NEW INDIA INTERNSHIP

2023-24

Project overview report

ABOUT NEW INDIA INTERNSHIP

- NII (New India Internship) was envisioned by IIT Madras to commemorate Mahatma Gandhi's **150th birth anniversary** and the New India Mission promoted by the Honorable Prime Minister of India, Shri Narendra Modi.

- The theme of NII is **Technology and Rural Development** and it's objectives are:
  - Introducing the students of IIT, NIT and other centrally funded instiutions to developmental challenges faced by rural areas of India, this year our focus was on North Eastern part of India, specifically Arunanchal Pradesh.
  - Understand how technology could aid in rural development, and create a rural-tech feedback loop which could evolve into a rural supply chain.
  - Problem **Areas assigned** to us :
    - Energy
    - Transportation
    - Housing

Indian Institute of Technology, Madras

The Indian Institute of Technology Madras is known both nationally and internationally for excellence in technical education, basic and applied research, innovation, entrepreneurship and industrial consultancy. A faculty of international repute, a highly motivated and brilliant student community, excellent technical and supporting staff and an effective administration have all contributed to the pre-eminent status of IIT Madras. The Institute is proud to bear the laureate of being No.1 engineering university in India. More recently, IIT Madras has been given the title of Institute of Eminence.

National Institute of Technology, AP

National Institute of Technology Arunachal Pradesh has established itself as one of the most premier institutes of India. Established in 2010 under the NIT Act by MHRD, Govt. of India, NIT AP is an institute of national importance where students are equipped with innovative skills and leadership qualities which ultimately help them to steer the world in the direction of growth and development. The vision of NIT Arunachal Pradesh is to transform itself into an acclaimed institution of higher learning with creation of an impact on the North Eastern region in terms of innovation and entrepreneurship.

WEEK 1

Our internship commenced with an introduction program where we met colleagues from NIT AP and received guidance from our instructors. We revisited the internship objectives, clarifying any doubts, and set our mission to explore the rural regions of Papum Pare district. Our goal was to observe and interact with the social ecosystem, understanding the challenges faced by the residents.

To ensure a focused approach, we conducted extensive literature reading. This preparatory phase aimed at providing a professional foundation for our work, emphasizing the importance of a systematic exploration of the community. Through this, we aimed to contribute meaningfully to understanding the social dynamics and challenges in Papum Pare district.

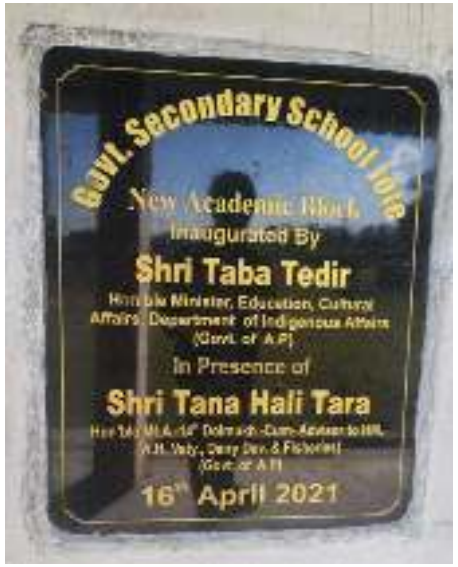
WEEK 2

Week two commenced with field visits around the NIT campus, including a government Primary Health Center (PHC) and a primary school. Engaging with multiple residents, we conducted basic surveys on health, education, and overall well-being. Interactions with village leaders provided valuable insights.

Additionally, we had the honor of meeting the Governor of Arunachal Pradesh, who shared valuable perspectives on the current scenario.

Further, we explored nearby water sources to assess the state of drinking water in the area, ensuring a comprehensive understanding of the local conditions.

We also got the opportunity of attending the convocation ceremony of NIT AP.



WEEK 3

In week three, intensive brainstorming sessions and discussions ensued, focusing on the data collected and observations made in the preceding two weeks.

Our visits included exploration of five villages adopted by NIT AP under Unnat Bharat Abhiyan and a government school.

An insightful interaction with a local bamboo workshop, specializing in the production of various handicrafts for export, provided valuable perspectives.

Another visit took us to the local Monday market, where engaging with sellers allowed us to grasp the supply chain and logistical challenges prevalent in the area.

WEEK 4

In week four, we explored the NIT AP hydroponics lab, delving into innovative hydroponic cultivation techniques for insights into sustainable agricultural practices.

Our exploration extended to various tribal houses, modern constructions, and homes, broadening our understanding of architectural diversity. An interaction with Minister Kiren Rijiju shed light on the government's stance on Sustainable Development Goals (SDGs) and living conditions in Arunachal Pradesh.

As the week concluded, we conducted focused brainstorming sessions, synthesizing our observations into actionable suggestions for each identified problem. This laid the groundwork for comprehensive recommendations to address the challenges observed during our fieldwork.

OBJECTIVE OF NII 2023-24 : GROUP 2 (STAGE 1)

The interns were divided into 4 groups and each group was assigned a specific domain to explore and identify issues

Domains assigned to **Group 2**

- Housing
- Energy
- Transportation

ENERGY

Looking for problems in Energy in Arunanchal Pradesh, In and around NIT AP

ENERGY ACCESS

Problems

- Remote villages lacking access to electricity.
- Need for electrification in remote areas.

Reasons

- Geographic isolation makes extending electricity infrastructure challenging.
- Electrification efforts are hindered by resource constraints and logistical difficulties.

RECOMMENDATIONS

- Prioritize electrification projects in remote villages.
- Explore off-grid renewable energy solutions.
- Encourage community participation in energy initiatives
- Utilize the amazingly large volume of sunlight received using efficient solar systems
- The solar panels from over 600 unused solar street lights may be used as a source of power to reduce the load on the main grid

ELECTRICITY INFRASTRUCTURE

Problems

- Insufficient electricity infrastructure in remote areas.
- Dependence on hydroelectric power, vulnerable to disruptions.
- Lack of continuous and reliable power supply.

Reasons

- Remote areas face challenges in establishing extensive power grids.
- Hydroelectric power, while renewable, is susceptible to environmental factors.
- Limited resources hinder the establishment of reliable power sources.

RECOMMENDATIONS

- Implement decentralized renewable energy solutions like solar power for remote areas.
- Implementing micro-hydro systems for households situated near a stream/river.
- Explore micro-hydropower projects suitable for local geography on a larger scale.
- Promote community-led initiatives for sustainable energy generation and distribution.

HOUSING

In Arunachal Pradesh, specifically around NIT AP, seeking issues related to housing.

HOUSING RELATED ISSUES

Problems

- Inadequate Infrastructure Development
- Vulnerability to Natural Disasters like landslides and cloudburst
- Land Ownership and Settlement Disputes are very common

Reasons

- Geographical challenges and rugged terrain hinder the development of proper infrastructure like roads and utilities necessary for housing.
- Arunachal Pradesh is prone to earthquakes, landslides, and floods, making it challenging to construct safe and resilient housing.
- Disputes over land ownership and traditional community-based settlement patterns

RECOMMENDATIONS

- Invest in better road networks to remote areas.
- Facilitate transport of construction materials to remote regions.
- Enforce strict building codes for disaster resilience.
- Educate communities on resilient housing designs and materials.
- Conduct comprehensive land surveys to resolve disputes.
- Establish community-based conflict resolution for land access.

TRANSPORTATION

Looking for problems in transportation in Arunanchal Pradesh, In and around NIT AP

CONNECTIVITY

Problems

- Limited road connectivity in hilly and remote terrain.
- Lack of air connectivity to inaccessible areas.
- Strategic location leading to geopolitical tensions.
- Limited access to modern technology in remote areas.

Reasons

- Rugged terrain poses challenges in constructing and maintaining roads.
- Inaccessible areas lack viable options for air transportation infrastructure.
- Border security challenges arise due to regional geopolitical dynamics.
- Socioeconomic factors contribute to the slow adoption of technological advancements.

RECOMMENDATIONS

- Invest in innovative road construction techniques suitable for hilly terrain.
- Explore the potential of aerial ropeways for connecting inaccessible areas.
- Support local initiatives for improving connectivity through community involvement.
- Foster diplomatic initiatives to address geopolitical tensions.
- Foster partnerships with tech companies for localized solutions.
- Develop infrastructure to facilitate tourism in a sustainable manner.
- Promote local tourism initiatives through community involvement.

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THANK YOU !