

Role Of Various Higher Education Discipline Students In Indian Rural Development Through Unnat Bharat Abhiyan Mission – Theoretical Interdisciplinary Approach

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Abstract

The UBA of the Indian government is a flagship programme that links universities with rural centre to enhance development therein. The program actively recruits students as program volunteers to join the effort to address the challenges of rural communities in areas of engineering, medicine, social sciences, agriculture and management. At UBA students use academic knowledge to address various problems in rural context including water, energy, agriculture, education and health. For purposes of sustainable development, the initiative fosters inter professional coordination and aims at creating a mutually beneficial relationship between the universities and the rural populac.

1. Introduction

According to the 2011 Census of India there were 69% population living in the Rural area and only 31% were living in Urban area. However, the most recent estimates suggest that the urban population has been gradually rising. People keep on moving from the rural areas to urban areas through employment opportunities and this has greatly boosted urbanization, therefore it is expected the population will continue rising where estimates show that probably 35-40 percent of the people will be living in the urban centres by 2026. The rural developmental scenario in India is a completely different ball game compared to areas in the metropolitan complex due to problems of social economic, infrastructural and demographic nature. This is a comparative analysis of the following: political and administrative environment, health and nutrition, education, social services, travel and settlement, environmental issues, physical structures and job opportunities. In the specific regard of India the opportunities and challenges are significantly different in rural as well as urban areas. Thus, it is necessary to provide the methodology to regulate the further urbanization and to consider its imperatives in the rural environment. Both aspects should be developed at the same time to ensure sustainable development and the quality of life for all citizens.

The UBA programme of government of India seeks to redefine the process of rural development through the use of appropriate technologies and new concepts. The program began in 2014, with the objective of partnering with academic institutions, especially institutions of higher learning, to engage rural groups.

The major goals of UBA are as follows as the concept of sustainable development is aimed at improving the quality of life in rural communities by encouraging the use of resources in farming, energy and water conservations. Encouraging academic staff and students for partnership with local communities is called community engagement, which focuses on creating volunteer and socially sensitive disposition. Innovation and Technology: Different approaches and options through which science and technology can be applied to fix some of the hurdles farmers and those from rural areas face; example; diseases, school, and water. Fortunately, capacity building means offering different skills to the locals so that they are more able to fend for themselves and look for jobs on the market. The key purpose of the Unnat Bharat Abhiyan is to bridge the gap between the urban and rural population and develop unity for the society as a whole by formulating the implementation of all round development in rural areas.

The effectiveness of the Unnat Bharat Abhiyan (UBA) outreach program in rural development and education participation is discussed in the paper [1,2, 3 & 7]. It explores how the universities could possibly support the rural programs for sustainability development/ The paramount importance of the engineering education to ensure community engagement is underlined. With slight changes to the literature review, methodological part, and discussion of the limitations of the study, this paper can significantly contribute to the current debate of academic institutions in the sustainable development of rural areas. The analysed publications [4, 5, 6, 11] all underscore the importance of smart villages in the development of India as a country. While there remains ample room for methodological and empirical enhancement, they deliver valuable information about successful technological and community solutions. Taken together, these contributions contribute to the debate on sustainable rural development and highlight the continued importance of research and collaboration in this important area. The authors [8, 9] identify the following as the key components that influence project schedule and provide ideas on how to exercise influence, in order to improve schedule performance. The aspects of the quality of life of rural people and its significance for the efficient policies in rural area are described by Mirek Dymitrow [10]. He argues that, while social, economic and even environmental strategies in any rural development plan should be aimed at enhancing the welfare of the population. Technological interventions in rural development is the focus of this article [12] where RuTAG facilitated technological systems developed at IIT Bombay have been assessed. The writers describe the federal policies and projects which have been developed and put into practice trying to solve difficulties with the infrastructure, health care and farming in rural areas. However, the concept of “Village 4.0” – extension of the smart technology of internet of things (IoT) in the rural area is discussed in article [13]. These authors present a way on how to digitalize communities to improve the utilization of resources and agricultural yields and thereby development. Further, [14] looks at smart villages in relation to rural development and achievement of universal electricity access. In this sense, the writers stress the need for integrated approaches as they discuss several strategies and the trends that can enhance the availability of energy. At [15] presents the general information about the Web-GIS interface that is designed for use in procedures of decision-making in the selected villages based on UBA criteria. The interface provides a comprehensive physical, socio-economic and natural resource map of the village through the use of spatial and attribute data. The application lets the village people and local government officials visualise, assess, and organize village resources better by sharing this data on the web.

2. Highlights

In its essence, Unnat Bharat Abhiyan is most dependent on the its prospect of encouraging active collaboration between the rural poor and universities, where the realities of development, sustainable and inclusive, are made manifest, and where there is space to create and enhance general capability. Timeliness and Pertinence: More so, because UBA is focused on current national priorities for education and rural development, it is an issue of great interest for the players in both sectors. The Unnat Bharat Abhiyan's main advantages are: Correction Comprehensive Approach: To some extent the authors do a good job in arguing about different facets of the UBA initiative such as technology transfer community involvement and capacity development.

1. Data-Driven Insights: To support the findings of the authors regarding positive impacts of the program to rural areas, the paper presents quantitative and qualitative measures.
2. Clear Structure: The goals, methods, findings, and conclusions are all presented in there order, which makes the work easy to read. Practical Implications: Various academic institutions interested in being more engaged with social responsibility projects will find much to value from the conversation regarding implication for engineering education.
3. Practical Implications: Institutions interested in other becoming more engaged in social responsibility projects will be insightful in examining the conversation on the idea for engineering education.



Fig. 1 UBA Strength

4. Practical Implications: Any university interested in a more active participation in Social Responsibility projects will be able to draw a variety of lessons from the discussion of the implications for engineering education.

Strategies

The following paper seeks to evaluate how effective the Unnat Bharat Abhiyan (UBA) launched by the Indian government for enhancing the well-being of the people in rural regions by realizing sustainable development. The following are some crucial tactics used under UBA: Community involvement is clearly preferred here where citizens are directly involved in the developmental activities based on the assessment of their wants and possible solutions. Technology Integration where solutions to problems facing rural communities are implemented using the best methods and the latest technology. Some of the sub-topics are: Water use efficiency, Renewable energy, and Crop management. The development skills give the rural young people the capacity to Empower and Employment by offering training skills and skills improvement courses. Collaboration with Educational Institutions so that the educational institutions and the villages can develop a relationship and through colleges and universities, academic researches and implementation of various practices can be done. To ensure the achievement of the Sustainable Livelihoods to support the financial security people have used the SHGs and cooperatives to promote entrepreneurship and alternative income generating activities.

Health and Sanitation: Applying measures for the widening out of enhancer interventions of access to sanitation, hygiene and health in rural communities. Infrastructure development is the system of creating provision by emphasizing on interferences such as roads, electricity supplies water supplies etc. Local Authorities and Awareness Campaigns holding events aimed to let the people know about policies, their rights, or their duties, as well as environmental conservation procedures. Checking and Auditing systems that should be used for assessing the impact of projects and ensure transparency in implementation. With creating the proper set of principles for the rural development, these tactics are to encourage the independence and further growth.

3. For Educational Institute Students Working Plan in Unnat Bharat Abhiyan [16]

This paper therefore aimed at developing working plan for Students from Educational Institutions Implementing Unnat Bharat Abhiyan (UBA) since they may organise their efforts better and expand their reach with such a plan.

This is a detailed plan.

1	Objective Setting Establish defined objectives for engagement: These may include things like bettering agricultural practices, raising awareness of health concerns in rural communities, or improving sanitation.
2	Team Formation - Create Groups: Assign students to groups according to their areas of interest and expertise (e.g., engineering, social sciences, health). - Assign Roles: Assign leaders, data analysts, and community liaisons, among other positions, to each group.
3	Needs Assessment

	- Field Surveys: Arrange and carry out surveys in chosen communities to pinpoint requirements and difficulties. - Community Meetings: To obtain qualitative information and perspectives, arrange talks with village leaders and citizens.
4	Project Selection - Priorities Issues: Order issues to be addressed (e.g., water supply, education, health) based on the needs assessment. - Define initiatives: Decide which initiatives to carry out, making sure they complement the resources and requirements of the community.
5	Planning and Design - Project Proposals: Create thorough proposals with goals, schedules, methods, and anticipated results for a few chosen projects. - Resource Identification: List necessary resources, including money, supplies, and knowledge, as well as possible sources of assistance.
6	Implementation Strategy - Action Plan: Make a detailed action plan with deadlines and project completion points for carrying out the project. - Work Together with Local Stakeholders: Seek assistance and cooperation from the community, NGOs, and local government.
7	Capacity Building - Training Sessions: Arrange seminars to inform residents of the neighbourhood about new technology, sustainable living, and health habits. - Empower Local Leaders: To guarantee project sustainability and community ownership, include and develop local leaders.
8	Execution of Projects - Field Work: Carry out initiatives in conjunction with locals, guaranteeing their involvement and input all along the way. - Tracking Development: Evaluate work in relation to the action plan on a regular basis and make required modifications.
9	Monitoring and Evaluation - Data Collection: Use surveys, interviews, and observation to compile information on project outcomes. - Impact Assessment: Determine lessons learnt by assessing the success of programs and their effects on the community.
10	Documentation and Reporting Preserve Records: Keep a record of every action, including the preparation, execution, and assessment. Reporting: Write reports to distribute results and conclusions to interested parties, such as government agencies, NGOs, and educational institutions.
11	Awareness Campaigns - Community Awareness: Plan activities and campaigns to spread knowledge about sustainable practices, health, and hygiene. - Encourage Government Schemes: Inform localities about the resources and programs that the government offers.
12	Feedback Mechanisms - Get Input: Establish mechanisms to get community members' input on programs and projects. - Iterate Projects: Make improvements to current and upcoming projects based on input.
13	Sustainability Plans - Long-term Planning: Create plans to guarantee that initiatives continue long after students have finished participating. - Building Local Capacity: Educate and equip locals to take on project management and upkeep responsibilities.
14	Reflection and Learning - Group Reflection: Hold frequent gatherings to discuss experiences, difficulties, and accomplishments. - Knowledge Sharing: To promote cooperation and learning, share your observations and experiences with other students and organisations.

4.1 Sample Projects

1. Skill Development Workshops: Tuition for individuals in the following are some areas; Information Technology, Farming, and Artisans.

2. Health and Nutrition Programs: This means that foci predominantly needs to shift to preventative care, child nutrition and maternal health.
3. Water Management Projects: proper use of water resources, making embankments or supplying water at several stages.
4. Community Engagement activities: Celebrations in a culture or practice of social events or rites that are repeated often with the intention of sustaining coherence and celebrating achievements.

By following this planned working plan, students of educational institutions may successfully able to support the Unnat Bharat Abhiyan for the sustainable development and for the empower the rural communities.

Interdisciplinary Students Role of Various Educational Institutes

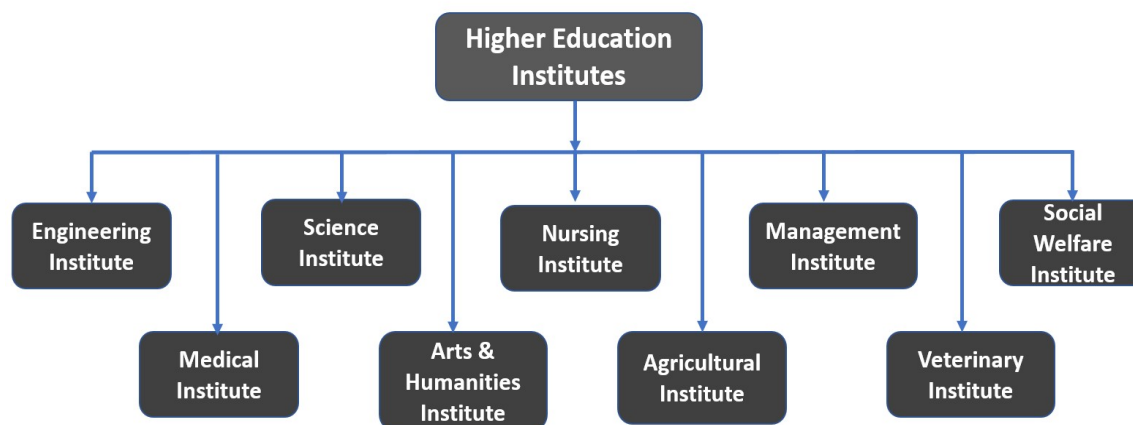


Fig. 2 Role of interdisciplinary Institutes

The knowledge and the skills possessed by engineering students from all disciplines bring a significant value addition to Unnat Bharat Abhiyan (UBA). First, Civil Engineering students has a lot of contributions on Infrastructure Development as in Design and construct roads, bridges, schools and sanitation facilities and in Water Management - in rainwater harvesting systems and efficient irrigation methods under environmental engineering pollution control and Sustainability Initiatives. In the same way Mechanical Engineering students do renewable energy Solutions for design and installing of solar energy systems, wind turbines or biogas plants agricultural Equipment, to develop low cost efficient agricultural tool or machinery for higher productivity. While minoring in Energy Solutions such as: instaling solar power for lighting and water pumping, electrical infrastructure, work challenges on the electrification of countryside to provide steady energy. Computer Science engineering students is vital for Data Analysis, use analysis tools to evaluate the importance of the community and projects, mobile applications, create applications that will inform villagers about the various health, education, government programs available. IT students act digital literacy Programs, educate the villagers with gentle techniques regarding digital tools and sources for improving education and information more easily E-Governance Solutions, create better forums for the people of village and the governmental services. Chemical Engineering students are able to contribute to Water purification process and come up with methods of developing inexpensive techniques for water purification with a view of providing safe drinking water, synthesizing agricultural chemicals in order to develop environmentally friendly fertilizers and pesticides. Robotic and Automation function in automated Solutions, build cheap automation equipment for agriculture, like seed planters or pest control systems, remote tracking, integrate the automated sensors onto the crops to monitor environmental factors like moisture levels in the soil. And yet telecommunication engineering continues to be important player in Connectivity Solutions, Working on the enhancement of the physical telecommunication requirements including mobile and Internet connectivity particularly in rural areas, Dissemination of information, Enhancing people's ability to get at information through better and improved telecommunication networks. Much as students in the faculties of medicine and nursing have a distinct part to play in the UBA they can contribute significantly in the improvement of the health of rural communities. They can play in sensitization to health campaigns, and conduct agnanimic sensitization on hygiene, nutrition, and other aspects to health to inform the villagers on how to improve on their health status without necessarily seeking services from centers or hospitals. Also raise awareness about general diseases and their prevention such as vaccination disease prevention campaigns. Instead of health camps do medical check-ups, get villagers free health camp to enable them Under this head, get villagers, health check-ups or free consultations screening including basic tests. At times required research and data gathering when carrying out health Surveys may be used to address the community's health status, health problems, the efficiency of certain health interventions and other community health programs. Medical students also organise their own training local camps for local Health Workers in order to provide knowledge and skills of basic health care functionaries otherwise known as community health volunteers. At the same time the capacity building through Empowering Women for to enhance the

knowledge of female involvement in health embracing maternal health and child health that is improved health among the mothers and children. They also took with them the programme for promotion of hygiene and Sanitation, Nutrition programs and Mental health program which is Counseling services, Program on disaster Management and emergency preparedness response training. Finally, the approaches of innovative health technologies also reveal and advocate low cost health technologies in the rural area. Thus by getting themselves involved in these activities the medical students can contribute substantially to the enhancement of health parameters and overall being of the rural persons under Unnat Bharat Abhiyan Scheme.

As such, the arts and humanities students can anchor an extremely vibrant and impactful part in the total optimization of Unnat Bharat Abhiyan and empowered progress of the community in general. Here are some keyways they can contribute for community engagement and participation, cultural programs, education and literacy initiatives, Adult Education, children's workshops organize creative workshops for children, incorporating art, music, and storytelling to enhance learning, cultural documentation: Safeguard and document the cultural and oral history practices of a given society and make a foundation for other subsequent uses. They also concentrate social research: assess the quality needs and concerns of communities to feed into development activities, lobbying and sharing to get across to the public using other avenues such as writing blogs, use of social media platforms, newsletters to create awareness of UBA interventions and local issues. A storytelling feature shares and repost success stories of people and projects within a community for the purpose of encouraging engagement. They come may have occasionally involved in public art projects and start public art projects that address the social issues in the society, thereby improving the identity of the community as well as skills development; provides skills development courses such as leadership skills, speech, and conflict solving to empower some of the members of the community. Furthermore, they have stressed civil participation for strengthening community participation in governance process and formation of social networks in areas of education, health and employment.

Students of agricultural institute in Unnat Bharat Abhiyan (UBA) can contribute by providing knowledge which is often a prerequisite to rural development schemes. Unnat Bharat Abhiyan means the highlighting awakening of rural India and it is a programme initiated by the Government of India which focuses on building a link between the higher institutions like agricultural universities and colleges to empower the rural people facing various development related issues. In knowledge transfer of agriculture technology dissemination, soil and water management, problems and action research report in field survey students participated in identifying socio-economic status of the farmers. Also conducts and facilitates training camps for farmers for enhanced awareness on production technology cycle such as Organic farming, composting, seed treatment, farm mechanization, and sustainable farming, Agri based entrepreneurship involving dairy farming, bee keeping, food processing, agri-business, benefits of newer methods like Agroforestry, vermicomposting along with integrated farming systems under skill development programme for sustainable development. Students also can help farmers avail better market links and connect cooperative societies, FPOs, e marketing, etc and help in availing government schemes such as PMFBY, KCC, and subsidies for agri implements.

UBA offers the students of veterinary science the opportunity to contribute to the challenges with animal husbandry, raising livestock, and rural development. Improving the health and productivity of animals will by itself contribute to improving rural standards of living since livestock is a critical part of the countryside. Towards UBA, it will enable veterinary students to take an active role in planning animal, camp health in the rural areas where these can extend services without asking for any charges including de-worming, immunization as well as treatment of some common diseases affecting the livestock. The students can bridge the gap between the present day veterinary science and the pastoralists breeders of domestic animals in rural setting. In matters that pertain to improved feeding practices, selection of stock, embryo transfer and some common diseases affecting livestock, they would be invaluable. Integrated with Livestock Productivity enhancement, the livestock based rural entrepreneur ship include dairy farming, poultry farming, piggeries, goatry and shepherding. It also supports the principles of general nutrition and humane reproduction methods that could be the farmer learns from the veterinary students, animal rights, emergencies, and assistance to animals Assistance in animal husbandry, humane methods of farm animal production, animal production, ideal means of feeding, nutrition and breeding programs.

Unnat Bharat Abhiyan benefits from the expertise provided by students majoring in management studies in several fields including sustainable development, entrepreneurship, financial and strategic planning. When their knowledge is applied to rural settings, they may stimulate innovation, output, and fairness, helping rural folks be more economically independent. They are able to positively touch up on two areas of entrepreneurship, resource managing and approximately influencing future leaders of India's village transformation. They very much appreciate project management and strategic planning of the village development plans, business incubation, and the promotion of rural enterprise including identification of viable business opportunities in small-scale industries, handicraft, agriculture, and the like. They can help; youth and women from the rural areas in establishment of micro-enterprise ventures such as dairy, food production and processing, organic farming and agro-tourism under the node of building leadership and teamwork. Management students can play the role of acquainting rural populations with the basic aspect of finance such as budgeting, saving, credit and the all important financial planning. It may enable the villagers make proper financial decisions and have a better management of resources and at the same time assists in determining proper micro financing as well as banking. They can support market linkages for Rural Producers ie farmers, artisans, small scale business persons under marketing, and brand identification, and packaging. For management students, they can then look at ways of how to organize for marketing of the produce so that the farmers can get better markets and also reduce post harvest losses. They can provide

better means of transporting, storing and organizing most crops from the producers thus contributing to improved profitability of most producers in the rural areas. They also assist help to match up corporations with rural communities for Corporate Social Responsibility. Management For more bargaining power, joint funding and marketing opportunities and acting as markets, rural communities might establish cooperatives with the help of students. They were apparently meant to create cooperatives for farming, handicrafts, or dairy products with their assistance.

The rural development through extra resource contributions by students majoring in social welfare studies depict a transforming impact on UBA through embracing post -2015 Agenda of Inclusive and Sustainable development. Their work fosters community welfare together with health, education, women's dowry, social justice, and poverty eradication. Since the programs aim at the overall development of the rural society, they offer a basic benefit to the most disadvantaged or marginalized groups making the community developed, strong and leveled. The following are some ways that social welfare students might support UBA initiatives: it will enable them to concentrate on the process of fostering participation, with citizens at the heart of the process. As a means to ensure that the villagers remain informed on developmental activities and to ensure that any development process incorporates the vulnerable groups such as women, dalits, tribal people and people of low economic potentials this calls for group discussions, assembly, and participatory decision-making sessions. Through increasing these groups' awareness of their rights and the benefits which can be received they assist in their participation in areas such as government services, health care, schooling and rights and equality campaigns. Students in social welfare can conduct information, education and communication campaigns on diet, immunization, hygiene and maternity and child health. They can assist in educating the illiterate adult population in the rural areas by provision of subsequent evening classes and good programmes on adult education. This empowers adults to learn the basics of reading, writing, and arithmetic, and so we encourage them. It also targets increasing school enrolment and attendance through the crusade on buttetting the value of education especially for girls. It also seeks to address issues of concern such as gender, equality, women empowered and poverty and means of livelihood. In order to ensure accountability and transparency, they might conduct social audits by themselves.

1. Conclusion

The Unnat Bharat Abhiyan (UBA) is an innovative program that integrates students in the process of rural development that come from the faculties of engineering, medical, nurse, management, humanities, agriculture, veterinary, social work and other disciplines. Engg students make a contribution by designing sustainable technologies for infrastructural growth, renewable energy and water. The students specializing in medicine and nursing engage in medical activities such as carrying out medical camp, hygiene promotion, and promotion of health information on health issues that surround health department of the rural areas.

While the arts and humanities students focus on advocating for increased education, the preservation of local cultural identities and created an awareness of pertinent social issues, management students apply what they learn in business to foster commerce and entrepreneurship within the village economy. Veterinary students ensure good health of animals and help farmers to adopt more appropriate ways of managing their livestock Agriculture students work hand in hand with farmers to provide modern and sustainable procedures in farming.

Students pursuing social welfare augment and advance social organizations, advocate for minority and marginalized voices and undertake capacity development agendas. All these interdisciplinary undertakings serve as an addition to enhancing the resource poor regions and arguably offer students priceless experiences of solving problems in real life situations. In establishing a culture of stewardship and participation in community development, UBA establishes a link between rural India and higher learning for the enhancement of sustainable development to ensure that in the near future, rural occupants equally and effectively enjoy education.

2. Future Scope

As Unnat Bharat Abhiyan comes under further enhancement and becomes more of a big picture program, it will definitely have a very bright future ahead of it. Perhaps, the multifaceted model of the approach to rural development should be defined through the integration of students of different faculties, such as engineer, medical, nursing, management, arts and humanities, veterinary medicine, agriculture, and social welfare. Building more smart technologies for climate change mitigation and adaptation, efficient renewable energy plants, and rural infrastructure can also be developed by engineering students. To ensure that patient get proper and easily available access to any health care service located in far or rural areas then medical and nursing students can develop telemedicine systems and health applications related to rural health care needs.

In the arts and humanities students may use artwork to transform the lives of ordinary citizens, protect the customs and traditions, and advocate for children's education. Management students may develop models of rural enterprising, which would be helpful in creating viable micro-businesses. These students can revolutionize livestock care and rural income by applying innovative advances with the conventional veterinary students, research-oriented farming; the agricultural students can create AI instruments and champion green, intelligent farming.

More so, because social welfare students may be able to address social injustices, increase education opportunities, as well as empower women and for the protection of the welfare of children. With this capacity, UBA has the capacity to transform villages and to fashion out a generation of socially relevant and competent professionals who are well poised to lead future rural advancements as well as providing a solid structure for sustainable development as technology and rural interactions evolve further. The style of integration across disciplines would bring about self- sufficiency to rural India and in the process transform it to a stronger and just nation.

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