional connectivity and development.

Objectives of the study

- To evaluate the overview status of BADP in Arunachal Pradesh.
- To investigate the infrastructure development under BADP in Dibang Valley District.
- To investigate attitudes towards the assets created under BADP in the study area.

III. RESEARCH METHODOLOGY

The study is descriptive and analytical in nature. The data were collected from both primary and secondary sources. The primary sources collected through structure questionnaire. Further, along with the structure questionnaire, Focus Group Discussion (FGD) was conducted. Further, FGD and structure questionnaire were asked to random people of the villagers to know the attitudes on assets created under BADP in the study areas. For the present study, Stratified Random Sampling under Probability Sampling Techniques was used. Study period is for five years (2015-16 to 2019-20). The study was carried out in Dibang valley district. 40 samples were randomly taken from study areas. Statistical Software such as MS Excel, SPSS were used to analyse the data. Pie Chart, Bar Diagram, etc were used for presentations of the findings.

IV. DISCUSSION AND ANALYSIS

The Overview Status of BADP in Arunachal Pradesh.

Fund allocation in Arunachal Pradesh

Arunachal Pradesh is sharing strategically important international land border with Bhutan, China and Myanmar. Furthermore, the villages of the states are located in remote areas. Various basic human life needs are lacking in those areas. Therefore, The Border Area Development Programme (BADP) is introduced in Arunachal Pradesh to addressing the special development needs of areas located near the international borders. These areas often face unique challenges and require focused attention to promote economic growth, infrastructure development, and overall improvement in the quality of life for the people living there. By 2021, the BADP initiative extends its reach to 46 border blocks spanning 15 districts within Arunachal Pradesh. Over the period from 1997-98 to 2021-22, the aggregate fund allotment for the state amounts to Rs 1,382 crores, constituting approximately 10 percent of the nation's total allocations.

The year-wise allocation of BADP fund for Arunachal Pradesh is given below:

**Table 1: Year-Wise Allocation of BADP Fund for Arunachal Pradesh
(Rs. in crores)**

Year	Myanmar Border	China Border	Bhutan Border	Total
1997-98	4.00	-	-	4.00
1998-99	4.00	5.00	2.00	11.00
99-2000	4.00	7.00	2.00	13.00
2000-01	2.08	3.59	1.08	6.75
2001-02	4.17	7.17	2.17	13.51
2002-03	4.03	7.21	2.27	13.51
2003-04	2.78	4.72	1.50	9.00
2004-05	3.26	8.39	1.86	13.51
2005-06	6.10	10.93	2.32	19.35
2006-07	10.91	28.52	5.55	44.98
2007-08	11.47	48.87	5.74	66.08
2008-09	6.37	59.28	14.08	79.70
2009-10	14.19	38.71	13.60	66.50
2010-11	12.43	47.93	6.54	66.30
2011-12	18.22	126.55	9.56	154.33

2012-13	20.79	84.93	19.22	124.94
2013-14	15.21	40.52	10.21	65.94
2014-15	19.77	58.92	13.80	92.49
2015-16	19.86	54.16	15.94	89.96
2016-17	25.80	79.08	16.20	121.08
2017-18	58.08	44.90	68.29	171.27
2018-19	21.31	46.65	9.66	88.88
2019-20	10.72	29.30	6.81	46.829
2020-21	5.07	19.43	2.72	27.22
Total:	304.62	861.76	233.12	1410.12

Sources: <http://www.arunachalplan.gov.in/wp-content/uploads/2022/08/Allocation-of-fund-recipept-till-5102021.pdf>

From 1997-98 to 2020-21, Arunachal Pradesh received a total allocation of Rs 1,410.12 crore, a significant amount compared to other North-Eastern States. Regarding the allocation of funds along international borders, Rs 304.62 crores were allocated for the Indo-Myanmar border, Rs 861.76 crores for the Indo-China border, and Rs 233.12 crores for the Indo-Bhutan border. Indo-China border districts was allocated highest amount which is around 61 percent. Further, Indo-Myanmar border districts got 22 percent and 17 percent for Indo-Bhutan border districts.

In 1997-98, a mere Rs 4 crores was allocated to Arunachal Pradesh, primarily allocated to districts bordering with Myanmar. The following year, in 1998-99, BADP fund allocations extended to areas bordering with China and Bhutan. The highest allocation for Arunachal Pradesh occurred in 2017-18, amounting to Rs 171 crores. Despite this peak, the average annual fund allocation stands at a modest Rs 59 crores.

Despite encountering numerous challenges, considerable emphasis has been placed at the State level to address the infrastructure gap in border regions. This commitment is exemplified by initiatives such as the prioritization of a large volume of proposals under the Border Area Development Program (BADP) within the 'Infrastructure Sector'. Until 2015-16, BADP operated as a centrally sponsored scheme. However, the funding structure entailed a 90% contribution from the Centre and 10% from the states.

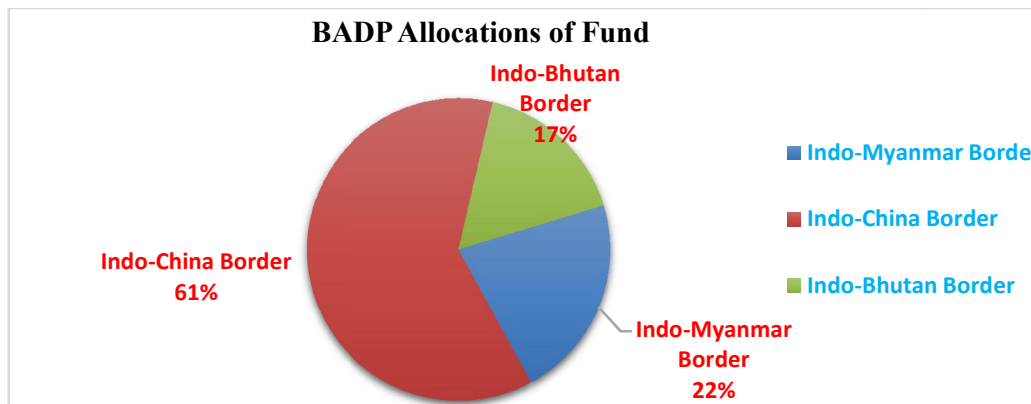


Figure 1: Allocation of BADP Fund for Arunachal Pradesh

BADP scheme/project implementation

The BADP was implemented in Arunachal Pradesh to address the unique needs of those residing in border regions and to close vital gaps in the state's physical and social infrastructure requirements. Additionally, to improve the Socio-economic, infrastructure and standard of living for those who live in the State's outlying border regions of Arunachal Pradesh. Further, infrastructural development under the programme should be undertaken as per need of the local populace of the border areas. Therefore, the data was collected from the populace residing in border areas, to investigate the projects or schemes implemented under the Border Area Development Program (BADP) align with the needs of the local population.

Table 2: Work undertaken as per the need of the people

Yes		No	
Frequency	Percent	Frequency	Percent
22	55%	18	45%

Sources: field survey

Table 2 depicts the projects or schemes implemented under the Border Area Development Program (BADP) align with the needs of the local population. The data reveals that, 22 (55%) of the respondents are agree with the project/scheme undertaken as per need of the local populace of the border areas. however, 18 (45%) of the respondents are not agree with the project/scheme undertaken as per need of the local populace of the border areas. thus, majority of the respondents are satisfied with the project/scheme undertaken as per need of the local populace of the border areas. 45 percent of the respondents are not satisfied with the work undertaken under BADP could be; funds are allocated without the knowledge of the common public, due to underutilization of the assets created under the programme and different political affiliations with the ruling government.

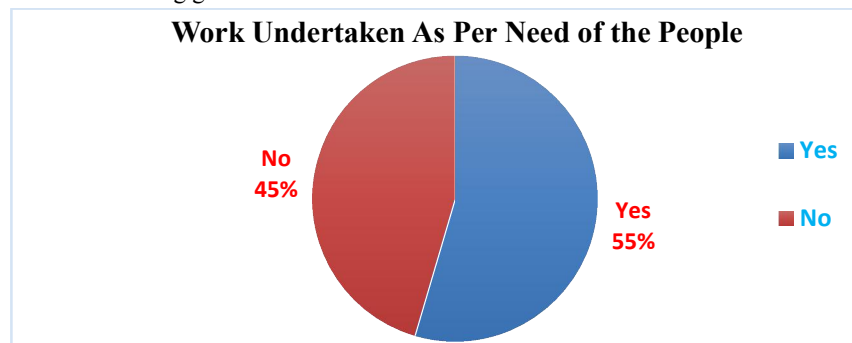


Figure 2: Work undertaken as per the need of the people

Safety and security of living in Border Area

The Border Area Development Programme (BADP) was initiated along the western international border with Pakistan during the Seventh five-year Plan (1986-87). It aimed to achieve two main goals: fostering balanced development in sensitive border regions by ensuring sufficient infrastructure facilities and instilling a sense of security among the local populace. Therefore, to examine the peoples feeling and sense of security living in Border Area of Dibang Valley district. below table depicts the people’s perceptions on safety and security feelings among the local populace of the border areas.

Table 3: Feeling Sense of security livingin Border Area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Safe	15	37.5	37.5	37.5
	Somewhat Safe	17	42.5	42.5	80.0
	Somewhat Unsafe	4	10.0	10.0	90.0
	Fully Unsafe	4	10.0	10.0	100.0
Total		40	100.0	100.0	

Sources: field survey

According to above table 3 depicts the 15 (38%) are feeling fully safe, 17 (43%) are somewhat safe and 4 (10%) each said somewhat unsafe and fully unsafe. In other words, majority of the respondents are feeling safe living in the international border areas. However, around 20 percent of the said unsafe to living in the international border areas. it could be; 1962 Chinese aggression on India, China rapid infrastructure development near Arunachal Pradesh border areas and different political affiliation with the ruling government.

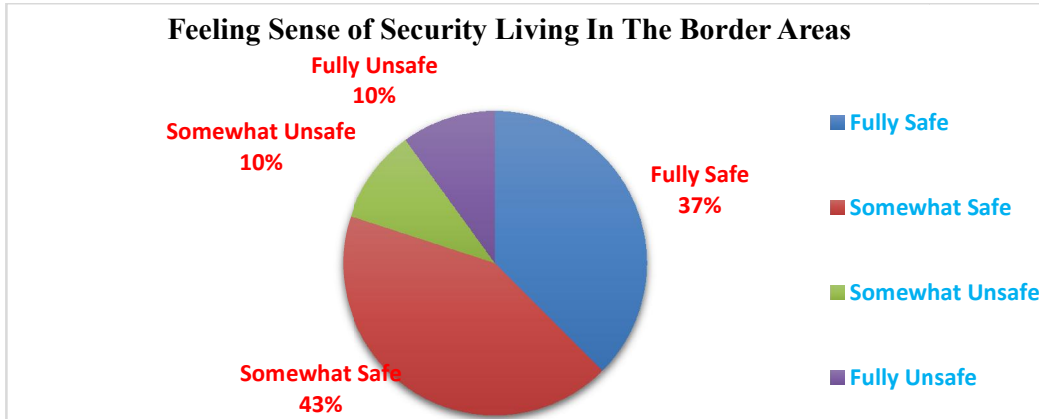


Figure 3: Feeling Sense of security Living in Border Area

To investigate the Infrastructure Development under BADP in Dibang Valley District.

The BADP initiative emphasized prioritizing physical infrastructure development in border regions to aid border security deployment, guided by the Committee of Secretaries. It entailed building roads, power lines, restrooms, drinking water, education, and medical facilities. Additionally, community TV sets were to be distributed to counter hostile propaganda and engage the local population effectively.

In Arunachal Pradesh, the Border Area Development Programme (BADP) focuses on constructing essential infrastructure like teacher quarters, classroom extensions, playfields, and drainage. It also invests in healthcare, with projects including staff quarters, ambulance procurement, and medical equipment. Additionally, BADP supports agriculture through initiatives like community farming and farmer training. Five sectors were purposefully selected for present study to examines infrastructure development in sectors like construction of roads, small-scale industries, health sector, education sector, and social sector infrastructure.

Table 4: Infrastructure Development under BADP in Dibang Valley District.

	Education Sector		Health		Social Sector		Sports Infrastructure		Overall Response	
	F	%	F	%	F	%	F	%	F	%
Very Poor	0	0	8	20.0	0	0	15	37.5	23	14
Poor	15	37.5	3	7.5	12	30.0	22	55.0	52	33
Neither Poor nor Good	15	37.5	13	32.5	3	7.5	3	7.5	34	21
Good	10	25.0	16	40.0	22	55.0	0	0	48	30
Very Good	0	0	0	0	3	7.5	0	0	3	2
Total	40	100	40	100	40	100	40	100	1700	100

Sources: Field Survey

Note: F= Frequency

The Table 4 depicts the assessments of various sectors, including Education, Health, Social, and Sports Infrastructure, with an overall response category. Majority of the respondents are satisfied with the infrastructure development under social sector and health sector in the study areas. further, education sectors are fall around the neutral in terms of infrastructure development in the study areas. notably, sports infrastructure development in the study areas is one of the poorest performances. Overall response shows the, around 47 percent of the respondents are not satisfied with the

infrastructure development under BADP in the study areas. And around 32 percent of the respondents are satisfied. 21 percent of the respondents are said Neither Poor nor Good in terms of infrastructure development in the study areas.

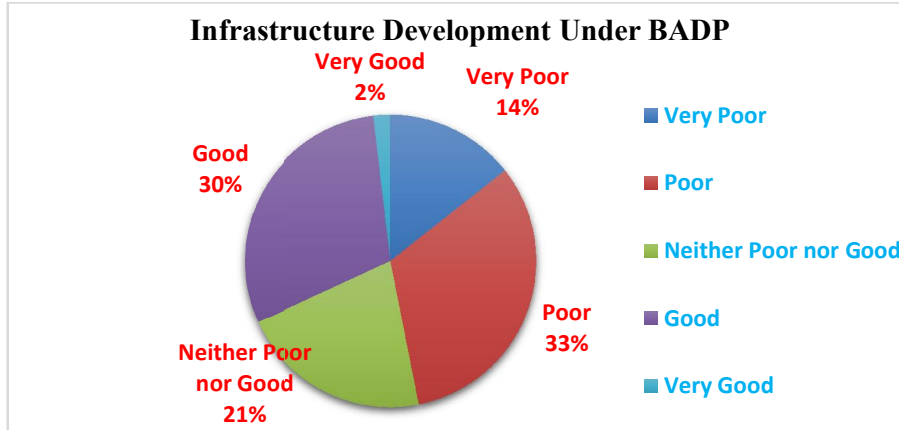


Figure 4: Infrastructure Development under BADP

People attitudes towards the assets created under BADP in the study area.

In Arunachal Pradesh, the Border Area Development Programme (BADP) is utilized to enhance essential infrastructure, including the construction of teacher quarters, classroom extensions, playgrounds, drainage systems, etc. Additionally, within the healthcare sector, BADP funds are allocated for constructing staff accommodations, acquiring ambulances, and purchasing medical equipment. Furthermore, BADP initiatives extend to the agricultural sector, encompassing projects like community farming and farmer training programs. Below table depicts the Peoples’ perceptions on assets created under BADP in the study areas.

Table 5: Peoples’ perceptions on assets created under BADP in the study areas.

Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Total
4 (9%)	14 (36%)	4 (9%)	18 (46%)	0 (0%)	40 (100%)

Sources: Field survey

As per the table 5 Shows the Peoples’ perceptions on assets created under BADP in the study areas in terms of quality of work. 18 (46%) of respondents are satisfied with the quality of works undertaken under the BADP in the study areas. further, 14 (36%) of the respondents are not satisfied with the assets created under BADP. 4 (9%) of respondents are very unsatisfied with the assets created under the programme. 4 (9%) of the respondents are neutral. Surprisingly, none of the respondents are responded in very satisfied. Thus, majority of the respondents are not satisfied with the assets created under BADP in the study areas.

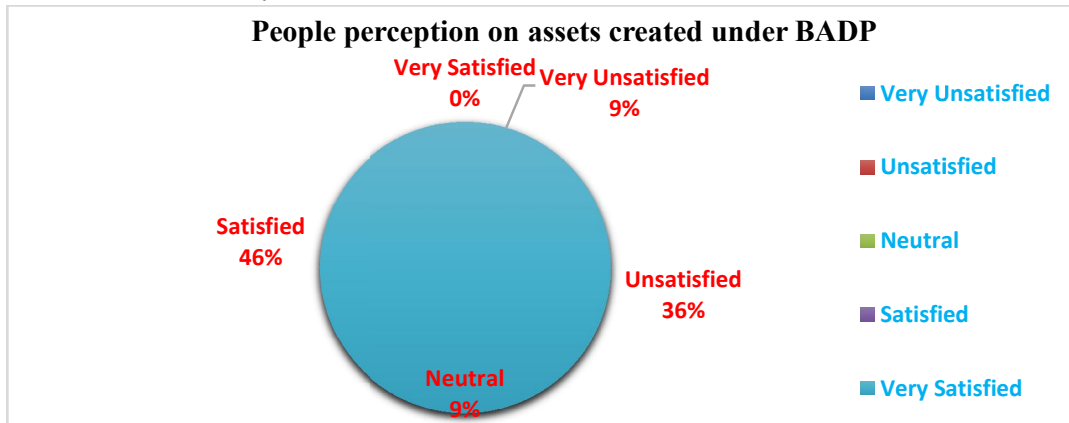


Figure 5: Peoples’ perceptions on assets created under BADP in the study areas

V. FINDINGS AND CONCLUSION

The research outcomes underscore the current state of the Border Area Development Programme (BADP) in Arunachal Pradesh, particularly regarding the infrastructure established in border regions. Upon conducting on-site inspections of the BADP projects, it was observed that all assets created under the programme were identified, and the majority of schemes were executed in accordance with program guidelines. Nevertheless, it was noted that many of the assets built under the program remain either underutilized or entirely unused by the local populace residing in border areas. Furthermore, during field visits, it was observed that some schemes implemented under BADP were constructed without adhering to the prescribed guidelines.

All four selected sectors exhibit satisfactory progress in infrastructure development, with the exception of sports infrastructure. Field investigations revealed that the majority of roads constructed under BADP are comprised of sand, gravel, or kutchha materials, rendering them impassable during the rainy season due to lack of paving. Additionally, assessments indicate that assets established under BADP in border areas are either underutilized or not utilized by the local residents.

Moreover, the public's perceptions regarding assets developed under BADP within the study areas, concerning the quality of work, predominantly indicate dissatisfaction among respondents. A minority subset of respondent's express satisfaction or neutrality towards the works executed under BADP within the study regions.

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