RESEARCH HIGHLIGHTS

2020-21

राग्रावि पं रासं
NIRDPR

National Institute of Rural Development and Panchayati Raj
Ministry of Rural Development, Government of India
Rajendranagar, Hyderabad - 500 030,India

VISION

The vision of NIRDPR is to focus on the policies and programmes that benefit the rural poor, strive to energise the democratic decentralisation processes, improve the operation and efficiency of rural development personnel, promote transfer of technology through its social laboratories, technology park and create environmental awareness.

As a 'think-tank' for the Ministry of Rural Development, NIRDPR, while acting as a repository of knowledge on rural development, would assist the Ministry in policy formulation and choice of options in rural development to usher in the change.

MISSION

To examine and analyse the factors contributing to the improvement of economic and social well-being of people in rural areas on a sustainable basis with focus on the rural poor and the other disadvantaged groups through research, action research, consultancy and documentation efforts.

To facilitate the rural development efforts with particular emphasis and focus on the rural poor by improving the knowledge, skills and attitudes of rural development officials and non-officials by organising training, workshops and seminars.

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National Institute of Rural Development and Panchayati Raj
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FOREWORD

The National Institute of Rural Development and Panchayati Raj takes up research studies across the country in order to achieve a set of objectives such as that of gaining first-hand insights about the requirements of rural population, process of rural transformation, implementation of flagship programmes of Government of India and assessing the impact of various schemes. These studies contribute significantly to knowledge creation on critical aspects pertaining to rural development, poverty alleviation, livelihood promotion, policy formulation, etc. The research findings provide a better understanding of the ground realities and give a clear picture of the prevailing situation as well.

In order to facilitate wider dissemination of the findings of the studies, NIRDPR is bringing out the annual publication of Research Highlights. With immense pleasure, I am presenting the Research Highlights for the year 2020-2021. These studies are mainly related to Rural Livelihoods, Rural Housing, Rural Sanitation, Food Security, Rural Infrastructure, Social Development, Local governance, Agrarian Issues, Disaster Management, Climate Change, Decentralised Planning and Governance, Flagship programmes, Social Audit, ICT and e-Governance, Geo-informatics, Digital Financial Inclusion, Evaluation/Impact Assessment, Policy Analysis. The findings of these studies will be useful for the policymakers, academicians and rural development functionaries to understand the ground realities.

Hyderabad
September, 2022

Dr.G.Narendra Kumar, IAS
Director General,
NIRDPR, Hyderabad.

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DEVELOPING SUSTAINABLE AND REPLICABLE MODELS ON AGRICULTURE - NUTRITION LINKAGES FOR BETTER NUTRITIONAL OUTCOMES

Dr. Surjit Vikraman
Dr. R. Murugesan

Introduction

India faces great challenges regarding nutritional status of its population, particularly among women and children in rural areas. In some nutritional indicators like the share of underweight children and incidence of stunting, India's status is worse than that of sub-Saharan Africa. Nearly 60 per cent of the rural population of the country is dependent on agriculture and allied sectors for their livelihood. There exists a strong linkage (direct and indirect) between farming systems in rural areas and the nutritional status of the population that depends on it. Hence, identifying the issues around Farming System Nutrition (FSN) linkages, its constraints, and the potential to realise better nutritional outcomes is crucial for achieving nutritional security.

Several scholarly studies have identified the pathways through which farming system nutrition linkages can contribute to nutritional security and have developed a farming system nutrition framework for better nutritional outcomes. However, their analysis falls short of developing a policy framework and identifying a development pathway that integrates the identified farming system nutrition linkages with large-scale social and nutrition security programmes. Such linkages between supply and demand side factors alone can improve the nutritional status. These multisectoral (agricultural production, processing, marketing and distribution) activities need appropriate institutions to channelise the efforts towards improving the nutritional status of the population in the right direction. This study is an attempt to develop a model that integrates the demand and supply side determinants of nutritional outcomes by adopting an inclusive and sustainable nutrition value chain approach. The model will use the potential of FSN linkages, and bring synergy between supply and demand side factors for better nutritional outcomes.

The specific focus of this study is to identify the issues, constraints and challenges in interventions based on farming system nutrition framework to improve the nutritional status of rural population. After identifying the issues and challenges, the study attempts to develop a framework and model that integrates FSN approach with the ongoing programmes to provide nutritional security.

Objectives

1. To identify the issues, constraints and challenges in interventions based on farming system nutrition framework to improve the nutritional status of rural population.
2. To develop a framework and model which integrates FSN approach with the ongoing programmes to provide nutritional security, through consultations with stakeholders along the nutritional value chains.
3. To improve the framework and model developed through feedback from consultations with

stakeholders along the nutritional value chains and suggest its adaptability to specific nutritional challenges across various regions and socio-economic situations.

Methodology

The study is designed to be carried out in three steps. The first step of the study was to review the existing body of knowledge, critically analyse the existing frameworks, and identify the constraints and challenges. After reviewing the existing frameworks and identifying the constraints and challenges, a model development pathway that integrates FSN with nutritional security programmes is proposed. The model tried to integrate the demand and supply side determinants of nutritional outcomes by adopting an inclusive and sustainable nutrition value chain approach. The second step is to map and study the nutritional value chain in five States belonging to five geographic regions of the country. We adopted the value chain analysis methodology to understand the nutritional value chains and its specificities in each State. Along with the value chain analysis, specific attention was given to identifying the linkages of the value chain with the agricultural production systems in the State. This was mapped in the nutritional value chain, and we tried to identify the potential linkages and possibilities of integrating the farming systems with the existing nutritional value chains. Based on the nutritional value chain analysis, a model that integrates the farming system components with the ongoing nutritional components in the value chain is proposed. This model is then presented to the various stakeholders along with value chain in the study States and modified based on their evaluations and suggestions. The model can be further improved through consultations with key stakeholders engaged in making policies and programmes for better nutritional outcomes.

Study Area

States of Chhattisgarh, Gujarat, Odisha, Telangana and Kerala.

Conclusions

Malnutrition among the population, specifically among women and children, is one of the gravest development challenges faced by the country. Several policies and programmes have been designed and implemented by the government at the national and State levels for the last four decades. These programmes, to an extent, have contributed to the improvement in nutritional levels of the population. However, the progress has been slow and varied across regions and geographies within the country. Several studies have been conducted in the Indian context to understand the pathways of nutritional linkages and the factors influencing nutritional outcomes. These studies have come up with the fact that in a country like India, where a significant share of the population is dependent on agriculture for livelihood, nature and characteristics of agriculture – nutrition linkages play a major role in defining and determining nutritional outcomes.

In this context, this study was undertaken with the objective of mapping, understanding and analysing the nutritional value chains existing in diverse regions of the country. Based on the analysis, a sustainable and replicable model was proposed to enhance agriculture-nutrition linkages in consultation with various stakeholders. The study revealed that

a. At the macro level, improving the nutritional status of the population has found a prominent place in the agenda of national programmes and policies of the government, which has been implemented through various programmes at the State level.

b. In all the five States involved in the study, except in the case of Chhattisgarh, to an extent, there is no linkage between agricultural development programmes and nutrition-focused programmes. This is revealed by the fact that the composition of institutional architecture of nutrition programmes in which the activities of the Ministry of Agriculture are in no way linked to any of the nutritional improvement programmes.

c. Although there is a lack of convergence and absence of linkages with the agriculture sector in general, there are encouraging diverse initiatives from States that show the potential of convergence of various types in improving nutritional outcomes.

Based on the value chain analysis, a model was proposed based on experiences on agriculture-nutrition linkages in all these States. This proposed model leverages agriculture-nutrition linkages and will eventually help realise better nutritional outcomes. The proposed model was discussed with various stakeholders in the nutrition value chain and has emerged after a series of consultative processes and reviews. The major features of the proposed model are

a. Emphasis on the convergence of various agencies at the State level and at the grassroots level, which is largely facilitated by PRIs, which are the decentralised institutions of governance

b. Effort has been taken to link agricultural production through suitable institutional arrangements with the activities of programmes for nutritional improvement

c. Focus on empowering women in the community by improving their knowledge levels (specifically nutritional literacy) and livelihoods through creating entrepreneurial capabilities.

The proposed model has tried to address the issue of sustainability and replicability by incorporating the components of agriculture-nutrition linkage at the grassroots level, women empowerment and development of entrepreneurial capabilities among rural women. This needs further refinement to adapt to specific situations while implemented in different geographies and socio-economic landscapes in India.

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IMPLEMENTATION OF INCOME SUPPORT SCHEME AND ITS IMPACT ON INVESTMENT IN AGRICULTURE IN TELANGANA

Dr. Ch. Radhika Rani
Mr. Babu Rao

Context

Farmers Investment Support Scheme (Rythu Bandhu Scheme-RBS) was an agrarian experiment of the State of Telangana taken up during Kharif 2018 as a radical redirection to the agrarian distress the region has been facing for a long time. The State Government began supporting the farmers with Rs. 8,000 per acre initially, which was increased to Rs.10,000 per acre from 2019 onwards for two seasons in a year. The study was taken up during Rabi 2019 in two villages of Telangana to examine the programme's design, its sufficiency to the beneficiaries, the purpose of utilisation of the amount, the implementation process and satisfaction of the farmers.

Methods

The data was collected from both census and sample households survey in two villages. The total number of households in the selected villages was 924, and 114 sample households were selected class-wise, in proportion to their population. The data pertains to four seasons, i.e., Kharif 2018-19 to Rabi 2019-20.

Key Findings

The scheme is crop and land-size neutral. It required the definition of cultivator based on land ownership. The State government has explicitly not included the tenant farmers in the scheme under the premise that the extent of tenancy is very minimal. The study found that in the selected villages, the extent of tenancy has increased from 15.97 per cent of the cultivated area in 2018-19 to 16.66 per cent in 2019-20. Landless tenancy in terms of the area was to the extent of 14.8 per cent of the total land leased-in during 2019-20. The land leasing activity of marginal households was more with 39.98 per cent of the total leased in area compared to the other categories. It was observed among all the respondents (100 per cent) that there was neither a change in terms of the lease nor the amount transferred under RBS was shared by the owners to their tenants. There is a need to explicitly recognise the role of tenancy in agriculture and the increasing needs of marginal farmers and landless households to augment their production base with land leasing operations.

An estimate was made to assess the extent of transfer of amount to the category of landowners who are non-cultivators. The proxy used for estimating the same was the distance of the bank branch from the village, in which the RBS amount was credited to the beneficiary. The total amount transferred in non-local branches accounts for around 13 per cent of the total amount in the selected villages, which is a pointer on the inclusion of non-cultivators under RBS. Care must be taken to redesign the programme by placing

conditions for the transfer of amount in the form of 'cultivators only' to eliminate both inclusion and exclusion errors mentioned above.

The coverage of the scheme to the beneficiaries, which was 86 per cent during the period of launching the scheme, i.e., Kharif 2018, was reduced to 61 per cent by Rabi, 2019. Only 67 per cent of them reported that they were satisfied with the implementation of the programme owing to the non-receipt of benefits by a few of them. However, all the sample respondents have opined that the State government should continue with the implementation of RBS.

Sufficiency of the amount to the beneficiary was estimated based on the extent to which the RBS amount meets the cost of production of crops. Empirical findings reveal that the sufficiency varies from crop to crop, ranging from 3.9 per cent to 39.9 per cent. The benefit per acre was similar as of now, irrespective of crop, acreage of the beneficiary and the season. Extending differential benefits inversely proportional to the land size may have a differential impact, especially for marginal and small farmers.

Significant (20 per cent) utilisation of amount to non-agriculture purposes by the beneficiaries defeats the objective with which the programme was launched, i.e., to increase investment in agriculture. The amount released during the previous three seasons of Rabi did not coincide with key agriculture operations. Timely release of the amount coinciding with agriculture operations may only result in utilising the amount for agriculture operations.

Majority of the respondents ranked price support as their first expectation from the State, and they kept RBS in the fourth category among the eight expectations.

Farmers in Telangana are satisfied with the implementation of RBS. However, findings from the selected villages revealed that a significant amount, i.e., 20 per cent, is being utilised for non-agriculture purposes, 13 per cent of non-cultivators benefitted from the programme and 16 per cent of the land for which the amount was transferred under RBS was leased in by tenant farmers in the selected villages. The above facts indicate a redesigning of the programme without inclusion and exclusion errors.

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ROLE OF DISTRICT DEVELOPMENT COORDINATION AND MONITORING COMMITTEE (DISHA) IN IMPLEMENTATION OF RURAL DEVELOPMENT PROGRAMMES – A CASE STUDY OF AWARD-WINNING STATES

Dr. R. Aruna Jayamani

Introduction

Since the priorities and the objectives assigned to Monitoring & Evaluation (M&E) systems are moving towards ensuring greater accountability and promoting more effective and efficient policymaking, new concepts and approaches have been introduced by various institutions, particularly the Government of India and international development agencies. In general, M&E is designed to monitor the impact of a policy or the progress of programme activities against the overall goals, objectives and targets. It also assesses the outcome relevance of an activity, the impact of a programme or effectiveness of a policy, as well as its efficiency and sustainability. In this direction, to make transparent and non-corruptive administration, India enabled the State governments to initiate the open administrative process to ensure better service delivery at the grassroots level, ultimately to achieve digital empowerment.

Today, the Digital India platform facilitates and improves the day-to-day functioning of panchayats through a two-way flow of information. Moreover, information on the implementation of programmes at various levels gets recorded and shared through websites or electronic medium created for many programmes. These digital initiatives enhance transparency, restricting the implementers from changing decisions according to their needs. In the series of successes of the Digital India movement, in 2016, the government has evolved a comprehensive multi-level and multi-tool system for monitoring the implementation of various rural development schemes across the country. In order to ensure that the programme benefits reach the rural poor in full measure, the government has evolved a comprehensive multi-level and multi-tool system of monitoring and evaluating rural development programmes in different parts of the country. These include review by the union ministers, performance review committee meetings, State vigilance and monitoring committees, District Development Coordination and Monitoring Committee named 'DISHA'.

DISHA is an important step towards Participatory Governance with the Mantra of 'Minimum Government, Maximum Governance' and to attain the global agenda for 2030, including SDGs based on inclusiveness and universality- 'Leave No One Behind'. The main objective of DISHA is to ensure the quality of expenditure - optimisation of public funds, monitor programme implementation, promote synergy and convergence between different layers of governance and review intra-State disparities for greater time-bound impact.

The present study was undertaken to understand the status and process of functioning of DISHA monitoring system and how it enables the implementing agencies to deliver the services to the intended beneficiaries.

Objectives

- To verify the functioning status of the DISHA Committees in the study area
- To study the assigned and actual Roles and responsibilities of DISHA Committees in the selected States
- To understand the initiatives taken by the DISHA in the time-bound implementation of RD schemes and mid-course corrections.

Methodology

The study methodology consists of desk-review, performance review, observation, verification of records and personal interaction with the committee members, including elected members and nodal officer of the line department representatives. Therefore, the study covered 50 per cent of members of the DISHA committee for personal interaction.

Study Area

By recognising the efforts and initiatives of the State governments on timely forming and conducting of the periodical meetings for monitoring and tracking of the RD schemes, the Ministry of Rural Development awarded a few States, namely Chhattisgarh, Jharkhand, Kerala, Mizoram and Uttarakhand. Therefore, this study was conducted in five States.

Major Findings

Uniqueness of the DISHA Meetings

The significant distinction between DISHA monitoring and other systems of review or monitoring is the direct involvement of elected representatives of various institutions right from bottom to top viz, Gram Panchayat Sarpanches, Chairman of Block Panchayats, Zilla Panchayat, Urban local bodies, MLAs and MPs. The representative Minister is also a part of the monitoring team, adding more responsibility and preparedness to the implementing departments. Periodical review by the high-level team to enable the committee members to understand the district development process while creating ample opportunities to make convergence planning for holistic development.

The setting of agenda for the meeting also is unique, i.e., it is realistic, has a measurable indicator basis and with follow-up action. Agendas are of four categories, namely reactive agenda, complaints-based agenda, proactive agenda and predictive agenda. The reactive agenda covers looking for answers and explanations for the questions or objections raised in the previous meeting by the committee members. It also focuses on the status of actions taken on the suggestions given in the earlier meetings. The complaints-based agenda looks into the issues raised in meetings, presumptive/ad-hoc items and the status of fund utilisation within the stipulated time. It seeks answers for the complaints raised by any member, media, or beneficiaries; the department concerned has to provide answers and justifications for the complaints. The proactive agenda is an alert-based agenda which helps the programme implementing department to set preparedness to get answers to expected questions. The predictive agenda focuses on

preparing Data-Driven Development Plans, analysis and preparation of development score card for District/Block/GP. It will enable the stakeholders of development to understand the level of development in their district and create a competitive spirit to achieve furthermore to become the forerunner of development.

Outcome of the DISHA

No data lag: The DISHA data portal's main purpose is to provide users free access to real-time data for real-time checks. It offers various data with possibilities of different dimensional analyses and views, enabling the implementers and monitors to use the data effectively to arrive at appropriate decisions.

No operational delays: Intensive monitoring and timely corrective actions are possible due to conducting periodical reviews and suggestions. The implementers are alert to carry out project implementation. Every department can get adequate opportunities to express their problems and hindrances in achieving targets due to the non-cooperation of other stakeholders and get redressed in the review meetings.

Policy Reform Tool: A major advantage of this review committee is the involvement of Chairman, MLAs and MPs, based on the field realities and with an authentic source of data to encourage the members to express in the State Assembly and Parliament to make appropriate changes or amendments in the schemes and programmes aimed for poverty reduction and sustainable development. This mechanism can be a vital and data-driven input to suggest policy changes in Parliament/State Legislatures.

Composition of the Committee

In all five study States, most members were represented by different departments implementing centrally sponsored development and welfare schemes. The elected representatives consist of Lok Sabha and Rajya Sabha MPs and also members of State legislatures. The senior most Member of Parliament representing the district Parliamentary constituency serves as Chairman of the Committee, and the next senior Member of Parliament (Lok Sabha) or Rajya Sabha serves as Co-Chairman of the committee. As usual, either district collector/ magistrate or his nominee, like the CEO/ADM, serves as Member Secretary. In addition, the MoRD of the union government has nominated four members who are excelling in different fields of experience and hailing from the district. Those members' backgrounds include social development and academic eminency, civil society organisation, senior citizen, and other areas of expertise.

Purpose of DISHA Committee

DISHA is an important phase of development in digital monitoring. It plays a vital role in the consolidated monitoring of development schemes, especially centrally sponsored schemes, by enabling the implementing agency to report the progress and update the action taken by feeding reliable data. It helps reviewing and monitoring committee to track events and activities under various programmes for better performance aiming towards the overall development of the district. DISHA makes periodical reviews and monitoring of the said 41 schemes every quarter of the year and takes necessary corrective actions.

Strategies Adopted by DISHA Committee to Review the RD Programmes

For the effective functioning of DISHA, the district administration makes adequate arrangements like sending notifications to all its members in advance. They also send minutes of the previous meeting for better preparation for discussion in the forthcoming meeting.

The programme details include nature, purpose, expected beneficiaries, type of benefits and quantum of expenditure during the review period. It helps the members find out the programme implementation process and deviation, if any, and they make notes to be raised in the meeting. Each scheme implementing agency presents their action taken based on previous minutes and current period progress. During the presentation, the members make comments and raise objections with the concurrence of the Chairman of DISHA. The Department Head or representative has been responsible for giving explanation or justification during the presentation process or seeking time to provide sufficient facts.

The research team has participated in several DISHA review meetings and interacted actively with officials as well as elected representatives on the efficiency of members in contributing to improving the performance of the programme implementation. In almost all the study States, most members had a positive opinion. DISHA has been making an immense influence on alerting official mechanisms to make them responsible and show time-bound results with tangible improvements. Further, the research team felt that even though the political ruling rides on the horse's reins, the benefits yielded positively, which ultimately plays a vital role in developing the district. Only the political representatives and official mechanism participate in the discussion process, and experts from different fields are kept aside from the discussion and decision-making process.

Specific Approach of the Committee

The major role of DISHA is monitoring the implementation process of Rural Development programmes through periodical review at the district and State levels. The approach suggested by the MoRD, GoI is to verify the implementation process through document verification, physical observation, and if necessary, making queries through the formation of subject expert committees. The committee suggests appropriate measures to improve the performance of the official mechanism to get better results in delivering services to the people. It is also envisaged to conduct fact-finding initiatives, suggest punishments to the erring officials, and make compensatory services to the people. This approach has been followed almost in all the study sample States.

Monitoring Framework Pertaining to DISHA

DISHA follows the Output-Outcome Framework, an existing framework adopted by the Government of India and various other State governments, to build greater transparency about their financial outlays, targets and development outcomes under various development and welfare schemes. The verification of the 'Output' through listed 'Indicators' with 'Targets' fixed; the expected 'Outcome' is also measured with a set of 'Indicators' by 'Targets' fixed for the period. It was verified by the research team in all sample districts on the framework of monitoring set by the union government. For example, monitoring MGNREGA activities in the district, the output stands for the number of man-days of employment to be generated and actually generated; the indicators used for verification is 'Number of days' enrolled in the

muster roll are verified with random check with the job cards selected from few regions, and it is related to the verification of target realisation.

Similarly, outcome monitoring has been done by verifying the 'number of assets' created and the completion status of targets fixed for the particular period. The Output-Outcome Monitoring Framework is a result of cooperation, teamwork and collaboration of a wide range of stakeholders across ministries and departments.

Capacity Required

The DISHA guideline is silent on capacity building for its members, which again hurdles the review and monitoring process of the committee. It is understood that the people's representatives are aware of all the development programmes implemented by the Government of India. But monitoring and vigilance checks on 41 schemes require more capacities. They need specific skills in monitoring and data inputs on the development schemes to be reviewed. Moreover, the political representatives may not find adequate time for reading, updating and making points for discussion.

Achievements of DISHA and Change Attained

In the State of Chhattisgarh, DISHA committees were constituted in all 27 districts. As per available data on the number of DISHA meetings conducted from 2016 to 2019 and the number of districts covered in the State, it was found that in 27 districts, 70 meetings were conducted in the year 2016-17. It was 73 during the year 2017-18 and 41 meetings in the year 2018-19. The district administration ensured better coordination among all elected representatives, i.e., MPs, MLAs, and local bodies like panchayat and municipalities. All the meetings predominantly covered flagship programmes of Rural Development, and the proceedings of the meeting are uploaded on the DISHA portal.

In Jharkhand, DISHA committees were constituted in all 24 districts. In 2016-17, 44 meetings were organised in four quarters and published 31 proceedings in the web portal. Subsequently, 50 meetings were organised in 2017-18 and in 2018-19, only 30 meetings were organised. As the majority of members mentioned, the DISHA performs well in majority of the districts in the State. It enabled various departments at the district level to work with better coordination and elected representatives to play a vital role through DISHA. The committee closely reviewed the flow of funds, including the funds allocated, funds released by both Centre and the State, utilisation and unspent balances under each scheme.

In the State of Kerala, DISHA committees were constituted in all 14 districts. During the initial years of its formation, the meetings were not conducted in all the districts, and the frequency of such meetings was less than the numbers prescribed in the guidelines. However, the available data reflects that the number of districts covered and the number of quarterly meetings across the State has increased since 2016-17. It also promotes synergy and convergence for a more significant impact on implementing rural development programmes.

In Mizoram, the committees were constituted in all eight districts to monitor the implementation of the development programmes in the respective district. In this State, DISHA concentrates only on rural development schemes. However, on the effectiveness of DISHA committee meetings in the State, it is important to note how frequently these meetings were conducted during the last three years. The total

number of meetings conducted in 2016-17 was 15; it was 23 in 2017-18 and 14 during 2018-19. The State used this forum as an effective grievance redressal mechanism, and convergence issues were discussed in detail and addressed appropriately.

In the State of Uttarakhand, DISHA reviews the progress of over 41 centrally sponsored schemes at the district level, formulates action plans to address existing challenges and regularly visits the facilities to see how these programmes are being implemented. DISHA committees were constituted in all 13 districts.

In general, in all the sample States, DISHA meetings were conducted in less numbers against as mandated. The reasons, as revealed by the respondents, are lack of interest of the elected representatives to conduct review of the implementation of development schemes at the district level due to lack of power to penalise. Moreover, the district administration is not prepared to fulfil the standard documentation required for the review; hence, members are not interested in convening the meetings.

Impact of DISHA on implementation of Rural Development Programmes

- There were many cases of initiating disciplinary actions on the officials involved in activities of misappropriation and deviation in beneficiary selection. In the majority of cases from many sample States, DISHA members expressed that official domination and political interference had been reduced drastically, which helped improve the efficacy of programme delivery.
- Officials can easily compare the data of one quarter with the previous quarters, enabling them to understand and locate gaps or grey areas in fund flow and the extent of fund utilisation in schemes. The district now has a greater capacity for evaluating the impact of schemes as well as informing the planning and budgeting needs for the future.
- Direct action by MPs and regular checks on the quality of services delivered can significantly contribute to the better implementation of rural development programmes
- MPs regularly attend the DISHA meetings and utilise the platform to improve the implementation of programmes focused on the well-being of their constituency, especially the vulnerable.
- As elected representatives have a tremendous responsibility to ensure quality public service delivery to their constituents, DISHA meetings have served as an excellent platform for increasing accountability and transparency.
- To review the progress of over 41 centrally sponsored schemes at the district level, formulate action plans to address existing challenges and regularly visit the facilities to see how these programmes are being implemented on the ground. Performing these tasks regularly not only keeps them updated about the State of affairs in their constituency but also increases the accountability to the people
- Having chaired all DISHA meetings, MPs know how these meetings expedite the process of identifying and addressing developmental bottlenecks and undertaking corrective mechanisms
- MPs chairing the DISHA meeting can regularly seek information from district officials and programme implementers about the performance of each programme, improvement in key indicators and institutional delivery rates.

Study-based Recommendations

- District officials with limited understanding of the budgeting processes of different government departments will need training to collect and capture data in this portal format.
- The information collated for reporting scheme performance in the form of monthly and quarterly progress reports should be made available in the public domain. This will enable the public to have meaningful discussions with their local representatives, and the elected representatives will be more prepared to participate in these meetings. Else, these meetings will end up as political gatherings, and the exact purpose of DISHA will be defeated.
- Along with the notification and agenda for the upcoming DISHA committee meetings, physical and financial performance progress reports of schemes should be made available in the DISHA portal. The Ministry of Rural Development, Government of India should instruct the district administration to upload these regularly.
- Standardised formats should be developed for those schemes which are implemented pan India for bringing data consistency and providing comparable analytics to feed into policy action
- Developing standard formats for collating relevant physical and financial performance data across schemes would help synthesise data and evidence, which can be used for policy actions at State and national levels. Hence, respective administrative ministries/ departments at the Union level should prepare these formats and send them across to the district implementing authorities for collating relevant information
- Availability and accessibility of relevant information can improve the effectiveness of public engagement, which in turn can enhance budget transparency. Hence, priority should be given to using advanced technology to collate and make relevant information available in the public domain.
- In order to make this relevant data available to the policymakers in real-time and to strengthen the effective monitoring of programmes, DISHA meetings should be the starting point at districts.
- Further, while making the collated information available in the public domain, opinions can be sought from the public for further improvement.
- In order to deepen the quality of discussions in the DISHA meetings, online platforms should be created whereby the public can share their feedback. District authorities should create a web-enabled platform to get public feedback.
- Regular training and orientation programmes should be convened by the Ministry of Rural Development, Government of India, for the newly elected members of Parliament to play an effective role.
- Shortage of infrastructure, technical staff and programme staff at the district and sub-district levels should be addressed regularly to strengthen institutions of accountability at those levels.
- Evidence supported through data for decision-making would always result in better outcomes. Relevant and reliable data can help improve the system of governance.
- A sound governance system demands effective participation in the policy discourse. To make the DISHA framework work effectively, a robust architecture at the level of districts should be created in close collaboration with local knowledge and technology partners.

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AN ASSESSMENT OF SERVICE DELIVERY GOVERNANCE ISSUES AND CHALLENGES IN THE IMPLEMENTATION OF PRADHAN MANTRI AWAS YOJANA – GRAMIN (PMAY-G)

Dr. K. Prabhakar
Dr. Jyothis Sathyapalan
Mr. Rajeshwar
Ms. Suraksha Rai

Introduction

Public housing programmes in the country started with the rehabilitation of refugees immediately after independence. Since then, it has been a major focus area of the Government as an instrument of poverty alleviation. As an independent programme, the rural housing programmes started with Indira Awaas Yojana (IAY) in January 1996. Although IAY addressed the housing needs in rural areas, certain gaps were identified during the concurrent evaluations and the performance Audit by the Comptroller and Auditor General (CAG) of India in 2014. To address these gaps, the IAY has been re-structured into Pradhan Mantri Awas Yojana –Gramin (PMAY-G) w.e.f. 1st April, 2016. PMAY-G aims at providing a pucca house, with basic amenities, to all houseless and other households living in kutcha and dilapidated houses, by 2022.

Objectives of PMAY-G

- PMAY-G aims at providing a pucca house, with basic amenities, to all houseless householders and households living in kutcha and dilapidated houses, in rural areas by 2022
- By 2021-22, a target of 2.95 crore houses is set; between 2016- 19, one crore houses are to be completed
- Construction of quality houses by beneficiaries with local materials, design and trained masons
- Adoption of a habitat approach by convergence with other government schemes and programmes.

The Gaps

The main objective of PMAY-G is 'Housing for All'; the targeted number of houses to be constructed by 2021-22 is 2.95 crores. But if we see the rate of completion of PMAY-G houses for the last three years (2016-2019) as on 17.6.2019,

- Total sanctioned houses against to target are 96, 21, 698 (32.6 per cent)
- Total completed houses against to target are 40, 29,891 (13.7 per cent)
- Total completed against to sanctioned is 41.9 per cent
- Completed houses vary from 86 per cent to 3 per cent in different States in the country,

- The rate of incomplete houses is almost more than half (58.0 per cent) of sanctioned
- Importantly, another 86.3 per cent of targeted houses are still pending to be completed by 2021-22

It indicates that the PMAY-G programme had many functional and fund-related issues/gaps, making the success rate of its implementation across the country low.

Study Objectives

- Upon completion of three years after the implementation of the programme, this study is an attempt to track functional & expenditure gaps in the implementation of PMAY-G with the following objectives:
- To understand and track funds allocated and spent for implementation of PMAY-G (scheme)
- To enquire about the chain of functions performed at various levels in the course of implementation of PMAY-G and its distribution to beneficiaries as per government orders, circulars or other such documents issued by the highest level in the department
- Identifying stumbling blocks/obstacles in the current process
- Recommending steps to further strengthen the procedures towards targeted objective-oriented approaches and for improving the efficiency of back-end processes and field reporting.

Methodology

The study involved collecting and perusing relevant documents such as government orders/circulars/ guidelines from the PMAY-G implementing agency to identify various points of funds and function flow, interviews with officials responsible at each point, and observation of documents and recording of information, analysis and reporting.

To understand the supply-side constraints in the implementation of any flagship programme of the governments, one should track the flow of funds associated with the activities of the service or programme, i.e., the Selective Expenditure Tracking of funds (SET). How much funds were allocated? What proportion of the allocated funds was disbursed? Of the funds disbursed, how much was utilised? How was the fund spent? What were the outcomes achieved, etc.

The second track is to trace the chain of functions to be performed during service delivery or programme implementation – the Function Marker Analysis or FMA. This will involve:

- Levels of organisation involved in policy and implementation
- Specific functions to be performed at these levels
- Policy-makers/officials responsible for each function
- Time lines prescribed for completing each function
- Other norms/standards to be complied with by the officials.

The current study adopts both these approaches, i.e., Functional Marker Analysis (FMA) and Selective Expenditure Tracking (SET), to understand the causes underlying the differential performance at all involved levels of the supply side (the zones/districts/taluk and GP) with regard to PMAY-G monetary benefits. SET was used to ascertain whether the financial benefits (monetary) flow to the beneficiary varied from district to district. FMA was used to identify delay points or blockages.

The two new approaches are:

Functional Marker Analysis (FMA) - Tracing the chain of functions that are to be performed in the course of service delivery or programme implementation

Selective Expenditure Tracking (SET) - Tracking the flow of funds associated with the activities of the service or programme.

The survey/tracking/investigation started with beneficiaries (tracer interviews) collecting information from them on the extent of deliverables received from the implementing agency/authority as per guidelines, norms and timeliness. Based on this information received from the beneficiaries, a cross-verification (Functional Marker Analysis & selective Expenditure Tracking) was done at all levels of officials in the implementing agency/authority.

Questionnaire Design

Three survey instruments (questionnaires) were developed for interviews with officials implementing PMAY-G and with the beneficiaries.

- Beneficiary questionnaire for cross-checking/verifying deliverables by implementing authority/ agency, identifying leakages, delays, etc.
- Questionnaire to track fund flows from the State level or from implementing agency to the beneficiary with different sections focusing on different levels of fund flow.
- Questionnaire to track functions involved from the State level to the beneficiary level with different sections focusing on different levels of functions involved.

The analysis is carried out at the State level in the study. Statistical and Qualitative techniques, an Order Probit (logit model) method, were tested for further analysis.

Study Area

Six States/UTs, namely Karnataka, Maharashtra, Mizoram, Sikkim, Haryana and Dadra Nagar Haveli, were selected for the study based on the percentage of completion of the PMAY-G houses during 2016-19 against sanctioned houses (as on 17.6.2019). A total of 2430 PMAY-G beneficiaries and 199 PMAY-G officials were interviewed through ODK Collect from all six States. From each selected State, two districts were selected, and from each selected State, 400 PMAY-G beneficiaries and 50 officials were interviewed.

Major Findings

Status of the PMAY-G Constructions

Status	2016-17	2017-18	2018-19	Total (2016-19)
Completed	73.3%	56.1%	20.9%	64.1%
Ongoing	23.4%	22.9%	35.0%	24.1%
Stopped/pending	3.3%	20.9%	44.1%	11.8%

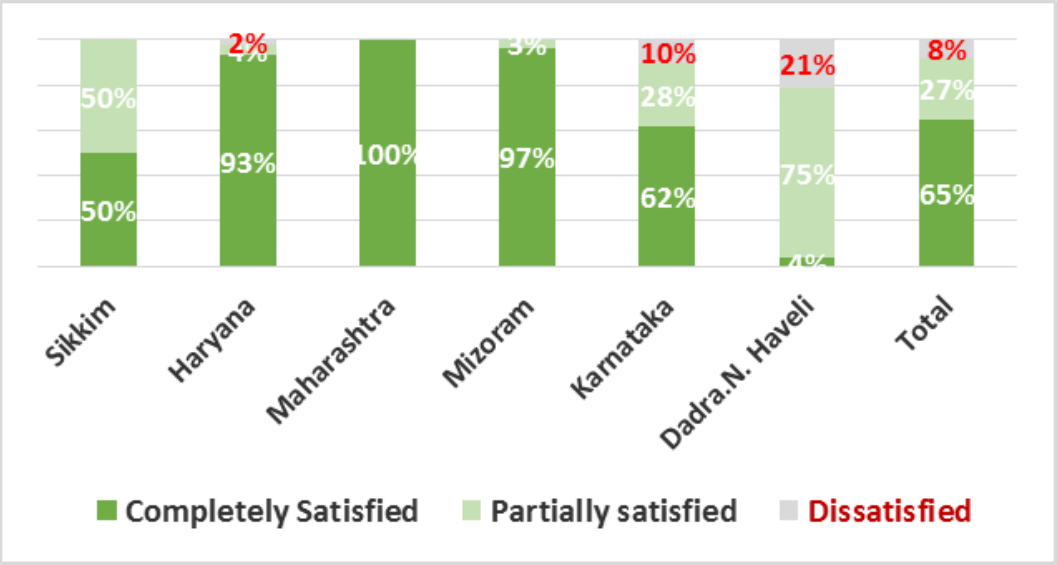
Functional Marker Analysis (FMA) –Interviews with Beneficiaries

S. No	Guidelines - FMA	Sikkim	Haryana	Maharashtra	Mizoram	Karnataka	Dadra. N.Haveli
1	Provide financial assistance of Rs.- 120,000 and 130,000 for construction of the house	130000 (87%)	138000 (87%)	120000 (100%)	130000 (100%)	120000 (100%)	240000 (100%)
2	Provide support services like facilitating loans from banks	0%	24%	52%	17%	6%	5%
3	Allocation of land to landless once the PWL is finalised	5%	96%	NA	NA	55%	12%
4	Provide assistance for toilet construction through convergence with other government schemes	75%	41%	48%	10%	50%	39%
5	House construction to be completed within 12 months from the date of sanction	64%	83%	71%	75%	60%	33%

Selective Expenditure Tracking (SET) – Interviews with Beneficiaries

S. No	Guidelines - SET	Sikkim	Haryana	Maharashtra	Mizoram	Karnataka	Dadra. N.Haveli
1	Entitled amount (MoRD+ State share) ₹	1,50,000 (1,08,000+ 42,000)	1,58,000 (72,000+ 86,000)	1,20,000 (72,000+ 48,000)	1,30,000 (1,08,000+ 22,000 =	1,20,000 (72,000+ 48,000)	2,40,000 (1,20,000+1 ,20,000)
2	Financial assistance for construction of house	130000 (87% of the entitled amount)	138000 (87% of the entitled amount	120000 (100% entitled amount)	130000 (100% entitled amount)	120000 (100% entitled amount)	240000 (100% entitled amount)
3	Actual average expenditure incurred	1,73,050/-	1,22,912/-	2,28,254/-	1,61,508/-	2,16,460/-	2,51,363/-
4	% of expenditure against PMAY-G funding support	115.4	77.8	190.2	124.2	180.4	104.7

Overall Beneficiary Satisfaction with PMAY-G



Suggestions for Improvement

- Increase the unit cost – as suggested by 34 per cent of respondents
- Timely payment of instalments - as suggested by 20 per cent of respondents
- Ensuring transparency in the selection of beneficiaries - as suggested by 16 per cent of respondents

Key Findings: Feedback from Officials

S. No.		Sikkim	Haryana	Maharashtra	Mizoram	Karnataka	Dadra & N. Haveli
	Functional Marker Analysis (FMA) – State-level Officials						
1	Targets: MoRD vs State	Varies	Varies	Same	Same	Same	Varies
2	Sanctioned vs completed	Avg. 97% completed	Avg. 74% completed	Avg. 79% completed	Avg. 34% completed	Avg. 59% completed	Avg. 20% completed
	Functional Marker Analysis (FMA) - District-level Officials						
3	Allocation of land to landless	√	√	√	√	√	√
4	Provide assistance for toilet construction - Convergence	√	75%	√	40%	40%	0%
	Functional Marker analysis (FMA) – GP-level Officials						
5	Allocation of land to landless	√	√	√	√	√	√
6	Provide assistance for toilet construction - Convergence	0%	85%	88%	0%	64%	0%

Selective Expenditure Tracking (SET) – State-level Officials

S. No.	Guidelines SET	Sikkim	Haryana	Maharashtra	Mizoram	Karnataka	Dadra & N. Haveli
1	Provide financial assistance of Rs.120,000 and Rs. 130,000 for construction of PMAY-G houses	1,50,000	1,58,000	1,20,000	1,30,000	1,20,000	2,40,000
2	**Data on funds allocated by the Central Government share** (6O, 90 and 100 for UTs) during 2016-2019 – for all six States data on fund requested and received is Partially available						
3	**Data on State Government share (40 and 10 ratio) during 2016-2019** - for all six States, data on State funds allocated and received is mostly not available						

Additional contribution by the State per unit: Apart from the central share (60/90/100), except Maharashtra and Mizoram (paying exactly Rs.1,20,000/- & 1,30,000), the other four States/UT, namely Sikkim, Haryana, and DNH are adding their State share (40/10) to the PMAY-G plus some additional amount added by the States (Sikkim Rs.20,00/-, Haryana Rs. 38,000/- DNH 1,20,000/-). Karnataka State is making an additional payment of Rs. 30,000 to every unit allotted to SC/ST beneficiaries.

Conclusion and Policy Implications:

Function Marker Analysis (FMA)

- Sanction orders, entitlement cards and commencement of construction work: On average, it has taken 122 days to issue sanction orders, and actual construction work has begun after two months of receiving the sanction order.
- Support services: Support service outlined under the programme are not being extended effectively, as reported by beneficiaries. Facilitation for subsidised bank loans is neither being provided effectively according to the beneficiaries.
- Poor convergence with other government programmes: Most staff at the State level report convergence with more programmes, while the numbers start decreasing as we come down to district, block and GP levels.

Selective Expenditure Tracking (SET)

- Cost sharing between the Centre and State governments: Though cost sharing is happening according to the PMAY-G guidelines, the data availability on specific parameters such as amount released, date of disbursement, date of receipt, etc., was not exhibited, which also coincides with the data on State share.
- Target setting and fulfilment: During the three years (2016- 2019), the number of houses completed has reduced significantly (73 per cent in 2016-17 to 21 per cent in 2018-19).
- Completion within the timeframe: Around 60 per cent of houses that have been completed took one year for construction, which is the stipulated time frame in the guideline. Several reasons for the delay or stop in construction have been reported, including untimely release of funds and increased construction costs.

Policy Implications

- ***Beneficiary Selection:*** From findings, it is reported that PMAY-G houses are pending due to the non-availability of land. PMAY-G beneficiary selection must be done after proper allocation/ identification of land to start construction.
- ***Make available fund flow data:*** Though cost sharing is happening according to the PMAY-G guidelines, the data availability on specific parameters such as instalment-wise amount released, date of fund received and disbursement, etc., on central share was partially available while the

State share data was not revealed. Upon getting access to data concerning the exact fund disbursement on the released amount and date, fund flow delays can be identified specifically where the problem is happening. Accordingly, corrective measures can be taken to make the core objective of timely completion of targeted PMAY-G houses.

- ***Increasing the team strength at all levels:*** Investing in increasing the staff strength at all levels can help cut the turnaround time on several steps involved in the implementation and target achievement of the scheme
- ***Training and capacity development:*** Focus especially on training the staff at the ground level (village and GP levels) is critical for the overall success of the programme
- ***Infrastructure upgrade:*** Since the entire scheme has been designed as an e-governance initiative, it is imperative to strengthen the infrastructure and train officials to use it effectively.

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FACILITATION MECHANISM ADOPTED FOR THE CONSTRUCTION OF INDIVIDUAL HOUSEHOLD LATRINES (IHHLs) WITH SPECIAL REFERENCE TO FINANCING - A STUDY ON SBM (G) IN FOUR STATES

Dr. R. Ramesh
Mr. Santanu Bowmick

Introduction

The Swachh Bharat Mission (SBM-G) is a Centrally-sponsored scheme where the State's share of funds is also significant. Probably, keeping this in view, the SBM-G guidelines allow generous flexibility for the State governments to follow any 'technical type-design' and any 'financing mechanism' the State deems appropriate and prudent. The only reiteration is that the State Annual (Sanitation Coverage) plan should follow a saturation approach in such a way that by 2nd October, 2019, every rural household in India should own and use sanitary latrine and rural India must be announced as Open Defecation Free (ODF).

Various State governments follow different financing mechanisms. The financing mechanism can be facilitative or restraining depending on how simple or clumsy it is. This study aims at studying the financing mechanism followed by various State governments- and how simple or cumbersome they are during implementation, and to what extent a facilitative financing mechanism helps speed up progress while a clumsy one slows up the process. This will help draw lessons for 'slow runner States' to take a relook at their financing mechanism and revise it based on what enables the 'leader States to tick.'

The SBM-G guidelines allow generous flexibility for the State governments to follow any facilitation mechanism, including finance "the State deems appropriate and prudent with the expectation to achieve the goal of ODF villages. The main question of the research is to achieve the goal of SBM–G; what kind of facilitation mechanisms do we need to adopt? The researcher also wants to explore the best facilitation mechanisms, including financing of sanitation. But till date, we do not know the varieties of facilitation mechanisms that various States and districts follow. So, documentation of those mechanisms is very much important. It can add to the existing knowledge.

Respective State governments, districts, blocks and Panchayat administrations also have a major responsibility to create an enabling environment by which the facilitation can be ensured for the construction and usage of toilets in each household of rural India. So, keeping in view these above instances, the proposed study sets to answer the following questions:

1. What are the facilitation mechanisms with special emphasis on finance followed by various State governments- and how simple or cumbersome are they during implementation?
2. How the State concerned has adopted pro-poor mechanism to achieve the vision of SBM-G?

Objectives

1. To analyse the overall facilitation mechanism followed by various State governments to facilitate the construction of Individual Latrines under the Swachh Bharat Mission (G)
2. To ascertain how pro-poor the financing mechanism is from the stance of a poor rural household
3. To document innovative facilitation/financing mechanisms, if any, that have served as prime enablers in being pro-poor for accelerating the construction of IHHLs in the States under the study.

Methodology

Qualitative research method was used to explore and explain the status of the facilitation mechanism for sanitation in rural India. The study adopted a descriptive research design. It also followed concurrently mixed methods (i.e., survey, case study, as well as observations) in collecting cross-sectional data.

The target respondents were rural households who received toilet subsidy under the SBM (G) in four States in rural India. A multi-stage probability sample procedure was done to select the respondent in three stages (two districts, two blocks and two Gram Panchayats from the block concerned). Respondents were randomly selected from the Gram Panchayat concerned, whereas the district authorities identified the Gram Panchayat. A total of 400 rural households were randomly chosen from selected Gram Panchayat based on the proportional allocation.

Study Area

All the States were ranked based on their progress and performance indicators. Two States from the top rung (Gujarat and Chhattisgarh) and two from the bottom rung (UP and Karnataka) were selected for the study. Two districts from each State and two Gram Panchayats from each district were covered for first -hand information from beneficiaries who constructed toilets in one of the recent batches.

Findings

It was found that the financing pattern for toilet construction has been as flexible as possible. The States and districts have customised financing for the construction of toilets to suit the local conditions. The Gram Panchayats were even allowed to decide the financing mechanism. However, it has always been treated as a post-construction incentive or an assured sum of money available that one can even borrow, bearing in view that such a loan can be repaid after construction. This customisation of financing is a welcome step in SBM-G.

SBM-G guidelines have suggested District Level Revolving Fund, which may fulfil the need for additional funding for beneficiaries. But it has not been operational in the States under study. No district explored the idea of Revolving Fund. The irregular funding could be contained by using strategies such as temporarily diverting other scheme funds, using CSR and NGO facilitation, etc. The idea of Revolving Fund at the district level could have been a facilitating factor, which was not attempted. Very few beneficiaries reported having approached commercial banks for loans. The banks have not been in favour of lending for the purpose of toilet construction. None of the blocks raised this issue in the BLBC meeting.

1. High Incentive: The SBM-G provides Rs.12,000 as a post-construction incentive, which is nearly three-times higher than what it was in the previous sanitation programmes of the Government of India. This is also a kind of facilitation – ensuring the post-construction incentive given covers nearly 100 per cent of the investment made by beneficiaries on constructing toilets. If locally available materials are organised collectively, and masons are fixed on a contract basis, and households help each other as helpers in construction, within the incentive money, constructing a reasonably good toilet should be possible. If at all extra money is required, it may not exceed Rs.2000 – 3000. This in itself is a kind of financial facilitation under SBM-G.

2. MGNREGS: Apart from SBM-G funds, funds from MGNREGS could be used for the labour component of IHHL construction. The labourers' payments could be made from MGNREGS, which gave additional traction to IHHL construction. This has been very beneficially used in Karnataka as well as in Gujarat.

3. DBT within One week of completion: As per the financing arrangement, the post-construction incentive amount (Rs.12000) would be transferred directly to the beneficiary account after construction when physical verification gets completed. All the beneficiary's post-construction incentive is directly transferred to their bank account. In Karnataka (Ramnagara district), the CEO made it a point to ensure that within one week of toilet construction, the money got transferred to the beneficiary account (Karnataka). DBT (in Gujarat) one-time transfer (DBT) as post-construction incentive did not work out. So, the district administration made it two instalments (Rs.7000 + 5000). In Chhattisgarh, beneficiaries of IHHL get Rs.6000 after completion of the construction. And after three months of proper usage, when the GP become eligible to declare ODF, beneficiaries get the remaining Rs. 6000, i.e., the second and the final instalment.

In Uttar Pradesh villages, for payment of IHHL incentive, two different instalment patterns were followed. (1) The Gram Panchayat decided to give money to the beneficiaries through three instalments: (5000+5000+2000) =Rs. 12000. After the soak pit- Rs. 5000, after constructing the walls -Rs. 5000 and after completion of roof and door Rs. 2000. (2) The Panchayat transferred money to the beneficiaries through three instalments: Rs. 6000+Rs. 2000+Rs. 4000= Rs.12000, the cheque was issued in favour of the beneficiary, signed by Gram Pradhan and Secretary of the GP.

Payments were made by account payee cheque in the name of the beneficiaries. As per the district guidelines, Gram Panchayat needed to pay the SBM-G incentive to the beneficiaries in two instalments. But the Gram Panchayat committee adopted a resolution and decided to give money in three instalments.

4. Panchatantra - a Dedicated Web Portal: The system in Karnataka is that applications for IHHL are entered into the Karnataka State web portal called Panchatantra. This is after finalising the approved list of SBM-G, the local watermen, PDO (Panchayat Development Officer), or Bill collector collects all the necessary documents from the beneficiaries and submits them to the respective Panchayat Office. Then the computer operator registers each applicant through an online system called: Panchatantra. Every beneficiary receives a computer-generated unique ID which is used for the tracking of beneficiary progress. After submission of all the information beneficiary gets the sanction order for constructing a toilet. As soon as the toilet is completed, the photo of the toilet has to be uploaded on the same website then Panchayat Development Officer (PDO) and President bio-authenticates the same by their digital signature, upon which the server directly generates a Fund Transfer Order (FTO). After the Panchayats' approval incentive is directly transferred to the Bank Account of the beneficiary (Karnataka).

5. Materials on Credit: PRI members helped some poor beneficiaries get raw materials on credit from local material suppliers. The beneficiaries paid the material suppliers after they got the post-construction incentive. Linking the beneficiaries with the raw material vendors to procure materials on credit helped speed up the progress.

6. Self-Help Group Funds: Involvement of some of the NGOs (in Karnataka) helped bring in SHGs, and the funds SHGs have access to. The NGO's involvement provided an additional Rs.1000 for every poor SHG woman. The SHG loan and MFI loan for IHHL construction were made available, which served the financial facilitation, very minuscule though. District Administration (in Gujarat) involved the Panchayats and SHGs for the toilet construction as a strategy. The Block Development Office facilitated an MoU with the SHGs or Panchayats, and toilets will be constructed by them.

7. Own funds of Beneficiaries & Own funds of Panchayats: Motivation was given to the beneficiaries to use their own funds, especially for renovation of defunct toilets. Similarly, for the poorer people, Panchayats used their own source revenue (OSR) to renovate toilets to achieve 100 per cent ODF. It holds good for households that got omitted in BL Survey as well.

8. Rural Sanitary Mart (RSM): RSM is a one-stop shop for all sanitary ware for toilet construction and other hygiene products. The RSM got Rs. 5,00,000 as revolving fund. The involvement of SHGs in initiating and running RSM in a business model set another milestone in innovative strategies for making progress in ensuring rural sanitation. Narmada district (Gujarat) is the model for the entire State regarding the RSM, and they trained other districts as well.

9. MoU with SHGs: As per the State (Gujarat) government guidelines, Panchayat and SHGs only can construct toilets, but no private contractors are allowed. Panchayat Vs BDO/TDO (Taluka Development Officer) or BDO Vs SHGs can enter into an MOU which specifies the Standard Operating Procedure (SOP), including the number of latrines to be constructed, etc. The main provision is based on the target that after the construction of 80 per cent of a toilet, the Panchayat or SHGs will receive 50 per cent fund. After achieving 100 per cent of toilet construction, the whole fund will be released to the SHGs subject to verification by the Panchayat, Blocks, District or any independent team constituted by the block or district.

10. Incentive to *Swachhagrahis*: In every GP, *Swachhagrahis* were nominated, and they motivated the beneficiaries to construct toilets. The *Swachhagrahis* would get Rs. 150 through the Panchayat for every toilet s/he follows up and helps complete the construction. After complete construction of each toilet, *Swachhagrahis* received Rs. 75.00; after six months of it being in use, they got Rs. 75.00. However, payment delays and non-payment of incentive amount for long demotivates the *Swachhagrahis* (in Uttar Pradesh).

11. Use of Other Scheme Funds: It has happened with SBM-G that where fund release from the State government for payment to the IHHL beneficiaries was delayed, the District Administration has used funds meant for other schemes. The idea is that when the SBM-G funds arrive, it will replenish the other scheme fund which money was drawn from. It is construed as a temporary loan the district administration had taken from other projects/schemes to run the SBM-G scheme smoothly. This helped to keep up the level of motivation of the beneficiaries. Delayed payment to IHHL beneficiaries causes anxiety among subsequent batches of potential beneficiaries, and it has been avoided by using other scheme funds.

Conclusion

This study concludes that multiple facilitation mechanisms are adopted – some related to financing, others pertaining to behaviour, depending on the field conditions. The facilitation mechanisms varied in terms of (i) IEC/IPC/BCC, (ii) Finance, (iii) Monitoring and Evaluation, (iv) Sources of Fund and support like CSR, NGOs, MGNERGA, 14th Finance Commission, Own fund of GP, etc. (v) Leadership of the District/Block and especially at the GP level have also played a significant role.

The idea of customising financing to suit the needs of the beneficiaries has been tactfully adopted by various District Administrations in all four study States. The idea is any financing mechanism should be facilitative for a rural development programme to get grounded deeper and faster. It should be based on the needs and concerns of the particular regions and specific to the target community.

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DEMONETISATION AND ITS IMPACT ON INDIAN AGRICULTURE: A CRITICAL ANALYSIS

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Introduction

The Government of India announced demonetisation on 8th November, 2016 by cancelling the legal tender of Rs.500 and Rs.1000 currency notes. The main objective of demonetisation was to curtail the shadow economy and reduce the use of counterfeit cash to fund terrorism and illegal activities. In the three- or four-months post announcement of demonetisation, the economy went through a severe shortage of currency, which resulted in large-scale mismanagement of monetary economic policy by the government. Given the currency squeeze created due to demonetisation, it is primarily the cash-intensive sectors that were most affected by the policy. The agricultural sector in India is one such sector. Demonetisation subjected the economy and millions of people, particularly the farmers in the agriculture sector, to undesirable effects. Research studies on the household-level impact of demonetisation on the agriculture sector are limited. Therefore, at the behest of the National Institute of Rural Development and Panchayati Raj (NIRDPR), the Ministry of Rural Development, Government of India, Centre for Natural Resources Management, Climate Change and Disaster Management (CNRM, CCDM) in coordination with Centre for Entrepreneurship Development and Financial Inclusion (CEDFI) conducted the study to investigate the short and long-term effects of demonetisation on the agriculture and allied activities.

Objectives

Research studies on the household-level impact of demonetisation on the agriculture sector are limited. Most of the existing studies in this area are mainly descriptive in nature without focussing much on empirical data, which the current study tries to address. Therefore, the primary objective of the study is to evaluate the impact of demonetisation on agriculture and allied activities in rural India. Specific objectives of the study are:

1. To assess the impact of demonetisation on agriculture and allied activities at the household level in select Indian States, namely Maharashtra, Telangana and Uttar Pradesh (UP);
2. To study the coping strategies adopted by farmers after demonetisation for farm activities; and
3. To evaluate the extent of digitalisation of transactions post-demonetisation, adopted by the farmers and its consequent impact on financial inclusion.

Methodology

The study has covered primary as well as secondary data from three States, viz. Maharashtra, Telangana and Uttar Pradesh owing to a dominant farming population across the country. The primary data was collected from a total of 600 households covering three States, six districts, 12 mandals and 24 Gram Panchayats using stratified random sampling for each stage of the sample selection. Secondary data on geographical area, gross cropped area, net sown area, cropping intensity, percentage of area under food and non-food crops, and the number of marginal and small holdings, etc., were collected district-wise from the three sample States.

Based on the data collected, a critical analysis was made in respect of demonetisation and its impact on agricultural households in the study States. Essentially, cross-sectional analysis was done to identify similarities and differences across different States. The impact of the demonetisation was evaluated by quantifying loss with respect to income, time, opportunities, etc. Suitable statistical tools like mean, standard deviation, percentages, binary logistic regression, etc., were used in the study.

Study Area

The study covered three States from India, namely Maharashtra from the Central region, Telangana from the Southern region and Uttar Pradesh from the Northern region. It is interesting to note that the agriculture sector plays a vital role in all three study States. While Maharashtra and Telangana are among the top two States in terms of Farmers' distress (number of farmers' suicides) in India, Uttar Pradesh accounts for the largest number of farmers (23.82 million) in India according to the 10th Agricultural Census 2015-16. Further, two successive years of drought (2014, 2015) took a heavy toll on the farm sector, adding to the farmers' distress across the country.

Findings

The study results revealed a large number of farmers are illiterate (>33%) to make necessary bank transactions, and such households are more in Telangana and Uttar Pradesh. The post-stratified data also showed that most of the sample are marginal farmers (58 per cent), followed by small farmers (28 per cent).

The major crops grown in the study States during the Kharif season are Paddy, Maize, Jowar, Cotton, Sugarcane, vegetables, Soybean, Moong, Groundnut and flowers. In the Rabi season, wheat, paddy, red gram, castor, vegetables and sugarcane are grown. Mint and sugarcane are grown in the summer season in Uttar Pradesh. The major impact of demonetisation on agriculture was felt in terms of the drop in crop productivity. More than 60 per cent of the respondents from all three study States were away from farm-related activities beyond 10 days during the post-demonetisation period. As such, farmers lost prime time during the sowing of seeds/application of inputs during the Rabi season, which might negatively impact their farm productivity. The delay in the purchase of input application further aggravated the loss in crop productivity. More than 86 per cent of the farmers across all the study States faced difficulty purchasing seeds and fertilizers. In addition to this, farmers found difficulty in making a payment towards labour (78 per cent), purchasing chemicals for plant protection (46 per cent), and purchasing as well as hiring agri-tools and machines (41 per cent).

Further, it is reported that dealers/traders increased the prices of inputs when the farmers purchased these inputs on credit. More than two-thirds of the sample farmers (68 per cent) informed that they had paid up to 15 per cent higher prices on inputs to the traders/dealers during demonetisation. In addition to the input channel, demonetisation disrupted the output channel, viz. sale, transport, marketing and distribution of farm produce. The low market price of the produce (36 per cent), produce not being sold (32 per cent), and no payment of produce in the market (31 per cent) are some of the challenges faced by the respondents during the post-demonetisation period (Rabi season). Besides, some respondents reported the inability to obtain transport facility (9 per cent), which resulted in the wastage of perishables. Even after the sale of produce, farmers received delayed payments from the buyers. Nearly four-fifths of the farmers across the three study States reported a delay ranging from one to fifteen days in receiving payments from buyers after demonetisation.

Livestock is the secondary source of income to the farming sector. Managing the farm animals and providing feed to the cattle are important aspects of livestock management during the demonetisation period. Around three-fifths of the farmers owning livestock (59 per cent) purchased the cattle feed by paying cash, followed by purchasing on credit from local traders (15 per cent). While 14 per cent of the respondents reported that they prepared their own cattle feed, 8 per cent of the respondents indicated that they could not purchase cattle feed due to lack of cash in hand.

Due to illiteracy and security issues, most farmers have bank accounts to receive direct benefit transfers with limited transactions. About 94 per cent of farmers are not adopting digital transactions for agricultural activities/payments. There is no difference in the mode of transactions before and after demonetisation, which shows that cash plays a significant role in rural areas. Farmers who have money in bank accounts could not access it due to lack of new currency notes in banks and limitations on withdrawals posed by the Government of India. Farmers who received money in cash even after the waiting time didn't deposit it in their bank accounts due to the fear of non-availability of cash in banks and ATMs for further uses in households and agriculture. They have kept a sizeable amount of money at home for emergencies even after demonetisation and kept a nominal amount in bank accounts. Hence, the government should undertake meticulous care and planning in terms of procurement, pricing and input applications for cash-intensive sectors like agriculture before implementation.

Conclusion

Findings from the study suggest that demonetisation caused a decline in growth in farmers' income due to the decreased prices of crops. The unavailability of cash, accentuated by the low market price for most of the agricultural produce, had a negative effect on obtaining input applications for net sown area, which was detrimental to crop productivity for subsequent land preparation. Anecdotal evidence from the study shows that farmers resorted to familiar traditions like the barter system, depending on the informal social network for credit, as some of the coping strategies adopted by the farmers for farm activities. Overall, the study results show that demonetisation had a significant short-term impact on the farmers' livelihoods. Our research indicates the dominance of cash-based payments of expenses in the agricultural sector. Digital payments as a means of financial transactions remained negligible among the study respondents across all States. Additionally, adoption and acceptance of digital payment methods among study respondents remained low, barring Maharashtra. Although there was a spike in the use of

smartphones for cashless transactions in the short term, the adoption of cashless/digital transactions for agricultural activities was not significant.

The following suggestions/recommendations may be considered in future decision-making.

- Essential plans for transactions in agricultural markets
- Procurement of produce by governments
- Relief funds for input applications prior to demonetisation
- Training & capacity building of financial/digital literacy to be made
- Improved awareness of digital transactions
- Ubiquitous broadband connectivity- Technology infrastructure- throughout rural India
- Enabling digital payment infrastructure and payment system
- Enhancing security system on digital transactions
- Enhancing the bargaining power of farmers through collectivisation
- Strengthening the agriculture supply/value chain
- Supporting livestock with proper feed under cash crunch situations.

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DECENTRALISED PLANNING AND RURAL HEALTH CARE SERVICE IN INDIA: IMPLEMENTATION OF NATIONAL RURAL HEALTH MISSION (NRHM) IN BIHAR, ARUNACHAL PRADESH, HARYANA AND KERALA

Dr. Vanishree Joseph
Dr. Bhaskar Rao

Introduction

"National Health Policy -2002 lays great emphasis upon implementing public health programmes through local self-government institutions. The structure of the national disease control programmes will have specific components for implementation through such entities. The policy urges all State governments to consider decentralising the implementation of the programmes to such institutions by 2005. In order to achieve this, function incentives over and above the resource normality allocated for disease control programmes will be provided by the Central Government. Keeping this in view, a study on service delivery under the decentralised planning and governance of rural healthcare services was undertaken.

Objectives

1. To assess the decentralised planning for delivery of rural healthcare services
2. To examine the institutional mechanism at the grassroots level
3. To identify the problems in delivering rural healthcare services
4. To assess the implementation and impact of the National Rural Health Mission (NRHM).

Methodology

The study is descriptive and analytical in nature. Data for the study is collected from both primary and secondary sources. Primary data is collected from the field with the help of both structured and unstructured questionnaires and interviews with respondents, line department, doctors and staff nurses from the study area. In this study, a multi-stage sampling method is used to select the sampling units of the study.

Study Area

Arunachal Pradesh, Bihar, Haryana and Kerala

Findings

1. While VHNSC committees have been generally constituted according to the guidelines in the study districts, their training and compliance with planning and specified functions were very weak.

2. VHSNC members in the States were unclear about their roles, except for the CHWs, who have specific roles in the committees as conveners.
3. Though socially and geographically marginalised groups were represented in the committees, their participation was irregular.
4. The most important factor to be noted is the lack of coordination between VHSNC and GPPFT. GPDP is neither done in consultation with VHSNC nor do they participate. The health plan is not integrated into the GPDP. These two exist as separate bodies, and no convergence of activity has taken place.

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EFFECTIVENESS OF SOCIAL AUDITS IN PRADHAN MANTRI AWAS YOJANA - GRAMIN

Dr. Srinivas Sajja
Dr. C. Dheeraja

Introduction

Pradhan Mantri Awas Yojana-Gramin (PMAY-G), earlier known as Indira Awaas Yojana (IAY), a flagship scheme of the Ministry of Rural Development (MoRD), has since inception been assisting poverty-ridden families who are either houseless or having inadequate housing facilities for constructing a safe and durable shelter. Housing is a fundamental human need; it is a basic requirement for human survival as well as for a decent life. It is observed from the earlier studies that irregularities in the selection of beneficiaries and release of instalments, non-provision of support services and convergence schemes, refusal to agree to the choice of design/construction technology made by the beneficiary, etc., are happening, which dilute the spirit of PMAY-G. Thus, to check the above observation and ensure transparency, responsiveness, accountability and streamlining the service delivery, social audits have been introduced in PMAY-G since 2013 with the revised guidelines coming into force. The PMAY-G guidelines say Social Audit Units (SAU) set up by the State government under MGNREGA can be roped in to facilitate the conduct of social audits of all components of PMAY-G, including implementation of the house site programme.

Social audits in different States have proved beyond doubt that if an administration has the will to put in transparency safeguards and the intent to be accountable to its people, they can adopt the process and work committedly to follow up the decisions taken in the social audit. But as the social audit process should be more community driven rather than official-driven, suitable modifications should also be adopted to make it more institutionalised. In this context, the present study is proposed to study the effectiveness of Social Audits in PMAY-G.

Objectives

a. To study the process of social audit taking place in Pradhan Mantri Awas Yojana - Gramin.

b. To assess the effectiveness and identify the bottle-necks in conducting social audits

c. To analyse the outcomes and effects of social audit on the subsequent stages of implementation of Pradhan Mantri Yojana -Gramin

d. To analyse the State-level data of social audit findings and action taken for 2017-18

e. To suggest modifications for institutionalisation of the social audit process.

Methodology

Keeping in view the objectives of the study, a multi-stage purposive random sampling procedure was adopted for selecting the States, Gram Panchayats and sample respondent households. In the first stage,

three States, namely Meghalaya, Uttar Pradesh & Meghalaya, were purposively selected because the social audit of PMAY-G was being conducted only in these States in India at the time of the study. In the second stage, a total of eight Gram Panchayats - four socially audited and four non-social audited Gram Panchayats - were selected randomly. In the third stage, 10 sample households were selected randomly from each Gram Panchayat.

Study Area

The study was carried out in Meghalaya, Uttar Pradesh and West Bengal. Meghalaya is a northeastern State of India. Tribal people make up the majority of Meghalaya's population. They belong to several tribal groups, and among them, the Khasis are the largest group, followed by the Garos and the Jaintias. In Meghalaya, the Social Audit Unit facilitated the audit of IAY schemes in 2017-18 and PMAY-G in 2018-19. Uttar Pradesh is a State in northern India. It has the highest population in the country. Uttar Pradesh has 75 districts that are broadly divided into five regions within the State – Paschim Pradesh, Rohilkhand, Awadh, Bundelkhand and Purvanchal. In Uttar Pradesh, the social audit of PMAY-G has been carried out once a year since 2016. The SAU is facilitating the social audit of PMAY-G along with the MGNREG scheme. In West Bengal, the SAU is functioning under State Rural Development Agency. They are conducting social audit of three schemes, i.e., MGNREGS, PMAY and NSAP.

Key Findings

All three States (Meghalaya, Uttar Pradesh and West Bengal) carry out social audits of PMAY-G once a year. The social audit of PMAY-G is being carried out simultaneously with MGNREGA. The social audit process takes place in five days in Uttar Pradesh and 15 days in West Bengal. In Meghalaya, the number of days depends upon the expenditure, size of GP and hamlets. While the social audit findings are forwarded to the district administration, the ATR is absent and read out only in a few instances in UP, WB and none in Meghalaya. This is attributed to district administration not taking appropriate action and SAUs not getting the action taken reports. This is happening only in the case of ATRs of PMAY-G social audit. For MGNREGS social audit, they are also sharing ATRs and uploading them in MIS.

Major challenges faced by social audit resource persons were similar in all three States; it only varied in terms of identifying the major bottle-neck among the problems being faced by social audit resource persons in these States. In Meghalaya, they listed out insufficient funding as a major challenge for conducting social audit, while in Uttar Pradesh and West Bengal, the major challenge is non-provision of documents/data by implementing agency. The other difficulties being faced during the social audit of PMAY-G in these States were lack of cooperation and participation of the beneficiaries in the social audit process, hilly terrain and transportation problem in Meghalaya, insufficient time for the conduct of social audit, lack of sufficient human resources to facilitate social audits, lack of technical support during social audit and issues related to selection and capacity building of social audit team. Resource persons in UP and WB said that there are no security or safety measures in place during the conduct of social audit. Specific to UP were interference from external persons during the social audit process and the age limit of village resource persons.

Conclusion

Monitoring of poverty alleviation programmes will ensure better implementation and development of rural areas. Social Audit is an important social accountability contributing enormously to efficiency in implementing rural development programmes in India. But Social Audit of PMAY-G scheme was not happening across the country at the time of the study. The study found that social audit has helped in better implementation of the scheme. However, it was also identified that people in rural areas lacked awareness of the scheme, so most of the beneficiaries could not utilise it properly. Although housing typologies were provided, except in Meghalaya, few beneficiaries in Uttar Pradesh and West Bengal opted for the design given by implementing agency. As a result, cost escalation and inability to complete the house were observed in all three States.

Regarding governance, one major issue identified was the lack of independence of the social audit units in all three States. The social audit units were being influenced/controlled in varying degrees in these States, with West Bengal being the highest in terms of control. As a result, the decision-making process, especially in taking action on social audit findings, is affected unless the social audit units are independent. Financially also, social audit units are dependent on implementing agency. Another issue is the influence of officials on social audit resource persons. In UP, the district resource persons of the social audit report to the District Development Officer (DDO), who is responsible for paying salary and on whose recommendation their contract gets extended. In West Bengal, the Director of Social Audit Unit belongs to the Department of Rural Development. In Meghalaya, the Block Development officers exert enormous influence on social audit resource persons. These are some hurdles social audit units face in effectively carrying out their function. On a positive note, the Ministry of Rural Development has enacted new social audit guidelines and released them in November 2019, making it mandatory for States to carry out social audits of PMAY-G.

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EVALUATION OF UNNAT BHARAT ABHIYAN – A QUICK IN-DEPTH STUDY TO TRACK THE OBJECTIVES' ACHIEVEMENT

Dr. G. Venkata Raju
Dr. Vanishree Joseph

Introduction

Unnat Bharat Abhiyan (UBA) is a flagship programme of the Ministry of Human Resource Development (MHRD) Government of India. UBA provides an opportunity to enable faculty and students of higher educational institutes to work with the people of rural India for evolving appropriate solutions for the growth of villages. UBA aims to reach out to all villages in the country within a span of 10 years. For making this scheme operational, a set of guidelines are in place along with guidance and coordination mechanisms at the national and regional levels under the policy guidance of National Steering Committee for implementation through Participating Institutions (PIs). Initiating 1st Phase (UBA 1.0) of activities in the middle of 2014 with 142 Institutes, the scheme has passed through 2nd phase (UBA 2.0), which stands now with the enrolment of 2,374 PIs (technical and non-technical). These institutes have adopted nearly 12,500 villages covering 232 districts of 29 States and six Union Territories. Rs. 99.77 Crore was the budget allocation for the last three years.

NIRDPR is entrusted to carry out the evaluation of UBA Scheme activities implemented with a view to knowing and checking the direction of scheme implementation in achieving the delivery of outputs and to assess the scope of achieving the intended results (outcomes and impacts). This study is mainly to foresee the changes necessary in restructuring the scheme based on the performance of the UBA in its entirety since the scheme is marching towards the end of its current life span.

Objectives

The study is intended to identify factors that facilitated or impeded the achievement of the scheme objectives and come out with an appraisal focusing on the following specific objectives:

1. To critically review and examine the activities undertaken in the implementation of UBA scheme,
2. To measure the performance of the scheme and the institutions involved towards achieving the scheme objectives, and
3. To suggest and recommend measures as appropriate as necessary for restructuring to be carried out for the improved performance of UBA scheme.

Methodology

The study has used specially designed schedules for collecting primary data from PIs, Regional Coordinating Institutes (RCIs), Subject Expert Groups (SEGs) along with beneficiaries such as villagers and students through direct interviews, FGDs, and emails with regard to key UBA activities like setting up of

UBA cell, household survey, village survey, village development plan, training programmes/campaigns/ awareness camps, interventions and other related activities. Against the planned universal coverage of all 12 SEGs and 45 RCIs, only two SEGs and 27 RCIs (19 technical and eight non-technical) have responded. As planned, a total of 27 sampling participating institutions (16 technical and 11 non-technical) with a minimum of two institutes from each type from each sample State have been covered. In addition, primary data from individuals and groups were collected - 655 village-level individual respondents from 131 villages, 36 FGDs for implementation of interventions with the interaction of 480 villagers and 25 FGDs with the interaction of 648 students. Secondary data have also been collected from progress reports, records, etc.

Study Area

The study pertains to five States, Assam, Madhya Pradesh, Maharashtra, Tamil Nadu and Uttar Pradesh

Findings

The activities undertaken showing the benefits of rural communities were mostly related to the general aspects of sensitising and creating awareness among the village communities, but not precisely bringing technical and managerial solutions under UBA norms. This shows that lack of understanding of the UBA scheme is very much evident. As the scheme intends to provide intellectual knowledge, the focus of institutions in that direction was missing in most cases in identifying the relevant needs. Lack of complete understanding of village structure and functionaries causes disappointment among institutions in pooling human and financial resources through convergence efforts. However, the success of a few institutions with the efforts of individual faculty without the involvement of funds could be an inspiration. Not considering the opinion of village communities, agencies, and other individuals is a lacuna in many of the decisions taken by PI.

In most cases, the interventions for technology development are prototypes, and the innovativeness of customisation of technologies is also missing for the purpose of interventions sanctioned for resolving the issues/problems of village communities. Expert guidance and coordination efforts are not enough to make the scheme effective. Technical institutions are better at mobilising funding resources whereas non-technical institutions are slightly ahead in mobilising communities to conduct village activities like the National Social Service (NSS).

Conclusion

The activities undertaken showing the benefits of rural communities were mostly related to the general aspects of sensitisation and community awareness but not exactly bringing technical and managerial solutions under UBA norms. As the scheme intends to provide intellectual knowledge, the focus of institutions in that direction was missing in most cases in identifying relevant needs. Lack of complete understanding of village structure and functionaries causes disappointment among institutions in pooling human and financial resources to make the convergence possible. However, the success of a few institutions with the efforts of individual faculty without the involvement of funds could be an inspiration. Not considering the opinion of village communities, agencies, and other individuals is a lacuna.

In most cases, the interventions for technology development are prototypes, and innovativeness in the customisation of technologies was also missing for resolving the issues/problems of village communities. Technical institutions are better at mobilising funding resources whereas non-technical institutions are slightly ahead in mobilising communities in village activities like NSS. Due to constraints of academic commitments, the scope of institutions to make more village visits was limited. The enthusiasm of students is the silver lining for operationalising the UBA scheme with refined guidelines in an intended manner towards achieving the objectives.

There is a lot of scope for providing intellectual knowledge for addressing village-level issues as well as gaining practical orientation by students. While recognising the need for the UBA scheme to continue, specific recommendations were made for restructuring the scheme for effectiveness and usefulness in implementation in view of the findings and conclusions drawn from this study.

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ROLE OF VIGILANCE SYSTEM ON SOCIAL AUDIT FINDINGS OF MGNREGS- CASE OF ANDHRA PRADESH AND TELANGANA

Dr. C. Dheeraja

Introduction

MGNREGA, with an approximate annual expenditure of Rs. 70,000 crore, is the most extensive public works programme in the world. It marked a paradigm shift from previous wage employment programmes through its rights-based framework that provided a legal guarantee of wage employment. The transparency and accountability mechanisms under MGNREGA created a scope for strong monitoring and vigilance systems. The objective of vigilance in MGNREGS is to ensure that the implementers get the maximum output of the programme.

MGNREGS operational Guidelines 2013 suggested all States to arrange a three-tier vigilance mechanism to proactively detect irregularities in the implementation of the Act and follow up on detected irregularities and malfeasance, including those identified during the social audit, and ensure that the guilty are punished, and recoveries of misspent funds are duly made. The vigilance system proposed in the guidelines is not followed in any other State except in erstwhile Andhra Pradesh. Before the reference to three-tier vigilance system in MGNREGS guidelines 2013 itself, Andhra Pradesh Government, vide PR&RD GO no.327 dated 15.9.2010, established a vigilance system to take follow-up actions on social audit findings. In this context, it was felt necessary to conduct a scientific study on the vigilance system and come out with recommendations so that all the States could adopt it.

Objectives

- To document the policy framework and processes of vigilance system
- To identify enabling and hindering factors for the vigilance system
- To analyse the impact of vigilance system on social audit findings and action taken
- To suggest operational improvements & policy recommendations to MoRD for scaling up the vigilance system.

The scope of the study included the following aspects:

- The policy framework for vigilance system (GOs issued and the scope of vigilance)
- Efficacy of current structure of vigilance under MGNREGA for taking actions on social audit findings
- Independency of vigilance system to take actions
- Funding required and available to manage the system
- What sort of issues are emerging, and what kind of actions are taken? Any deviations from the issues

that emerged and actions taken (financial misappropriations, procedural deviations and grievances, etc.)

- Is there any advisory/compendium developed for taking up actions on different types of issues
- Other than actions on social audit findings, what mechanisms are in place, like taking up the issues suo moto, grievance redressal helpline, surprise field visits, etc.?
- Is there an ombudsmen system in place, and if so any convergence with it
- Challenges faced by the vigilance officers in taking the actions
- Enabling and hindering factors for the vigilance system
- Feasibility of scaling up the system in other States.

Two districts from each State of Andhra Pradesh and Telangana were selected for more analysis based on the number of actions taken on social audit findings. An attempt was made to document the process, achievements, challenges and immediate impact of the vigilance system on social audit findings. A mix of qualitative and quantitative analysis of data was done. Content analysis was used to analyse the opinions and perceptions of the stakeholders at different levels. Simple statistical techniques like percentages were used to analyse the data to understand the aspects involved in the vigilance system of MGNREGS.

Findings

The genesis of vigilance system in AP was elaborate. Administrative arrangements and procedures for action taken were highlighted. A detailed organogram, along with the roles and responsibilities of the officials at different levels, was presented. The process for follow-up of actions was elaborate. Based on the MIS data from HRMS, follow-up actions of social audit findings like total issues raised, amount determined as misappropriated, amount recovered, disciplinary actions taken on officials at different levels, etc., are analysed and presented. After interacting with different stakeholders, a detailed SWOT analysis of the vigilance system is done and presented. All the GOs issued regarding vigilance are attached as annexures for reference. Based on the analysis following recommendations were given:

- Unbiased and independent vigilance system to be in place with sufficient flow of funds
- As mentioned in MGNREGS operational guidelines, there is a need to appoint senior officials, especially civil engineers and an auditor at State and district levels, to make the vigilance system more effective
- Proper coordination of Social Audit Unit and vigilance cell to be established. Reconciliation of the Social Audit paras with vigilance paras should be taken up. There is a huge difference in the number of paras at both ends
- There is a need to train the vigilance staff on both Social Audit and its MIS
- Dropped paras should be documented with proper reasons
- Focus should continue on referred paras
- HRMS to be strengthened to maintain the data properly at block and GP level

- Proper data on the recoveries, penalties, referred paras, delayed payment, and measurement deviation to be maintained
- Focus should be on the other follow-up action like disciplinary actions along with recoveries
- Stringent actions to be taken to reduce the corruption
- Focus is required on non-submission of records to the social audit team
- Vigilance officers are suggested to participate in the social audits in case any major issues are identified.

Overall, the vigilance system of AP and Telangana gives scope for ensuring effective utilisation of MGNREGS funds by taking actions on issues found in social audit and thereby increasing the trust in social audit process. Thus, it can be strongly recommended to take it up in other States.

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SOCIAL AUDIT OF NATIONAL SOCIAL ASSISTANCE PROGRAMME: CASE STUDY OF ANDHRA PRADESH

Dr. Srinivas Sajja
Dr. Rajesh Kumar Sinha
Dr. C. Dheeraja

Introduction

On the Independence Day in 1995, the Government of India (GoI) introduced the National Social Assistance Programme (NSAP) as a fully funded, Centrally sponsored scheme targeting the destitute to be identified by the States and Union Territories (UTs) with the objective of providing a basic level of financial support. From the year 2007, the scheme was expanded to cover all eligible persons Below Poverty Line (BPL). The scheme for old age persons was renamed as Indira Gandhi National Old Age Pension Scheme (IGNOAPS). NSAP was expanded in 2009 to cover more vulnerable groups. In February 2009, the Government of India approved pension to BPL widows in the age group of 40-64 years. This scheme was named Indira Gandhi National Widow Pension Scheme (IGNWPS). The Government of India also approved pension for BPL persons suffering from severe or multiple disabilities in the age group of 18-64 years. This scheme was named Indira Gandhi National Disability Pension Scheme (IGNDPS). NSAP at present includes four sub-schemes as its components: a) Indira Gandhi National Old Age Pension Scheme (IGNOAPS), b) Indira Gandhi National Widow Pension Scheme (IGNWPS), c) Indira Gandhi National Disability Pension Scheme (IGNDPS) and d) National Family Benefit Scheme (NFBS). It has been mentioned in the NSAP guidelines, Chapter 6.1, that Social Audit is mandatory to fulfil the gaps and reach the benefits to the target people. Social Audit is important because it not only leads to the refinement of the schemes but also enhances transparency and accountability, besides redressing the grievances of the beneficiaries.

Objectives

The case study has been taken up to document the social audit process of NSAP in Andhra Pradesh and the awareness level, participation and perceptions of beneficiaries in the social audit of NSAP in Andhra Pradesh. Along with these, the study aims to identify the challenges faced in conducting Social Audit of NSAP in Andhra Pradesh.

Methodology

The study was carried out in Andhra Pradesh as the social audit of NSAP was taking place only in West Bengal and Andhra Pradesh. Andhra Pradesh was selected because of the existence of a well-established social audit unit in the State. Using multi-stage sampling method, five GPs were chosen from five districts of Andhra Pradesh and ten beneficiaries from each GP were selected for the study. Both primary and secondary data were used for the study. Interviews were conducted with 50 NSAP beneficiaries, Director, SAU and implementing officials. Questionnaires were administered to 66 resource persons from SAU. Along with this, FGDs were conducted in the selected GPs.

Study Area

The study was carried out in one GP each from five districts. Selected GPs were, Taduku from Chittor district, Billakur from East Godavari District, Betamcherla from Kurnool District, Tripurantakam from Prakasam District and A. Venkampeta from Vizianagaram District.

Findings

The study documented the NSAP Social Audit process happening in Andhra Pradesh. It was observed that as per the scheme's guidelines, the pension disbursement took place every month at a fixed location. Social Audit has employed qualitative and quantitative techniques using the prescribed formats. All the pensions distributed are subjected to yearly social audits simultaneously with the MGNREGS social audit.

Participation of beneficiaries in the social audit Gram Sabha was high, but the beneficiaries didn't remember the details of the social audit Gram Sabha like who chaired it and what issues were discussed during the social audit Gram Sabha which can be linked to the frequency of social audit. The social audits of NSAP, instead of twice a year, were carried out only once a year. The participation of beneficiaries in the block-level public hearings was less, i.e., 46 per cent of the beneficiaries mentioned that they had participated in the public hearing held at the block level. During the FGDs, beneficiaries gave reasons for not attending block-level public hearings. Lack of accessibility to transport in Chittoor district while in East Godavari and Prakasam districts, they mentioned that cost of transport to reach the hearing venue, loss of daily wages, time and distance of the venue of the hearing were the major reasons for low participation.

The study revealed the majority of the beneficiaries have a good awareness of the Social Audit process of the pension scheme; 96 per cent of the beneficiaries who were interviewed said that they knew about social audit and that the social audit of pension schemes has happened in their Gram Panchayat.

Majority of the resource persons Stated that the workload due to lack of sufficient workforce to carry out the process was the major challenge faced during the conduct of social audit of SSP and SSU funds. Lack of proper training on social audit and rejection of social audit findings by Gram Panchayat and Block officials were the common challenges faced during the social audit of SSP and SSU funds (NSAP). Earlier, the SAU used to spend four days on the social audit of NSAP, but after deciding to do an audit of 10 per cent of the pensions, it was reduced to three. Majority of the beneficiaries (96 per cent) agreed that the social audit of various pension schemes is useful to the community, and 94 per cent of the beneficiaries expressed their willingness to participate in future social audits.

Conclusion

The Social Audit unit of Andhra Pradesh, being the first social audit unit in the country, has been at the forefront of initiating social audits in several rural development programmes. But lack of support from administrators has forced it to curtail the social audit process in NSAP during 2019-19 and stopped completely from 2019-20 due to lack of funding. However, it was found during the study that the implementation of scheme was perfect, with very few instances of financial misappropriations being reported. This is a direct result of the robust social audit process followed by the social audit unit and the awareness generated among the people regarding the programme. During interaction with officials of the

Society for Elimination of Rural Poverty (SERP), which is the implementing agency for pension schemes in Andhra Pradesh, they exuded confidence that scheme implementation will remain sound despite the absence of social audit. But it must be noted that implementation is good only because of the monitoring taking place in the form of social audit. Recognising the need for institutionalisation of social audits, the Ministry of Rural Development (MoRD) issued fresh guidelines in November 2019 for conducting the social audit in NSAP.

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A CASE STUDY OF PERFORMING SARPANCH IN ANCHORING IMPLEMENTATION OF GPDP

Dr. Anjan Kumar Bhanja

Introduction

The able leadership of Sarpanches has also been instrumental in making the GP proactive, and they never hesitate to leverage local resources to address local problems. In addition to leadership, their commitment and sincerity have contributed significantly to creating successful and best practices in their respective Panchayats by properly implementing Gram Panchayat Development Plan. These successful practices are the changed processes and approaches that produce better results and help others to learn from such experiences. Best practices of one Gram Panchayat can influence the democratic functioning of other Gram Panchayats, like mobilising people to participate in the Gram Sabha and spreading the information and knowledge about the formulation of quality Gram Panchayat Development Plan. The documented Best Practices bring out the motivational impetus which is responsible for the success of the Gram Panchayats. These studies help us in listing out implementation challenges and making out how the Panchayats overcome those challenges. When circulated among other Panchayats, these studies create awareness and motivate the Gram Panchayat functionaries and the citizen to replicate such best practices in the formulation and implementation of the Gram Panchayat Development Plan.

Objectives

a) To develop, compile and publish case studies for larger circulation across other Panchayats

b) To raise awareness and motivate the Gram Panchayat functionaries and the citizen to replicate such best practices in Gram Panchayat Development Plan.

Methodology

Three case studies have been developed by taking into account three important activities of Gram Panchayat, namely management of solid and liquid waste, protection of children from exploitation and the creation of a conducive environment for their physical and mental development and development of Gram Panchayat comprehensively and holistically. The officials of PR and RD Departments and the faculty members of SIRDs of the selected States were consulted for finalising the GPs.

Study Area

Three Gram Panchayats were selected from West Bengal, Karnataka and Gujarat for developing three Case Studies. These three States were chosen considering the geographical factor of the country. One State was picked up from Eastern India, the other one from south India and the third one was from western India.

Findings

Rajankunte Gram Panchayat, Karnataka

- Rajankunte Gram Panchayat has brought rural transformation and inclusive development through its planned and participatory local development initiatives.
- The Gram Panchayat, through its well-prepared GPDP, has strived to achieve socio-economic development and improve governance at the village level by providing high quality citizen-centric services.
- The Gram Panchayat has ensured participatory planning in formulating GPDP and followed all the steps to identify prioritised activities like formation of GPDP committee, data collection, and situational analysis. Further, the GP has addressed the typical problem of mismatch between aspiration and availability of resources by converging various other resources from multiple programmes and schemes
- The inclusive planning and prioritisation of plan activities have helped the Gram Panchayat in addressing the gaps and identifying potentials for the socio-economic development of the village
- The Gram Panchayat has been awarded by the State as the best child-friendly GP. The GP has taken several measures to make the village child-friendly, primarily focusing on Education, Health, nutrition and immunisation. Steps taken by GP in promoting a child-friendly environment in the village are 1) 100 per cent school enrolment and 0 per cent school dropout, 2) Functional separate toilets for girls and boys and adequate drinking water facility in every anganwadi centre and school, 3) Children's park in every anganwadi Centre 4) Malnutrition free village 5) Scholarship/books/laptop/cycle for Students 6) Support for kids interested in sports 7) Special health care camps and smart classrooms in schools 8) Special support to differently-abled children
- In addition, GP has organised children's Gram Sabha to discuss issues and rights concerning children. This has not only helped the authorities to understand topics that are important to children but has also ensured the active participation of children in the local governance process
- The GP took initiatives to prevent cutting trees and speed up the afforestation through the involvement of various stakeholders. Some of the initiatives taken by GP are – Special drives for planting trees, constructing parks in villages, and plant distribution on occasional days by involving local schools and educational institutions
- GP has ensured transparent governance by telecasting Gram Sabha and GP meetings on local cable TV, online discussion of queries and solutions, dissemination of information and notices through mobile vans and collection of taxes/fees through banks
- The proactive leadership of GP president, cooperation among elected representatives and seamless coordination with the line department officials has enabled the GP to achieve major local development goals.

Daramali Gram Panchayat, Gujarat

- Daramali Gram Panchayat, known as Gujarat's first 'skilled village,' has brought about technology-driven rural transformation through proactive grassroots leadership, community participation and utilisation of resources from existing government schemes
- GP has addressed the village requirements by establishing a link between developmental needs and various existing government schemes. The GP has consistently identified schemes of ministries and departments offering financial assistance in various programmes for rural rejuvenation, prepared related proposals and utilised the money for local development. GP's own source revenue was utilised as a last resort for financing development programmes
- The village received 'skilled village' award from the Gujarat government in 2015. The following initiatives were taken by the GP: 1) Skill training for youth, 2) Special entrepreneurial skill training for women SHG members, 3) Development of 'Village Haat' for marketing and sales of products manufactured by the women SHGs, and 4) 100 per cent employment of people. These initiatives made the local women and their families economically self-reliant
- To make the village green and eco-friendly, Gram Panchayat mobilised villagers for tree plantation on a large scale. The GP has planted at least 100 trees every monsoon with the help of local youth
- The GP has achieved numerous developmental landmarks in the areas of sanitation, drinking water and cleanliness by undertaking the following measures: 1) Door-to-door waste collection from households, market and shops, 2) Surveillance and a fine of Rs. 1000 for open defecation, 3) Regular Cleaning of Village, and 4) Community contribution in cash and labour
- The GP has ensured a smart village by providing smart GP citizen-centric services- online tax collection, e-service delivery, Wi-Fi internet services to the villagers, surveillance through CCTV, LED streetlights and public address system, biometric attendance at the Gram Panchayat, e-Library, knowledge and information bank about jobs and various other issues, DRML mobile app for transparent GP governance, online tax collection facility and grievance management system
- Various other innovative initiatives the Gram Panchayat took are the formation of Blood Donors' club, promotion of primary school as 'model school', plantation board and Panchayat magazine.

Pratapadityanagar Gram Panchayat, West Bengal

- Pratapadityanagar Gram Panchayat has ensured the effective delivery of public services by utilising the Gram Panchayat Development Plan (GPDP) process as a vehicle to meaningfully engage with the local communities and utilise locally mobilised resources
- The GP has conducted problem-resources-potential analysis during the preparation of GPDP every year as a part of situational analysis, through which key developmental challenges were identified in the areas of education, public health, agriculture, women and child development, social welfare, animal husbandry, infrastructure, sanitation and drinking water.

- GP addressed these challenges with the help of GPDP. GP-elected representatives, functionaries, and the local communities were actively mobilised and engaged in preparing an integrated GPDP. The following steps were taken in preparing GPDP- constitution of Gram Panchayat Facilitating Team (GPFT), Primary and Secondary data collection and analysis, Gram Sansad meeting, and convergence of various resources and schemes.
- The GP has tried to link SDGs to GPDP in the last couple of years. Following are the key planned activities which have direct/indirect SDG-linked outcomes at the GP level- solid and liquid waste management project (waste to wealth) and Eco Park, placing 735 streetlights, excavation of ponds, roadside plantation, agriculture and fishery-related activities, training and skill development of women SHG members, supplementary nutritional support through anganwadis, continuous monitoring and awareness creation to reduce school dropouts, safe drinking water for all the households of the GP.
- The GP has particularly focused on own source revenue generation. The GP has made good use of Section 46 of the West Bengal Panchayat Act and collected land and building tax (LBT) from the local residents on a regular basis. The current realisation rate of LBT (collection against tax demand) stands at 78 per cent. The Gram Panchayat also levied fees, user charges, etc., for registration of vehicles, registration for running trade, sanitation and waste management, display of advertisement, etc.
- Pratapadityanagar GP's SLWM project has become a State-level model for SLWM Projects in West Bengal.

Conclusion

From the above three case studies, we can undoubtedly say that proper planning and utilisation of resources is essential for a local governing body to bring about major changes in social and human development-focused governance at the village level. GPDPs can make the local governance process more participatory and inclusive when adequately planned and utilised. The three Gram Panchayats have optimally identified the problematic areas and solved them by utilising locally mobilised resources. They have identified the potential of GPDPs in addressing local development needs. Thus, we can certainly say that the practice of 'using local resources to address local problems,' should be replicated by all the Gram Panchayats at the local level.

Rajankunte Gram Panchayat's initiatives to make a village child-friendly should be taken as an example to encourage other GPs to take necessary measures and action to help in children's holistic development The GP's innovative initiatives in making the governance process transparent should be replicated by GPs in other States.

The case study of Daramali Gram Panchayat's 'Skilled village' demonstrates that skill training initiatives and SHG empowerment can make the whole village self-reliant. The GP's initiatives at building smart GP-citizen-centric services have helped the people of the village.

Pratapadityanagar GP's effective and efficient planning of GPDP has proven that the planning process needs to be outcome-oriented in realising the socio-economic development of the village. The Solid Waste Liquid Management project should be used as an example to generate awareness about waste

management and its associated benefits. The GP's efforts at integrating SDGs into its planning process should be taken as an example to generate awareness about SDGs and its indicators among the elected representatives of Gram Panchayats.

The able leadership of the elected representatives, their willingness to work for people and their proactive initiatives to address the local problems should be taken as an example to motivate elected representatives of all the GPs. The above three case studies convey that GPs should focus on own source revenue generation and convergence of schemes to address the local needs and aspirations of people. The active involvement of local communities and line departments will help the Gram Panchayat identify areas that need urgent attention. Following the major preparatory steps (data collection, situational analysis, etc.), formulating plans is very important to realise the local needs and priorities of people. Following these steps will help the GPs in effectively implementing GPDPs, through which they can work towards achieving the socio-economic development of the village. States should ensure that the GPs follow the principle of 'Local needs-based development planning.' These case studies should be widely circulated among the ERs and GPs to create awareness and replicate best practices.

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IMPLEMENTATION OF E-DISTRICT APPLICATION - A CASE STUDY OF KANGRA, HIMACHAL PRADESH

Shri K. Rajeshwar
Shri Manu Mahajan

Introduction

e-District Mission Mode Project (MMP) is one of the 31 MMPs under the National e-Governance Plan (NeGP). e-District MMP aims at the electronic delivery of identified citizen-centric services at the district, sub-division and village levels. It also envisages automation of workflow, backend computerisation, and data digitisation across participating departments. It integrates various digital databases for online verification and complete automation of the process. Nationwide, e-District services have been launched in 553 out of 672 districts, including the 40 districts in the pilot phase, whereas Himachal Pradesh has rolled out e-District services in all 12 districts. The e-District architecture envisages leveraging the core NeGP components of State Wide Area Network (SWAN), State Data Centre (SDC), State Services Delivery Gateway (SSDG) and Common Services Centres (CSCs). The State Data Centre, HIM SWAN and Citizen Service/Lok Mitra Centres are the three pillars of the project. The citizens can avail this service under e-District MMP through multiple channels, viz. Lok Mitra Kendra (LMK) Centres or Sugam Centres or Online through web login and from Department Office.

The Government of Himachal Pradesh has introduced an e-District application in the aegis of Department of Electronics & Information Technology (DeitY), Government of India and was conceptualised in the FY 2013-14 to enable seamless service delivery to the citizens at the district level. In the State of Himachal Pradesh, the district administration is the primary delivery channel for G2C services. In the F.Y. 2018-19, Kangra district registered the highest number of 1.44 million transactions, where LMK delivered the services at ground level with 1.42m transactions. Maximum applications pertaining to the Department of Revenue were submitted using web login and LMK/CSC collected maximum bill payments. These figures have Stated that the people of Kangra, HP have started to adopt e-District application, and LMK is serving best to the people. This success story will help to understand the process of rolling out, awareness and challenges & enabling factors undergone to execute the application.

Scope of the Study

The scope of the study included implementing e-District application in Kangra district of Himachal Pradesh and studying the digital penetration of services, using e-District application at the grassroots level and how those services benefit the beneficiaries.

In Kangra district, four blocks were selected, viz., Indora, Baijnath, Lambagaon and Kangra, because of the highest and lowest literacy rate and sex ratio. The list of beneficiaries has been collected from the department and LMK officials during the last two months, whereas the LMK details are available online.

Salient Findings & Key Success Factors

- As per the census records, the State has a literacy rate of 82.8 per cent. As per TRAI, the teledensity is 148 per cent, and as per e-PDS. In Himachal Pradesh, 13.42 per cent are BPL families in the district of Kangra of Himachal Pradesh. In the sample size of four blocks, 84 per cent are graduates & above, 80 per cent of respondents from all four blocks are equipped with digital devices, and 83.5 per cent of the respondents are availing internet services. This represents a very strong digital penetration in the State
- 81.7 per cent of the respondents know how to operate the digital device, but 77.75 per cent operate at the basic/intermediate level only. It is also found that only 26 per cent of them have undergone any digital literacy programme and 69.6 per cent exhibited their interest in hands-on training in Digital Literacy. In proportion to this, very few beneficiaries, i.e., 8 per cent, availed e-Services through direct web login. This represents that the capacity building training programmes need to be hosted at ground level, which helps the rural people benefit from e-Services.
- Hundred per cent of beneficiaries of the sample size are aware of e-Services, but 55.65 per cent are aware that these e-Services are launched under the e-District application. The friends & social gatherings, and social media are the major sources of penetration, with 60.12 per cent & 19.4 per cent, respectively. It also represents that more awareness programmes like public gatherings must be launched extensively through Gram Sabha using social media.
- The Citizen Service Centre in the State is known as Lok Mitra Kendra, established at the Panchayat level under the PPP mode. The CSCs are the channel between the e-Services and citizens; in the sample size, 89 per cent of the respondents availed these services through CSCs only. The beneficiaries are happy with the services of CSC as 95 per cent found that they deliver the services without consuming much time and 66.7 per cent Stated that they serve within the time frames. It is also found that 80 per cent of the beneficiaries have not found any display board, and a majority of LMK, i.e., 53.3 per cent, Stated that there is no monitoring. The Department of IT needs to ensure the sustainability and transparency of the CSCs. Moreover, the motivation for these services should be increased with more technical support and training for CSCs.
- The trust of the citizen in the portal is the major factor. In the analysis, it is found that 73 per cent of the respondents who have availed the services through web login trusted the data security of the portal. The portal is continuously integrating with new databases and services in that order, the SSL certification and two-factor authentication need to be incorporated into the application
- The users found the application user-friendly and responsive and rated it as good. Moreover, 100 per cent of the departmental officials rated the overall quality as good. The Department of IT is also planning to infuse latest technologies to increase the outreach of the application to the rural masses. It resembles that in the near future, people will avail the services in a paperless manner.
- For the progress of any district, the upliftment of Scheduled Categories and Backward Classes is a must. From the collected data, it is evident that 78.3 per cent, i.e., the majority of the sample, belongs to this category only which directly represents their upliftment of scheduled/ backward category using e-Services.

- The sample size also represented that majority of the beneficiaries belong to marginal families, i.e., 65 per cent are in the income slab of Rs. 30,000 to Rs.1,00,000 only, meaning e-services are actually serving the people who need it most and can't afford to visit Tehsil/ Sub-Division/district offices for these services.

Overall, this exercise serves two purposes- first, going by the total score the 13 indicators obtained, a clear endorsement of the fact that the indicators selected 'reflect the status of implementation' of e-portal and second, the implementation status can be viewed and also assessed from the viewpoint of three different dimensions which are Digital penetration, LMK utility and Portal features. The second part would enable the implementing agencies to take appropriate steps regarding those dimensions, which yield lower scores. From this point of view, this exercise is useful for adoption in situations.

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CURRENT LABOUR USE IN CROP PRODUCTION AND POTENTIAL SURPLUS LABOUR

NIRDPR and Foundation for Agrarian Studies

The research project examines the levels of labour absorption in crop production and identifies the variations in these levels across 20 villages located in different agro-ecological zones in India. The study 1) quantifies the problem of large-scale underemployment among the rural workforce, 2) estimates the extent of labour that can be withdrawn from crop production for gainful employment elsewhere, and 3) also provides the socio-economic characteristics of this potential surplus labour, specifically in terms of its gender composition.

Method of Study

The project uses the existing data from the archives of the Foundation to explore the aforementioned objectives. Since 2005, a major activity of the Foundation has been an India-wide programme of village studies. As an outcome of the programme, the foundation has created a detailed database on various socio-economic indicators from 27 villages across 12 States located in diverse agro-ecological and socio-economic regions of the country. The present study uses data from a subset of 20 villages to explore the objectives.

Main Findings

1. Levels of Labour Absorption in Crop Production and Labour Supply: The impact of seasonality in crop production was prominent across all the study villages. In most of them, the total labour use in crop production was higher in Kharif than in Rabi, primarily due to the cropping pattern and large gross cropped area in the Kharif season.

There was a high intra-season difference in labour use for various tasks in the study villages. In most of them, the largest share of labour employment was generated for harvest and post-harvest operations. There is both considerable inter-seasonal and intra-seasonal variation in demand for labour in crop production.

One of the key determinants of labour absorption in crop production has been the combination of crops grown in any production system. While crop diversification from the point of view of higher income has been discussed, there is a need to examine crop diversification from the point of view of labour absorption.

The distribution of labour use by month shows the enormity of underutilisation of labour time. In most of the study villages, irrespective of the level of agricultural development, the deployment of labour was concentrated in a few months, specifically the harvesting months. The proportion of unexpended labour that can be withdrawn from crop production and the time span for which it can be withdrawn varies depending upon the size of the surplus labour during the peak month(s) of labour deployment.

2. Estimation of Current Labour Use in Crop Production and Potential Surplus Labour: Excess labour in the rural production systems was estimated by considering two variables, namely the potential labour supply and total labour use. The current total household labour use in relation to the potential labour supply suggests that serious underemployment prevails among the working-age population at the village level. Not even 50 per cent of available labour was expended in any of the study villages.

Total labour use in crop production vis-à-vis the potential labour supply was minimal in the study villages, ranging between 5 and 29 per cent. This emphasises the fact that, given the current level of technology adoption, the labour-carrying capacity of crop production cannot be sustained.

Given the limited capacity of crop production to absorb labour and the availability of workers in the village production system, the proportion of surplus workers, especially female surplus workers, was very high across the study villages. A significantly large proportion of surplus workers could be permanently moved out of crop production without affecting the production process. Even more surplus workers could be temporarily withdrawn from crop production and provided with short-term employment opportunities in other sectors.

The surplus workers would have moved away from crop production if better remunerative, non-agricultural wage work was available within or outside the study villages. However, the lack of employment opportunities in the non-agricultural sector forced them to remain in wage employment in crop production to maintain their livelihood.

Crop production cannot carry such a large workforce with the current provision of the forces of production. Any technological improvement would further shrink crop production's labour absorption capacity, leaving more workers unemployed or underemployed. From a policy perspective, employment generation must happen in other sectors of the economy, as crop production does not have any capacity to absorb more workers; rather, the withdrawal of a significant proportion of the workforce from crop production would improve the overall employment situation.

Though the data from 20 villages cannot be generalised for all villages of India, this study highlights the importance of the size and characteristics of surplus labour being at the centre of any discussion on labour and employment in rural India.

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DESIGN AND DEVELOPMENT OF COMPRESSED MUD ROOF TILES, FLOOR TILES AND PAVER BLOCKS – A PILOT ACTION RESEARCH PROJECT

Dr. S. Ramesh Sakthivel

Introduction

The use of Compressed Stabilized Earth blocks for building walls is a popular technique adopted in affordable and sustainable building technology. The compressed earth blocks are produced primarily using locally available soil along with small quantities of cement. However, the roofing and floor tiles required for the house need to be procured from industries that produce them using conventional energy-intensive materials and processes. Also, the roof and floor tiles available in the market are expensive, and there is also an additional cost involved in transportation as well. Considering these factors, the author attempted to develop 'Compressed Stabilized Earth Tiles', which can be made right at the construction site using locally available earth and employing simple hand-operated compression machines.

Initial trials have shown promising results in developing roof tiles that can be used as filler material for concrete roof slabs, popularly promoted by the famous architect Laurie Baker. The tests also show that the process can be adopted for producing floor tiles and paver blocks for outdoor pathways. The advantage of the process is that a common man can have all the essential construction materials required for a house, such as bricks, roof tiles and floor tiles, right at his doorstep at a low cost. Use of locally available earth and a simple hand-operated compression machine makes the entire process cost-effective and environment-friendly. With this background, this action research study is proposed to develop strategies for developing roof tiles, floor tiles and paver blocks using compressed stabilised earth process. Development of compressed tiles and paver blocks can effectively address the issues such as the use of industrially produced high-energy and non-renewable materials, the ever-increasing cost of house construction and the environmental concerns in the construction industry.

Objectives

The proposed research objectives are as given below:

a. Design and develop appropriate designs of the tiles and paver blocks and the types of machinery required for this purpose

b. Conduct lab tests to standardise the process of production and validate the designs of paver blocks developed.

Based on the initial trials to develop the Compressed Stabilised Earth Block (CSEB) tiles and pavers, it was found that developing thin compressed mud blocks as floor and roof tiles had few limitations. Therefore, considering these limitations, the work on developing thin floor and roof tiles were not further pursued in this study.

Methodology

Soil Testing: The red soil for making paver blocks was procured and analysed to understand the properties such as grain size distribution and Atterberg limits. Based on these factors, the design mix to add soil, sand or quarry dust and cement was worked out. The soil was sieved using a 2mm sieve to remove coarse particles and foreign bodies present in the soil before analysis. The grain size analysis of the soil sample revealed per cent of clay: 22, silt:31, sand:46 and Gravel:1. The percentage of liquid limit of 54, plastic limit of 25 and plasticity index of 29 was observed.

Mix Proportions and Production: Various mix proportions of soil, sand or quarry dust (<2mm), gravel (2-4mm) and cement were worked out for preparing the paver blocks for testing. As the soil contained more clay and no gravel, adding sand/quarry dust and gravel to the soil was recommended for the production of CSEB bricks (Maini, 2010). In addition, the cement content was kept at 12 and 15 per cent, respectively, for various ratios of soil, sand/quarry dust and gravel ratios tested in this study. A higher percentage of cement than the usual value of 8 per cent recommended for CSEB bricks was chosen in order to increase the strength and associated properties of the CSEB pavers. The soil, sand and quarry dust used to prepare paver blocks were sieved using a 2mm sieve to remove larger particles. The required gravel particles of 2-4 mm were obtained by sieving the quarry dust. These were added according to the various mix proportions along with optimum water content for the preparation of test paver blocks using the hydraulic machine at a standard pressure of 2100 psi. The paver blocks obtained were cured by sprinkling water for 21 days before tests were conducted.

Compressive Strength: Compressive strength tests of CSEB pavers were conducted as per BIS standard Test procedures No. IS 3495 (Part 1):1992 of testing burnt bricks since it has comparable properties to the CSEB pavers. The tests were conducted using a compression testing machine. The paver block samples were prepared in triplicate for all the 14 series of mix proportions used for compressive strength testing after they were allowed to cure for 21 days. In total, 42 paver blocks were used to estimate the compressive strength tests. The failure load values recorded during the test procedure were later converted to load per unit area in kg/sq.cm.

Water Absorption: Water absorption tests of paver blocks were conducted as per BIS standard Test procedures No. IS 3495(Part 2):1992. The paver block samples prepared in triplicate for all the 14 series of mix proportions used in the study were weighed to determine the dry weight after 21 days of curing. In total, 42 paver blocks were used to estimate water absorption. The specimens were dried in a ventilated oven at the temperature of 110°C ± 5°C until they attained a substantially constant mass. All the specimens were cooled to room temperature, and then their dry weights (DW) were measured. Then, the dried specimens were immersed completely in clean water at a temperature for 24 hours. The specimens were removed, any traces of water were wiped off with a damp cloth, and the specimens were weighed to obtain wet weight (WW). The percentage of water absorption was calculated using the following formula:

$$\% \text{ of Water Absorption} = ((WW - DW)/DW) \times 100$$

(Where; WW: Wet weight of paver, DW: Dry weight of paver)

Abrasion Index: In the absence of abrasion test apparatus for testing the abrasion properties, the abrasion test index of ASTM C 902 is used for understanding the performance of pavers developed in this

study. Abrasion resistance is a measure of the resistance of paving brick to the wearing. In this test, the relationship between compressive strength and water absorption are used to estimate the values as given below;

Abrasion Index = (100 x Water Absorption)/Compressive Strength

(Where; Water Absorption in % and Compressive Strength in psi)

Study Area

Being an action project, the studies were conducted at RTP, NIRDPR.

Findings

- The highest compressive strength of 113.3 kg/sq.com observed for CSEB pavers in the tests is lower than the value of 330 kg/sq.com compressive strength recommended for concrete pavers as per IS 15658:2006. However, the compressive strength of pavers observed in the tests is higher than the second-class bricks used as pavers in non-motorable pedestrian footpaths with compression strength up to 70 kg/sq.com.
- The percentage of water absorption observed for pavers blocks in the study ranges from 6.60 to 7.86 per cent. The IS standard prescribed water absorption concrete pavers is about 6 per cent of its dry weight. However, for brunt bricks, which are also used as pavers, the percentage of water absorption for brunt bricks are in the range of 15 and 20 per cent for the higher class (above class 12.5) and lower class (up to class 12.5), respectively, as per the IS standard 3495 (Part2): 1992
- The cost of the CSEB paver is cheaper per square foot area with Rs. 25.53/ per sq. ft. The rates worked out for brick and concrete pavers are Rs.42.11/-sq. ft. and Rs.31.91/sq. ft, respectively.
- The Embodied energy and CO2 emissions per square foot area of CSEB pavers work out as the lowest with 3.64 MJ/sq. ft. and 0.096 Kg/Sq. ft., respectively. The saving in embodied energy calculated for CSEB paver per square foot area works out to 528.57 and 85.71 per cent, respectively, compared to brick pavers and concrete pavers. Similarly, the saving in equivalent CO2 released worked out per square foot area for CSEB pavers works out to 306.25 and 66.67 per cent, respectively, in comparison to brick pavers and concrete pavers
- The values calculated for the pavers based on the relationship between compressive strength and water absorption range from 0.49 to 0.56. The lowest value of 0.49 was observed for samples D-I, S-IV and D-IV. As per the ASTM standard, the maximum permitted value of the abrasion index for residential floors and patios is 0.50.

Conclusion

This study has studied and presented the properties of CSEB paver blocks that can be an alternative to concrete pavers for use in non-motorable pedestrian footpaths. Based on the results, the optimum ratio of 75 per cent soil, 15 per cent quarry dust and 10 per cent gravel and 15 per cent cement in sample D-IV can be used to produce CSEB bricks with a compressive strength of 113.2 kg/sq.cm, water absorption

value of 7.86 per cent and abrasion index of 0.49. Further studies to increase the strength of the CSEB can be taken up by increasing the sand/quarry dust, gravel and cement in the soil. In addition, the favourable economic and environmental considerations of the CSEB pavers compared to brunt bricks and concrete pavers indicate their suitability as an alternative sustainable building material.

Policy Recommendations

- CSEB paver block, which can serve as an alternative to concrete pavers for use in non-motorable pedestrian footpaths, has been studied and presented
- The favourable economic and environmental considerations of the CSEB pavers in comparison to brunt bricks and concrete pavers indicate their suitability as an alternative sustainable building material
- Entrepreneurs who are manufacturing CSEB Bricks can benefit by adding the CSEB Pavers to their production line as a product.

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GENERATION, MAPPING AND WEB PUBLISHING OF GEODATABASE ON SHIFTING CULTIVATION BY ROTATION CYCLE USING GEO-SPATIAL TECHNOLOGIES: A STUDY OF SEVEN DISTRICTS OF NE INDIA

Dr. A. Simhachalam
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Introduction

Shifting cultivation is the oldest form of traditional agricultural practice in the history of human civilization and is still being practised in many parts of the world. The history of shifting cultivation can be traced back to about 8000 BC in the Neolithic period, which witnessed the remarkable and revolutionary change in man's mode of production of food - from hunters and gatherers to food producers (Tiwari and Pant, 2018).

A cycle of shifting cultivation starts with the preparation of agricultural fields by clearing a primary forest where the large trees are often felled and left on the ground to decay. Classifying shifting cultivation generally refers to a system of agriculture where the fields are abandoned after a regular or short period of cultivation. Then a new uncultivated patch is cleared for cultivation (Kingwell-Banham, 2012). The two distinct manifestations of the rotation cycle are the use of land for a limited period and the fallowing of the same land for an extended period. The cycle is expressed in terms of the number of years. After a period ranging from weeks to months, the slashed area is burned to clear remaining vegetation and release the nutrients which subsequently fertilize the soil (Miracle, 1967). Taking into account the period of the rotation cycle in terms of the number of years under use and fallow, some of the rotation cycles have been categorised as short, while the same in another area/village have been categorised as long. The shortest rotation cycle of three years was found in a number of villages of Garo hills, Meghalaya (Haloi, 2001) and the longest duration of 15 years in several villages of Nagaland (Devi, 2005). These dimensions have been brought out by various micro-level studies by many authors (Ganguli, 1990; Rama Krishnan, 1992; Das, 2001; Devi, 2005). In the context of the environment, ecology and sustainability of natural resources, the status of the rotation cycle in terms of short or long duration bears a lot of implications. Shifting cultivation has been cited as one of the main drivers of forest deforestation and degradation, where the cultivated landscapes vary in fallow vegetation with different ages and compositions (Herold and Skutsch, 2011; Mertz et al., 2012). It is a well-established notion that the long rotation cycle is productive and sustainable, while the short cycle is less productive and damages the natural environment.

It is evident from the literature review that shifting cultivation is a large-scale phenomenon in North East India, and it is particularly so in the seven States, namely Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura. On this large-scale phenomenon, it is expected that there is a database generated and maintained on the part of the government. State governments have implemented various programmes to control, mitigate or improve jhum over the years. A review, therefore, is made about the availability of the database on shifting cultivation. The review shows that there are two databases available on shifting cultivation. One is available with the Directorate of Economics and Statistics (DE&S) of the State governments, and the other is available with the National Remote Sensing Centre (NRSC), Hyderabad. The data available in both sources is on area statistics. The DE&S maintains it

in print form, while NRSC maintains the same in print as well as in digital format. The area statistics provide two types of data. One is in the current area, and the other is in the abandoned or old fallow area (area fallowed for more than one year period). A search on the unit level of data maintenance shows that DE&S maintains the two area statistics at the level of two administrative units, namely at the State level and district level. However, these two areas' statistics are not available at the village level where this cultivation phenomenon occurs.

Even at the block level , which is the most important unit for development purposes, these two area statistics are not available. A further search on the data availability according to the rotation cycle shows that there is a total absence of such area statistics on shifting cultivation. The land use under shifting cultivation takes place in cyclic order, but to find data on such reality, it is not there in the source. The other source, i.e., NRSC, which generates data on shifting cultivation countrywide, is based on Indian satellite imageries. Obviously, it is a geodatabase. So far, NRSC has generated data on shifting cultivation for three time points, i.e., 1986-2000, 2003 and 2008-09. The area statistics generated on shifting cultivation include (a) the area under current Jhum and (b) the area under abandoned Jhum or old fallow area (area fallowed more than one year period). These two statistics are available at two levels of administrative units, namely the State and the district level.

Also, the agency presents the same two area statistics in map format depicting the spatial pattern of occurrence of shifting cultivation. The spatial pattern can be visualised from the enclosed map. However, there are no village boundaries in the hilly areas of NE India for absence of Cadastral Survey, so the extraction of both the area statistics at the village level is not possible under the GIS environment. Similarly, it is impossible to extract at block level for want of block boundary in the same database. Thus, the area data on the rotation cycle around each village is unavailable with the NRSC. Importantly, there has been a total absence of any attempt to generate a rotation cycle-based database on shifting cultivation. A relevant geodatabase, therefore, is expected to bring out distinctly by classifying the vulnerable villages following less than eight years of rotation cycle (fallow period) and non-vulnerable villages following eight and above years of fallow period in the rotation cycle.

A large number of studies involving the mapping of shifting cultivation have been done by using different kinds of satellite images (Roy et al., 1985; Chakraborty et al., 2015; Molinario et al., 2015; Dutrieux et al., 2016; Li and Feng, 2016; Molinario et al., 2017; Schneibel et al., 2017; Nongkynrih et al., 2018). One of the initial steps in shifting cultivation is to burn the cleared vegetation, but the vegetation regrowth is very rapid in such locations and therefore using single-date satellite data or using multi-date satellite data with long intervals to map shifting cultivation is very difficult (Frolking, 2009). Another problem while using single-date multispectral images is the masking of the vegetative cover at different stages of forest regrowth by terrain shadows and therefore suffer from inaccuracies (Dorren et al., 2003) while mapping shifting cultivation regions.

It is imperative in light of the dynamics of shifting cultivation and terrain shadows that we use satellite data with high temporal resolutions, and such kind of data is available in Landsat archives from the United States Geological Survey (USGS), which accounts for over 40 years of freely available Landsat data (Woodcock et al., 2008). The studies involving coarse spatial resolution satellite data usually produced land cover classes as a single constituent (Mayaux et al., 2000; Hansen et al., 2008), but with the availability of higher spatial resolution satellite images, it is now possible to have a wall-to-wall characterization of land cover associated with the cycle of shifting cultivation (Bwangoy et al., 2010; Potapov et al., 2012; Ernst et

al., 2013). Remote sensing and GIS can be used to understand the spatial pattern and distribution of shifting cultivation patches.

Objectives

- To distinguish the settlement component of the villages (built-up) along with the name and the area where (hinterland) each village unit carries out shifting cultivation
- To measure the area put to use and fallow annually under shifting cultivation for a period of the last 15 years
- To identify village-wise rotation sites under shifting cultivation based on the last 15 years of practice
- To classify the area under different rotation cycles based on the threshold limit of a balanced ecology
- To map the shifting cultivation areas according to the balanced ecological threshold limit
- To develop web GIS application and hosting for providing easy accessibility of the data.

Methodology

Two types of data - Primary and Secondary - are being used to generate and map the geodatabases on shifting cultivation, and they are:

Primary data: The primary data were collected by practically visiting the study area, i.e., the latitude and longitude of shifting cultivation patches along with the associated village name and age of the shifting cultivation patches. The ground truthing, location verification of the village boundaries and patches, and focus group discussion were also done during the field survey. The next set of data was based on the socio-economic, agricultural and ownership aspects.

Secondary data: The secondary data source was satellite imageries of the study area (2003-2017) period. Two different types of satellite imageries viz. LISS IV and Landsat (5 TM, 7 ETM+ and 8 OLI) were used to generate geodatabases on shifting cultivation. Two sets of different satellite images were used mainly to address two aspects, i.e., spatial and temporal resolution.

Study Area

The proposed study area comprised seven districts of northeast India. The State of Sikkim is not included in the study as the practice of shifting cultivation does not exist in the State. From the remaining seven States, one district from each State where the phenomenon of shifting cultivation is dominant has been chosen randomly. The project was divided into two phases. The districts selected under the first phase of the project were Dima Hasao (Assam), Anjaw (Arunachal Pradesh) and North Garo Hills (Meghalaya). The districts selected under the second phase of the project were Ukhrul (Manipur), Champhai (Mizoram), Mon (Nagaland) and North Tripura (Tripura).

Findings

The district-level analysis of the shifting cultivation area of all seven districts has been carried out with the help of Satellite imageries, and statistics have shown that the area under shifting cultivation for the study period (2003-2017) is the highest for Mon district, Nagaland, followed by North Tripura district, Tripura, Champhai district, Mizoram, Dima Hasao district, Assam, Ukhrul district, Manipur, North Garo hills district, Meghalaya and Anjaw district, Arunachal Pradesh. The area used under shifting cultivation for Mon district was highest in 2010 at 31,744 ha and lowest used area at 11,433 ha in 2006. For North Tripura, the area under shifting cultivation was highest in 2008 at 38003.77 ha. For Champhai district, the area under shifting cultivation was highest in 2016 at 14255.05 ha. For Dima Hasao district, the area used under shifting cultivation was highest in 2015 at 15007.905 ha. For Ukhrul district, the area under shifting cultivation was highest in 2004 at 10232.64 ha; for North Garo Hills district, the area under shifting cultivation was highest in 2013 at 4989.58 ha, and for Anjaw District, the area under shifting cultivation was highest in 2010 at 1173.11 ha.

The comparative analysis of the shifting cultivation area, as shown in Table 1 and Figure 1, also indicates that the use of shifting cultivation area decreased in Anjaw, North Garo hills and Dima Hasao in 2017. Whereas for the other districts, such as North Tripura, Mon, Ukhrul and Champhai, it showed an increasing-decreasing trend throughout the study period, with an increase in the year 2017. An interactive web GIS-based application has been created to publish the findings from the study and make it interactive and user-friendly.

Table 1: Comparison of shifting cultivation area of all districts

SC Use Area							
Year	**Dima Hasao**	**Anjaw**	**North Garo Hills**	**North Tripura**	**Mon**	**Ukhrul**	**Champhai**
2003	3045.531	699.45	1871.56	6063.86	21353	5770.25	9749.39
2004	3837.743	721.66	2126.13	11758.51	25613	10232.64	13004.43
2005	3687.481	298.82	2164.99	14808.11	12990	7401.25	12513.67
2006	4223.369	235.04	2426.8	11917.76	11433	5817	12068.89
2007	4520.042	532.90	2760.68	18785.38	15157	6289	7473.39
2008	5635.153	856.23	1894.14	38003.77	25930	8476	9875.25
2009	6192.132	561.12	2048.77	20272.08	26056	6461	8792.74
2010	6448.269	1173.11	2277.78	11027.61	31744	7046	8227.7
2011	6170.621	741.79	1581.33	13146.2	26894	7323	8465.07
2012	11278.414	464.69	2747.7	10785.27	22093	4444	6360.14
2013	12077.429	1046.40	4989.58	13770.99	24156	6374	7060.4
2014	12759.315	1218.14	3820.61	21008.26	21787	7074	5514.28
2015	15007.905	1034.60	2770.89	30685.02	17885	6763	4861.44
2016	12427.236	798.75	3808.81	10672.35	20876	4039	14255.05
2017	9273.659	899.83	2276.96	30251.44	17713	5978	11020.24

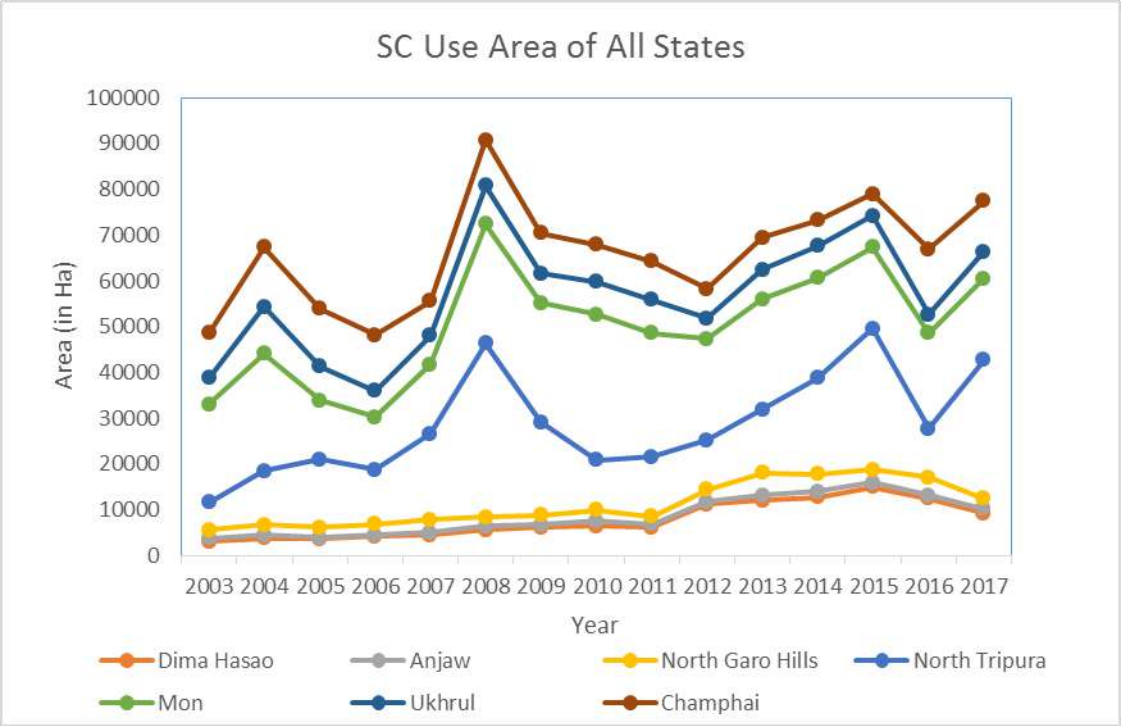

Figure 1: District-wise comparison of Shifting Cultivation use area

Conclusion

The analysis of rotation cycle mapping of shifting cultivation was first done at the district level, followed by the block and village levels. The rotation cycle was analysed manually by taking the used and fallow years for the entire 15 years. For example, the patch cultivated in 2003, kept fallow the next eight years and used again in the following year was considered as the one rotation cycle. The overall vulneRability classification showed that the maximum number of patches as well as the area under shifting cultivation were falling under the last two categories of non-vulnerable and highly non-vulnerable groups, followed by somewhat-vulnerable class. An Interactive Web GIS-based application has been created to publish the findings from the study conducted in the district and make it interactive and user-friendly.

The field data survey and the Focused Group Discussion with the villagers gave detailed information about the shifting cultivation practised in the districts. The slashing of the patch starts in February and March every year, and the burning of the patches starts by mid of March till the end of March. The cultivation or sowing of the crops begins by the end of March-April till June, depending on the crops. The harvesting period begins in August and ends the following February, depending on the crop. For example, rice is cultivated by April and harvested by October or November. Similarly, ginger is being grown by April/May and harvested by Feb/March next year, depending on the market value. Therefore, it was clear that the shifting cultivation patch is used only for a year in most villages and is kept fallow for 6 to 15 years. Rice, ginger, corn, chilli, tobacco, turmeric and vegetables such as pumpkin, brinjal, soyabean, capsicum, mustard, bitter gourd, watermelon, cucumber, and small brinjal are the crops grown in the patches, along with the seasonal vegetables. The villagers also have permanent patches for growing fruits such as grapes, orange, pineapple, mango, tree bean, lemon, sugar cane, and banana.

The rotation cycle was analysed manually by taking the used and fallow years for the entire 15 years. For example, the patch cultivated in 2003, kept fallow the next two years, and used again in the following

year was considered as a rotation cycle. The overall vulneRability classification showed that the maximum number of patches as well as the area under shifting cultivation were falling under the three extremely vulnerable, largely vulnerable and somewhat vulnerable groups with a more fallow period of less than eight years and 10 years, respectively, which concludes that the shifting cultivation practice is still very active in the district mainly on an individual level. Therefore, to reduce the shifting cultivation practice, it can be suggested that the government must take an active step in the districts by implementing alternative measures and sustainable schemes and modern farming techniques such as terrace farming and contour farming similar to North Garo Hills district in order to increase the crops production and reduce the environmental hazards. The above results and conclusions were based on the study conducted from 2003-2017; therefore, a study of the current scenario of the districts' shifting cultivation trend can be suggested to get better results and understanding.

Therefore, from the overall study of the seven districts of the northeast region, it is evident that shifting cultivation is still very active at an individual level in the villages. Even though the government has introduced different schemes to mitigate or to stop jhum cultivation practices in the States, the villagers continue to practice it, although the study conducted for 15 years, i.e., (2003-2017), has found that the shifting cultivation practice showed an increasing- decreasing trend but has reduced by the year 2017, except for North Tripura which showed an increase in the practice in the year 2017. One of the reasons for the farmers to continue shifting cultivation is the freedom to choose their own crops, which is impossible with terrace farming, contour farming, and a few other modern farming techniques. The variation in altitude, soil type, water scarcity, lack of accessibility, etc., especially in some areas of Anjaw and Champhai, are a few of the problems that make modern farming techniques challenging for the farmers and drive them towards the practice of shifting cultivation.

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EVALUATION OF CONSOLIDATION AND END-TERM PHASE, BATCH-III, PMKSY PROJECTS, NAGALAND

Dr. Simhachalam A.

As desired by the SLNA, IWMP Nagaland, consolidation phase evaluation of 20 Batch –III PMKSY Projects (2011-2012) and End term evaluation of Batch –III IWMP/PMKSY Projects (2010-11 to 2014-2015) belonging to Nagaland State have been taken up and completed.

Key Findings of End-term Evaluation

- The performance scoring as well as the grading system adopted for this evaluation is similar to the system designed by the DoLR, MoRD, GoI for the evaluation of watershed project activities
- The evaluation has been designed to use mainly primary data drawn from 14 sample MWS units of the projects. Accordingly, each sample MWS have been examined, and performance status has been ascertained
- The field data collection is based on interaction with the primary stakeholders like members of WC, SHGs, and UGs, supported by verification of the same activity in the sites as well as through the depiction of photographs, latitude and longitude. Secondary data available with the PIAs of the projects have been collected and used in necessary places for this evaluation
- The geographical area of 43 MWS under four end-term evaluation projects accounts for 23708.83 hectares, of which 18346 hectares account for 77.38 per cent of the total geographical area taken for treatment
- The examination of the compliance of the various stipulations of the common guidelines, the assessment of the achievements of both physical and financial targets, the current status of the institutions of primary stakeholders and physical assets and making the assessment of the performance of the above are the main objectives of the evaluation
- The DoLR, MoRD, GoI has already adopted a scoring system that expresses each action's performance in terms of five value-based classes, namely Excellent, Very Good, Good, Satisfactory and Poor. The quantitative values attributed in the form of scores to the corresponding level are 9.5, 8.5, 7.0, 5.5 and 4.0. The percentage classes of the corresponding score are >90 per cent for Excellent, 80 to 90 per cent for Very Good, 60 to 80 per cent for Good, 50 to 60 per cent for Satisfactory and <50 per cent for Poor
- The evaluation framework contains 10 broad areas/indicators. Out of 10 broad areas, the performance of Very Good could accomplish three broad areas as per the stipulations/provisions of the common guidelines; three areas include general execution of watershed work/activities implemented as per DPR, community participation in the execution of work phase and financial audit
- In respect to the performance level of 'Good' out of 10 broad areas, seven broad areas accomplish

tasks, i.e., performance of EPA and NRM works of the preparatory phase, watershed development works, farm-production system, livelihood-support system, capacity building for work, farm production system and livelihood support system and fund utilisation

- Concerning convergence, the performance is found poor as no convergence was implemented.

Recommendations

The analysis makes it evident that the theme-level indicators with poor and satisfactory performance status need attention and action on the part of the PIA to address the weakness that prevails in the project implementation:

- The attempt for making convergent implementation of PMKSY activities with other programmes/ schemes is less observed, and hence the introduction of the practice of convergent implementation as suggested in the guidelines is recommended
- The Up-scaling of marketing infrastructure and support activities for agri-based products, Up-of off-farm/informal enterprise scaling, and marketing arrangement for other off-farm products/informal activities are not found. As suggested in the guidelines, it is recommended that the PIA of the project should take upscaling of successful activities
- Again, organic farming and marketing status was found in a few projects only, and in many project areas, it was found absent. Hence, it is recommended that the PIA of all projects should promote organic farming and marketing among the villagers
- Other indicators observed, i.e., up-scaling of livelihoods through promotion of the institution of SHGs, promotion of agro-processing activities and documentation of success stories which are not good but reach up to the satisfactory level according to the grading system. It is recommended that PIA should show more concern for the better improvement of these theme-level indicators under the broad areas.

Key Findings of Consolidation Phase Evaluation

- The change and modification resulted in the selection of five broad area levels, 22 theme level and as many as 95 micro-level indicators. With these indicators, 20 projects represented by 59 sample MWSs have been examined by ascertaining their performance status
- The geographical area of 20 consolidated phase projects accounts for 1,02,428.29 ha. Of which 86000 ha. accounting for 83.96 per cent of the total geographical area that has been taken for treatment
- The field data collection is based on interaction with the primary stakeholders like members of WC, SHGs, and UGs, supported by verification of the same activity in the sites as well as through the depiction of their photographs with latitude and longitude
- In respect of only two out of 22 theme level areas/indicators, the performance is found to be "Very Good", i.e., Promotion of Social Institutions and Management of Watershed Development Fund (WDF)

- In respect of twelve out of 22 theme level areas/indicators, the performance is found to be 'Good', i.e., Status of consolidation phase plan by PIA in four sample MWSs, physical achievement of consolidation phase plan, financial achievement of consolidation phase plan, financial & social audit, monitoring during the consolidation phase, performance status of PIA/WC in the adoption of Operation and Maintenance (O&M) Rules& regulation related to assets/Natural Resources (NR), Execution of Memorandum of Understanding (MoU) between WCDC & PIA, Assistance to SHGs and federations in the form of Revolving Fund (RF) from livelihood corpus, Status of WC as a sustainable, functional unit, strength built in the self-help group (SHG), the status of UGs as sustainable, functional unit and preparation of Project Completion Report (PCR)
- The number of poor performance indicators comprises five, and the number of satisfactory performance indicators comprises three. Up-scaling of livelihoods through promotion of the institution of SHGs, promotion of agro-processing activities and documentation of success stories are found satisfactory, and implementation of convergence plan, upscaling of marketing infrastructure and support activities for agri-based products, up-of off-farm/informal enterprise scaling, marketing arrangement for other off-farm products/informal activities and status of organic farming are found poor
- Thus, the weaker performance in scoring and grading of 8 theme level areas/indicators are five in poor and three in satisfactory, which deserves the attention of PIAs to set things right as desired in the Common Guidelines of Watershed Projects, 2008/2011.
- The performance status of 22 theme-level indicators, when viewed at the level of projects, the performance status of projects stands 'Good' with 6.3'. However, the overall projects registered a 'Good' performance status.

Recommendations

It is recommended that PIAs address the following weak indicators:

- SHGs' livelihood activities may be linked with bank credit, livelihood corpus and institutions providing technical support for their upscaling, as these are not done.
- The numerical strength of the SHGs is much lesser than what was proposed in the plan and hence may be attempted further
- The authorisation of WCs or institutions like Village Council (VC)/Village Development Board (VDB) may be done for the management of WDF as the task remains unattended at the time of evaluation
- The assistance from livelihood corpus as returnable financing may be introduced in place of the present pattern of assisting SHGs with Rs. 10,000 - 20,000 as RF, which is a one-time grant
- WCs are neither authorised nor provided with management skills of livelihood corpus and hence recommended to address the both
- WCs are not yet formal bodies as they are not registered under Societies Registration Act, 1860. The problem of deployment of non-formal bodies for utilisation of Government grants may be taken up seriously and addressed

- The practice of social audit, as suggested in Common Guidelines, 2008/2011, is recommended for adherence
- The stipulation for convergent action towards ensuring the operation and maintenance of the various assets may be attempted further
- Preparation of PCR as mandatory in the Common Guidelines, 2008/2011 may be adhered to
- The documentation of the success stories of the project activities or practices may be introduced for each project as directed in the common guidelines.

Photographs

Water Harvesting Structure (Farm pond - Community) under PMKSY Project

Cardamom crop under Nangching MWS Batch-III, PMKSY, Nagaland

Sugarcane Cultivation under PMKSY projects, Nagaland

Rubber plantation under PMKSY Project, Nagaland

Rubber roller with beneficiary under PMKSY project, Nagaland

Rubber plantation under PMKSY project, Nagaland

STREE NIDHI-A DIGITAL INNOVATION IN INDIAN MICROFINANCE SECTOR

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Shri Veneet J. Kalloor
Shri Muhammed Suhail

Introduction

Financial inclusion is an essential process in enabling people to overcome poverty by transforming their production and employment activities (Basu and Srivastava, 2005). Though the Indian banks were offering many financial products and services, they were not able to fulfil the financial needs of the rural poor to the required extent. To address this, National Bank for Agriculture & Rural Development (NABARD) formally launched the Self-Help Group- Bank Linkage Programme (SHG-BLP) in 1992. After the introduction of SHG-BLP, the members were obtaining term loans (during SHG 1.0) and cash credit limits (during SHG 2.0) from the banks, and they also used to approach informal sources of credit - moneylenders and microfinance institutions - in case of inadequacy of loan amount. Further, it was tough to obtain a top-up loan from the banks under the SHG-BLP in case of any medical emergency of the SHG members or other financial needs of the SHG members. As such, more than half of rural households are still out of the ambit of institutional credit (NABARD, 2019).

On the other hand, the major advantages of MFIs are timeliness, adequacy of the loan amounts, and the absence of procedural delays (Satish, 2015). These circumstances led to the rapid growth of private MFIs during 2006-10, resulting in multiple lending, exorbitant interest rates, and coercive recovery practices. The MFIs run by private individuals and organisations provide credit at higher interest rates ranging from 20 – 25 per cent per annum apart from a processing fee of one per cent. To put a halt to such practices of MFIs, the State Government of Andhra Pradesh regulated the operations of MFIs through the issuance of an ordinance in October 2010, which resulted in the stoppage of their lending operations in the State (Stree Nidhi, 2016).

By taking cognisance of these issues, the erstwhile government of Andhra Pradesh thought that it was the right time to establish a specialised financial institution to meet the unmet needs of the SHG members. Against this backdrop, Stree Nidhi Credit Cooperative Federation Ltd. was jointly promoted by Mandal Samakhyas (MSs), Town Level Federations (TLFs) and the former government of Andhra Pradesh in September 2011 with a view to offering quick, timely, and user-friendly credit to the SHGs at a low cost. Being a community-based organisation, Stree Nidhi has no profit motive as it serves the poor SHGs.

While the role of microfinance in poverty alleviation has been widely researched, the impact of government-promoted microfinance programmes such as Stree Nidhi, especially its efficacy in delivering microfinance through digital platforms and sustainability of the business model, has not been undertaken so far. NABARD funded the research project, titled "Stree Nidhi-A Digital Innovation in Indian Microfinance Sector", to study the operational efficacy of Stree Nidhi in delivering instantaneous credit to the poor, financial/digital literacy level of the SHG women and the possibility of replication of its digital business model in other parts of the country given its customer-centric features.

Objectives

- Examine the efficacy of credit delivery mechanism of Stree Nidhi Credit Co-operative Federation Ltd. in Telangana and Andhra Pradesh;
- Document the experiences of the SHG members on digital platforms adopted by Stree Nidhi while disbursing credit (measuring customer satisfaction level);
- Ascertain the level of awareness of SHG members on financial services offered by Stree Nidhi with a view to understanding the level of financial/digital literacy of the SHG members;
- Assess the impact of Stree Nidhi on the livelihoods of the members of SHGs
- Evaluate whether the business model of Stree Nidhi is sustainable and replicable in other parts of India.

Methodology

The research study is majorly based on primary data from a total of 603 SHG members, who are Stree Nidhi beneficiaries, from across ten districts, i.e., five districts each from Telangana and AP, through a stratified multi-stage random sampling procedure. The districts were selected based on the Human Development Index (HDI) of respective study States from high, medium and low levels of HDI rank and the different regions, namely Rayalaseema, Coastal Andhra and Telangana in erstwhile AP. In addition to the primary data, secondary sources like human development reports of Andhra Pradesh and Telangana and annual reports of Stree Nidhi were used for analysis and discussion.

Study Area

Andhra Pradesh and Telangana

Findings

Stree Nidhi follows responsible lending and grants loans according to the credit rating of the SHGs. The loan defaulters under the SHG bank linkage programme do not receive finance from Stree Nidhi, which improves the financial discipline of the SHG members on the one hand and reduces the risk of NPAs on the books of Stree Nidhi.

Since its inception, Stree Nidhi has embraced technology in its operations, such as loan application, documentation and processing in accordance with the Household Livelihood Plan (HLP) of the SHG members submitted online, giving priority to the poorest of the poor. Stree Nidhi placed a social audit mechanism to ensure the end use of loans and prevent fraud. Every loan given by Stree Nidhi to its members is covered under the Stree Nidhi insurance scheme. Also, Stree Nidhi's business model of convergence with SERP/MEPMA, sourcing of low-cost funds from banks, and the government reduced the transaction costs, improved its operational efficiency, and made it profitable. Stree Nidhi shares a portion of its profit with the SHG federations to sustain the ecosystem.

The Stree Nidhi borrowers are in the most productive age group, with an average age of 38. It is

noticed that a little over one-fourth of the respondents (27.36 per cent) are illiterate in both States. While 15.42 per cent of the members studied up to 5th standard, 40.46 per cent of the respondents are educated from 6th to 10th standard.

Approximately two-thirds (65.01 per cent) of the households have a monthly income between Rs. 10,001 and Rs. 30,000. More than two-thirds of the borrowers (67.66 per cent) belong to Other Backward Classes (OBC), followed by general category (21.06 per cent) and Scheduled Castes (10.45 per cent). Seventy (70.29 per cent) of the members in Andhra Pradesh and about three-fourths of the respondents in Telangana (74.67 per cent) have been associated with SHGs for 10 years and beyond which indicates the relative maturity stage of the SHGs.

The majority of the SHG members are associated with the SHGs, which are rated as 'A Grade' (86.46 per cent in AP; and 98.33 per cent in Telangana). Most of the borrowers of Stree Nidhi (65.51 per cent) availed loans between Rs. 25,001 to Rs. 50,000 in AP as well as in Telangana for consumption or for various income-generating purposes. Respondents from Telangana received multiple loans (68 per cent) compared to AP (30.69 per cent). While nearly two-thirds of the respondents (65.34 per cent) purchased smartphones, approximately half of the members (49.42 per cent) took insurance cover under Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Pradhan Mantri Suraksha Bima Yojana (PMSBY). Also, the borrowers were able to acquire refrigerators (44.61 per cent), television (46.77 per cent), and two-wheelers (48.42 per cent) after joining the SHG-BLP/Stree Nidhi. Similarly, 15.42 per cent of the borrowers could build their residential house, and 11.94 per cent of the members purchased auto/four-wheeler/tractor/ transport vehicles to enhance their livelihood options. So, joining the SHG-BLP/Stree Nidhi led to the purchase of movable assets/consumer durables by the SHG women, but not high-value assets like agricultural land and house in a big way. Nevertheless, Stree Nidhi is very particular about enhancing the asset base of the poor to improve their incomes in the long term.

It is seen from the data that 30.35 per cent of the respondents in AP and Telangana availed credit from multiple sources apart from SHG-BLP and Stree Nidhi. Stree Nidhi prevented the SHG households from relying on money lenders and informal sources by providing loans to the bottom of the pyramid population in both study States.

The financial/digital literacy level of borrowers of Stree Nidhi is low, while the borrowers of Stree Nidhi Telangana are slightly better than those of Stree Nidhi AP. Majority of the respondents (over 90 per cent) never used electronic banking, and the capacity-building activities of Stree Nidhi related to digital transactions using tablet PCs and smartphones are limited to VOs/CRPs/officials of Stree Nidhi while availing the financial services.

The loans taken from Stree Nidhi were mainly utilised for livelihood enhancement, facilitating setting up of new enterprises and scaling up existing economic activities. The study found that over half of the respondents (56.22 per cent) in AP and Telangana utilised loans to establish petty business shops like provision stores, cell phone shops, food stalls, etc. Therefore, Stree Nidhi contributes towards the enhancement of livelihoods, creation of employment, and improved standards of living.

Stree Nidhi has the technology and the granular data of all its members to disburse credit within 48 hours of loan application. It is noticed that a majority of the loans, including the loans for income-generating activities, are disbursed within 20 days suggesting a quick turnaround time in credit delivery in both of the study States.

Almost all the borrowers acknowledged the benefits and special features of Stree Nidhi in terms of transparency, affordable and relatively low rate of interest, low documentation, quick access to credit, no loss of daily wages, and no/negligible transportation costs. Though borrowers perceived adequacy of the loan amount was on the lower side, compared to other special features of Stree Nidhi, customers prefer Stree Nidhi to banks and other sources of credit.

Further, the study found that more than 95 per cent of the stakeholders are of the view that Stree Nidhi made the borrowers financially literate and enhanced the livelihood opportunities of SHG households by encouraging them to set up small business ventures, thereby improving their standard of living through the supply of timely and adequate credit in AP and Telangana.

Though the field visit reveals that the functioning of SHGs and VOs in Stree Nidhi is generally satisfactory, there are reported instances wherein the SHG members are not educated/guided properly in respect of their responsibilities with regard to maintenance of books, deposit of savings, repayment of loans, etc.

Conclusion

The financial literacy and digital literacy of the SHG members have a significant positive correlation, followed by their income and assets. These correlations reflect that financial and digital literacy mutually reinforce each other while accumulating assets by the SHG households. It is also evident from the data that credit and income have a significant positive correlation, indicating that the SHG households' income will go upward if loans are sanctioned to them at successive intervals. As per the regression results, the total loan amount availed by the borrowers, assets like livestock, smartphone, two-wheeler, four-wheeler, establishment of micro-enterprises and cultivation of land significantly determines the income level of the members of Stree Nidhi.

Overall, Stree Nidhi witnessed spectacular growth in terms of deposits, loans, capital resources, and the number of SHG borrowers during the last eight years. As such, the business model of Stree Nidhi is sustainable and can be replicated in other parts of rural India given its customer-centric features, digital banking, and inclusive and responsible finance model, provided it is customised as per the contextual ground realities.

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SUSTAINABLE LIVELIHOODS AND ADAPTATION TO CLIMATE CHANGE (SLACC)

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Dr. V. Suresh Babu

Introduction

The Intergovernmental Panel on Climate Change (IPCC) has projected that the global mean temperatures will rise by 2o to 4oC by the end of the 21st Century. This would change the monsoon and weather pattern drastically, impacting agriculture adversely. The impacts are seen more in the form of frequent/intense cyclones, droughts, floods, and heat waves. India, having diverse agro-climatic settings, is more vulnerable due to the high dependence on monsoon with 85 per cent of small and marginal land-holding farmers. Adaptation strategies can overcome the adverse impacts of climate change and endow rural livelihoods to cope with uncertainties and climate variability.

In order to demonstrate and disseminate appropriate practices and technological interventions, the 'Sustainable Livelihoods and Adaptation to Climate Change (SLACC)' project was initiated in a participatory mode to enhance the adaptive capacity and coping ability of poor and marginal farmers. The SLACC project was implemented through the involvement of women SHG groups under Mahila Kisan Sashaktikaran Pariyojana (MKSP), which is a sub-component of the National Livelihood Rural Mission (NRLM) from the Ministry of Rural Development (MoRD). It was funded by World Bank through the GEF-administered Special Climate Change Fund. It also involved the convergence of other flagship programmes of Government of India, such as DAY-NRLM, Mahatma Gandhi NREGA, etc.

Objective of SLACC

The project objective is to improve the adaptive capacity of rural poor engaged in farm-based livelihoods to cope with climate variability and change.

Methodology

The project was implemented with four components through interventions in the production system (diversification, climate-resilient varieties/breeds, low external inputs production systems, zero tillage, soil health management, etc.), ecological system (use of biofertiliser, critical irrigations, groundwater recharge, etc.), knowledge system (local weather-based agro-advisories, water budgeting, etc.), and, financial system (weather index insurance). A package of 25 technology interventions was prioritised for farm-level activities in climate resilience. These aim to reduce the farming cost, improve yield and income, profitability, empower women and generate employment. The technology interventions were disseminated through capacity-building programmes by NIRDPR, and implemented the practices by State Rural Livelihoods Missions (SRLMs) of the study States. To assess the impacts of the technology interventions and capacity building, data was collected from 400 farmers adopting and non-adopting the interventions. The double difference method was used to assess the impact of interventions.

Study Area

The project was implemented in Madhya Pradesh and Bihar under NRLM of MoRD, Government of India. National Rural Livelihood Promotion Society (NRLPS) is the coordinating agency under MoRD, whereas State Rural Livelihoods Missions of Madhya Pradesh and Bihar are the implementing agencies. The programme aimed to strengthen the skill sets of resource persons at national and grassroots levels. It is implemented in 638 villages in Mandla and Sheopur districts of Madhya Pradesh, and Gaya and Madhubani districts of Bihar under the National Rural Livelihoods Mission.

The Centre for Natural Resource Management (CNRM) of the National Institute of Rural Development and Panchayati Raj (NIRDPR) is the Lead Technical Support Agency (LTSA) for the SLACC project. CNRM, as an LTSA, is involved in developing planning and knowledge tools, technical support, training and capacity building, policy inputs, documentation and sharing lessons. It launched an initiative of certificate courses to improve the adaptive capacity of the rural poor engaged in farm-based livelihoods to cope with climate change and to establish a large-scale proof of concept on integrating community-based climate change planning and adaptation by working with climate-smart Community Resource Persons (CRPs) and Mission Staff.

Findings

As per the socio-economic data, the education levels of the small and marginal farmers are inferior, with an average agricultural land of 0.86 ha. The ecological interventions adopted by farmers in the project are Soil Test (93 per cent), Zero Tillage (71 per cent), Compost (40 per cent) and Amrit Pani (71 per cent). Under the financial interventions, 54 per cent of farmers have obtained a loan, and 73 per cent of farmers obtained crop insurance. Under technological interventions, establishing custom hiring centres has reduced the drudgery, labour scarcity and timely sowing and harvesting of crops. The Weather Based Agro Advisory services, being provided under the project, have helped the farmers to manage their crops better and to overcome crop damages due to unexpected weather events. Intervention like Integrated Farming System, Integrated Nutrient Management and Integrated Pesticide Management has helped farmers better manage their crops and improve the agricultural land's ecology and biodiversity. Alternative livelihood activities like kitchen garden, mushroom, and Azolla have provided the farmers with other income sources during the lean season. The training was provided under the project, and the interventions being demonstrated and implemented on the ground have resulted in the increase of the net sown area of the major crops followed by high yield and associated income sources to the farming community of the project area. Based on the learnings, experiences, and results delivered under the project, it is proposed to upscale the project to other blocks, districts and States to provide benefits to the farming community by implementing climate-resilient agriculture practices.

Conclusion

The capacity-building programmes and field implementation of production, technology &, knowledge, ecological and financial system has increased the adoption rate in the project areas of Bihar and Madhya Pradesh. On average, a 43-48 per cent increase in yield and a 36 per cent – 85 per cent increase in income were noticed in the study sites. The practices like Amrit Pani, soil testing, crop insurance, availing loans,

weather-based agro-advisories, climate change adaptation planning, IPM, INM, integrated farming system, and alternate livelihoods are widely adopted in the two States. Micro-irrigation, farm ponds, SRI, and poultry were less adopted. The study recommends for:

- Greater penetration of credit and insurance through SHGs, correspondents and insurance agents to cover all the vulnerable farmers
- Custom hiring centres found to be useful in addressing climate change issues. Nonetheless, they need an additional budget and more equipment. Seed drill, line sowing and seed treatment techniques are useful to save women drudgery, cost and time but need wider promotion.
- Farm ponds, drip, and sprinklers are key to increasing the yield, and their extension services are necessary
- Low-cost and sustainable techniques such as Amrit Pani, vermicompost, soil test, and targeted fertiliser (NPK) inputs are to be advocated all the farmers
- Mobile text and board notices are common and useful to decide sowing, harvest or pest control, etc., as it helped a 43-45 per cent rise in average yield
- Azolla, mushroom & kitchen gardens were found to be useful and can be further promoted in the States.

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BREAKING THE INTERGENERATIONAL CYCLE OF MALNUTRITION, FOOD SECURITY AND POVERTY IN LOW-INCOME COUNTRIES: MAKING THE CASE FOR ADOLESCENT GIRLS

Dr. Ch. Radhika Rani
Dr. Nithya V. G.

Introduction

With 253 million adolescents, of which half are malnourished, ensuring adolescent health is crucial for India's development and human capital investment. Adolescence is a unique transitional stage of physical and psychological development, and the behaviours and preferences adopted during adolescence influence present and future health and nutritional outcomes. Further, the economic development the country has experienced in the past decades has affected the livelihood and lifestyle of adolescents. Diet, physical activity, and time-use have changed as rural transformations have altered the socio-economic dynamics of agricultural households. While changes in diets and physical activity patterns profoundly affect adolescent nutritional adequacy, social class profoundly influences nutritional adequacy via socio-economic opportunities for rural livelihoods. Nonetheless, the role of social class in determining nutrition dimensions that shape adolescents' lives has not received attention in the literature. This work aimed to fill this gap by shedding light on variance in the pattern of physical activity, food intake, and calorie adequacy of adolescents of different ages and sex by targeting disadvantaged groups. Such insights have the potential to inform the design/redesign of interventions enhancing the health and nutritional adequacy of adolescents.

Objectives

The project aimed to understand the health and nutrition inequality among adolescents from poor backgrounds in India. This is done by unpacking the pathways between life stages and occupational and nutritional status and explicitly incorporating the energy expenditure dimension in the analysis of undernutrition in adolescents. The study aims to determine nutrition inequalities drivers among adolescents from poor and marginalised communities. In particular, the project explored the pathways of inequality between boys and girls and across different socio-economic and geographical groups. The gendered pathways of inequality may result in malnourished adolescent girls being more likely to encounter complications during pregnancy and childbirth and give birth to premature and malnourished babies. All these events may lead to the intergenerational transmission of malnutrition.

Research questions

- Life trajectories and nutritional status: How do different types of decisions/events interact with nutritional outcomes, and how does this differ across gender and socio-economic-cultural status
- Beyond anthropometrics and dietary diversity to address adolescents' nutritional status: Can measuring physical activity help us understand adolescents' nutritional status?

Methodology

The project adopts a mixed-method approach. Collected quantitative data from a sample of 200 adolescent girls and 200 adolescent boys divided into two age groups (11-14 and 15-19) in India. Subsequently, focus group discussions and in-depth interviews were conducted with a smaller population sub-sample, including adolescents and their parents/carers.

We followed a modified version of the explanatory sequential mixed method[1]. In this form of mixed-methods design, quantitative data collection is conducted as the first step (Phase 1). After the quantitative survey, the researcher analysed the results from data collection in Phase 1 and built on the results to explain them in more detail with qualitative research (Phase 2). In addition, the qualitative component is from the second round of quantitative data collection. The data collection sequencing is illustrated in Figure 1.

Figure 1: Data collection sequencing

The mixed-method approach incorporates various factors determining nutrition inequalities among adolescents from poor backgrounds.

Table 1: Contribution of the components of the mixed-method approach

Quantitative	Qualitative
• Define robust estimates on adolescents' energy expenditure patterns during their habitual tasks (i.e., complementing accelerometry data with time-use information). • Explored the relationship between energy expenditure and food intake (i.e., comparing energy intake data with energy expenditure) • Explored household and individual determinants of nutrition and health.	• Supply information about gender norms and values in the household, school, and society. • Elicit conceptions and beliefs around decisions on intra-household allocation of food, gendered division of workload, mobility, education and employment • Distinguish between aspirations parents or primary carers have for their children and those of adolescents. This helped to assess the role of alignment of aspirations in determining specific life trajectories/decisions that impact nutritional status • Informed and frame the second round of data collection.

[1]It is considered explanatory, because the initial quantitative data are further explained by the qualitative phase.

The quantitative data collection phases involved participants wearing accelerometry devices for seven consecutive days. Four questionnaires were used in total: household questionnaires (for which parents/ carers will be interviewed), individual questionnaires, time-use questionnaire, and food consumption questionnaire. The qualitative component of the data collection included two instruments: Focus group discussions (16) and In-Depth Interviews (32).

Study Area

The study was conducted between 2019-2021 in Khammam and Mahbubnagar districts, located in Telangana's central and south agro-climatic zones.

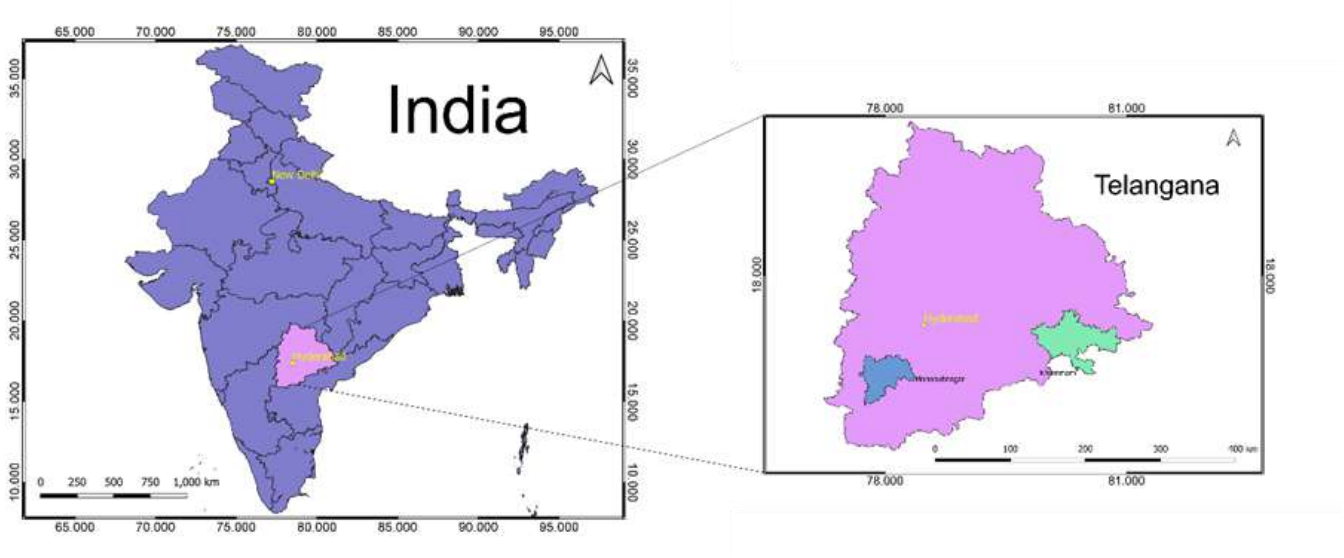

Figure 2. Study Sites in the districts of Mahbubnagar and Khammam in the State of Telangana

Key Findings

- Social class plays a visible and critical role in Indian society. It affects occupation, asset endowments, access and utilisation of resources, household and parental characteristics, and societal and institutional factors, which in turn affect adolescents' health and nutrition
- Adolescents' Calorie Adequacy Ratios are significantly different across caste groups: backward caste, scheduled caste
- Differences in wealth influence the allocation of time and energy to different activities among adolescents within the caste category
- Inter- and intra-caste gender differences exist in terms of time use and energy expenditure on different activities
- Most SC households depend on labour work (40 per cent) in contrast to BC households, whose dependence is predominantly on family agriculture (41 per cent). Such differences in livelihoods are reflected in the adolescent's physical activities

- SC girls meet energy requirements (Calorie Adequacy Requirement) instead of BC ones. This is partly due to the favourable institutional support through different schemes and programmes (e.g., school meals, safety nets) that have been designed to mitigate the historical discrimination faced by vulnerable groups pertaining to their nutrition status
- SC boys spend a significantly higher proportion of their energy and time on education activities, indicating well-functioning programmes and policies on education
- BC boys spend significant energy on unpaid economic activities. Though it is unpaid, it contributes to household income through family labour contributing to economic activities. There is a greater linkage between occupational patterns and asset ownership in defining the energy expenditure
- Lower adolescent BC girls are involved in unpaid economic activities, whereas SC girls are involved in outside domestic work. As per their cultural practice, SCs had been engaged in paid outside domestic work. Hence, education plays a key push factor in helping them build their livelihood and strengthen their economic activities
- This mixed-method study provides unprecedented insights into the patterns of physical activity and time-use of rural adolescents combining data from traditional surveys and accelerometers
- Energy expenditure and time use are highest for education-related activities, followed by leisure in both adolescent boys and girls
- Economic work pursued by boys is slightly more energy-intensive than the domestic work pursued by girls
- Social and cultural norms allow boys, especially in late adolescence (17-19 Yrs), to spend more time and energy in activities outside the home than girls. Girls spend more time and energy at home doing domestic work
- Norms of social propriety manifest in girls being expected to be adept at housework.

Conclusions

The cycle of sedentarisation and nutrition transition unfolding in the global South among adolescents is a complex and multifaceted process. Differences in the time use and energy expenditure dimension of adolescents throw light on the role of social class in defining pathways to health and nutrition. Appropriate policy interventions enhancing adolescents' health and nutrition need to be assessed and designed based on social class, gender and age-wise differences in food intake and physical activity demands.

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STUDY OF NIRMITHI KENDRAS (BUILDING CENTRES) IN ANDHRA PRADESH

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The Building Centre, popularly known as the Nirmithi Kendra (NK) movement in the country, started as a result of the rehabilitation initiatives taken up after the devastating flood in the coastal areas of Kollam district of Kerala during the year 1985 (MoUD, 1993). However, majority of the NKs, barring a few of them, especially in States such as Kerala and Karnataka, have issues in terms of their management, sustainability and effectiveness in translating the objectives and goals envisaged for the NKs.

The Andhra Pradesh State Housing Corporation Ltd. (APSHCL) was established in 1979. After the bifurcation of the State, it now has a total of 49 NKs of three different types, i.e., 13 Main NKs (MNKs) at the district level, 27 sub-district NKs (SNKs) and nine cyclone NKs (CNKs). The major focus of NKs established in the State has been to meet the demand for building materials and minimise the construction cost. Currently, most of the NKs in the State have become inactive, and most of the infrastructure and machinery of the NKs are in an unusable condition due to lack of adequate work in the absence of major housing schemes. Based on the request from the APHCL, the proposal to study the NKs present in the State of Andhra Pradesh was taken up by NIRDPR, Hyderabad.

Objectives of the Study

- To review the present status of the NKs in terms of infrastructure, machinery and operational aspects
- To recommend viable approaches and broader strategies with respect to the effective functioning of the NKs in the State.

Key Findings & Recommendations

1. The building centres were started with the ambitious objectives of providing sustainable and affordable housing solutions. However, the NKs could not deliver the desired objectives in most of the other States, including Andhra Pradesh.
2. NKs were mostly operated just as a production centre. The other mandated objectives of NKs, such as developing and popularising model houses, conducting training and capacity development programmes, and guidance cum IEC Centre were partially overlooked.
3. The NKs in the State have been predominantly engaged in meeting the demand for building materials and minimising the construction cost. Substantial work in terms of promoting a few building materials such as FAL-G bricks, Sand Cement Bricks, RCC door and window frames and other RCC products have been achieved.

4. The initiative of NKs in this regard also has helped in creating awareness among various entrepreneurs who have successfully replicated these activities in the State.

5. However, the larger objective of promotion of appropriate building construction techniques would require greater focus post the revival proposal of NKs being contemplated by the AP government.

6. Based on the study, broader strategies and approaches for the revival of NKs have been considered based on the inherent strength of the NKs in the State to produce building materials and the operational strategies being adopted by the successful NKs from the States of Kerala and Karnataka.

7. It is very crucial for bringing changes in the management structure of NKs in terms of State, district and NK levels along with the approaches suggested for the addition of staff at NK level, engagement of private entrepreneurs and firms for the supply of building materials, streamlining the production of building materials at the NKs, undertaking consultancy and contracting works by the NKs, effective financial management systems and audit, etc.

8. It has been observed that with adequate support from the APSHCL and district-level administration, the NKs can effectively function and generate revenue for realising the potential of self-reliance while keeping the larger objectives of the NKs in terms of promoting appropriate building construction techniques in the construction sector of the State must be given equal importance.

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EVALUATION OF ACTION RESEARCH AND RESEARCH STUDIES (ARRS) SCHEME

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Dr. P. Anuradha
Ms. Anagha Mariya Jose

Introduction

The Action Research and Research Studies (AR&RS) scheme aims to promote action research and research studies to inform policy and improve the implementation of various initiatives in Panchayati Raj. The scheme provides financial support to Academic Institutions/NGOs/Research Organisations/Registered Societies/Non-Profit Organisations/SIRDs with specialised experience in research and evaluation in Panchayati Raj. Action Research proposals that provide an in-depth analysis of long-term issues, assess the impact, and document experiences in Panchayati Raj were supported under this scheme.

Financial assistance is provided to such institutions/organisations with at least three years of working experience in social research, action research, etc. The proposals received under the scheme were considered by the Research Advisory Committee (RAC) headed by the Secretary, Ministry of Panchayati Raj, Government of India.

The research projects funded under the scheme were based on the themes identified by the MoPR in consultation with the respective divisions of the Ministry. The suggestions made by the State Governments/UTs also were considered in the process. From the basic documents of the programme, it is understood that process of sanctioning the research includes "identification of research themes, selection of the agency, award of the study, examination and approval of the report and dissemination of the findings to all the stakeholders."

The scheme guideline shows that the MoPR follows the procedure of direct submission of proposals from reputed institutions. The project proposals were directly submitted by Academic Institutions, NGOs, Research Organisations, Registered Societies and Non-Profit Organisations on the themes identified by this Ministry. Ministry considered proposals on the subjects relevant to the field of Panchayati Raj. It is noted that the Ministry also encourages bids through Open and Limited Tender on the identified themes and respective terms of reference of the research agenda approved by the Competent Authority (Secretary, Ministry of Panchayati Raj).

Projects received in the Ministry were first examined by the programme division concerned on file and then placed before the screening committee, which examines the eligibility of the applicant institutions and broadly studies the feasibility and utility of the action research and research proposals. Under this scheme, no capital expenditure was supported for funding, and the overhead charges (if mentioned in the proposal) will be limited to 5 per cent of the total cost.

After the proposals are examined by the screening committee of the action research and placed before the Research Advisory Committee (RAC) with the recommendations. If the Committee (s) feels that there is a need to get some additional information or change in the time schedules, budget, etc., that will be obtained from the academic institutions, NGOs, research organisations, registered societies and non-profit

organisations concerned in consultation with the concerned division dealing with the subject in the Ministry.

The MoPR implemented various research and action research studies (AR&RS) since 2007-08 to formulate policies, and strategies for improving the efficiency and effectiveness of ministry programmes at the panchayat level. Studies were conducted to assess the impact of various interventions/activities in the Panchayati Raj system and decentralised governance.

Objectives

The basic objective of this programme is 'learning while doing' to formulate policies and strategies for improving the efficiency and effectiveness of the MoPR programmes at the panchayat level. As mentioned above, the Action Research and Research Studies (AR&RS) scheme aims to promote action research and research studies to inform policy and improve the implementation of various initiatives in Panchayati Raj.

Many of the current ARRS schemes are directly aimed at serving the purpose of achieving the goals and targets of SDGs to which India is a signatory. The primary association of the Ministry with SDGs are: (i) End poverty in all forms everywhere and (ii) End hunger, achieve food security and improved nutrition and promote sustainable agriculture. The current evaluation considered these indirect goals also for the purpose of evaluation.

Methodology

This report adopted an approach of assessing the research studies by examining data and information from primary and secondary sources. (i) The secondary data/ information pertaining to the Action Research & Research Studies scheme has been accessed from MoPR. The secondary data include the existing procedures for the selection of research themes for study, the past the current procedure adopted in the selection of institutions, the procedure and time taken in the allocation of studies, the timely submission of reports, etc. (ii) The time period assigned for conducting studies, the quality of output delivered by the institutes (quality of report) the findings and their relevance for the Ministry in particular and the country as a whole assessed using the secondary information. (iii) Discussions and interviews have been conducted with the institutional representatives involved in these identified sample research studies. (iv) The selection of research for evaluation is done in consultation with the Ministry from the list of institutions to whom the Ministry sanctioned the study under the scheme from 2007 to 2020; (v) Primary data has been collected from the agencies who have been sanctioned studies from 2014-15 to 2019-20.

This evaluation is thematically from the inception of the scheme by taking 27 reports out of the total 85 research reports. The assessment has been carried out in terms of policy formulation and implementation strategy adopted by the Panchayati Raj system.

The assessment framework is qualitative in nature and presented chronologically in tabular form. Experts and consultants have reviewed the sample report.

Study Area

All States.

Findings

We have reviewed 26 reports prepared under the MoPR scheme on Action Research and Research Studies. This evaluation assessed various aspects of this scheme, starting from the process to submission of the report and its usefulness for policy-making and preparation of project strategies. This study also made suggestions not only to improve the scheme administration but also to improve the quality of research reports.

We found the scheme is beneficial for the MoPR decision-making process pertaining to policy matters. It is also significant from the point of view of devising various strategies and micro plans. Therefore, continuing the scheme with a higher budget allocation is recommended.

Conclusion

- As far as the identification of the research theme is concerned, the MoPR follows the method of identifying the issue based on its significance and use in the implementation of various schemes. The opinion of different MoPR divisions and State governments/UTs were also sought for this purpose. This procedure is useful, and we recommend continuing the same procedure but may add value to this procedure by compiling a database of independent research conducted by other public and private organisations. The MoPR may try a systematic review of peer-reviewed and grey literature starting from 2007 in this respect. The systematic review can be outsourced to an agency.
- As far as academic organisation and proposals are concerned, proposals are developed by developed academic institutions, NGOs, research organisations, registered societies and non-profit organisations on the identified themes. The ministry examines these proposals at two stages, one by the screening committee and the other by RAC for approval. Depending upon the nature of proposals, it may be classified and vetted for academic rigour and quality. A blind review of proposals by other peer group academicians is always good to ensure proposal quality. The MoPR may maintain a panel of individuals for this purpose. Second, weightage may be given to publicly funded research organisations rather than organisations focusing only on teaching. Moreover, the biodata of the principal investigator needs to be taken as another parameter for sanctioning the project.
- The MoPR sanctions research projects after examining the financial implications and other technical matters. We recommend that technical scrutiny must be done only on those proposals which qualify academically for research.
- The MoPR can classify studies into three categories like large, medium and small, depending upon the relevance of the theme and fix a cap for financial funding.
- We also recommend amending the institutional fees (5 to 10 per cent) and adding a GST of 18 per cent to the budget calculations, as it is mandatory in many good research institutions. The faculty members of the Centre for Panchayati Raj may be invited to evaluate the proposal and finalise studies.
- At present, the reports are submitted after one or two presentations of the draft report to MoPR, and this system must be continued. While submission, the MoPR may also ask for the formatted primary data along with this report for any future verifications. Creation of the database needs to be an important activity of the research division.

- As part of research dissemination and quality verification, small one-day stakeholder seminars can be conducted by the research institutions with minimum cost with different stakeholders from the study area. It must be a small invited group covering a maximum of 25 to 30 people. The cost of such workshops should not exceed the maximum of Rs. one lakh. The MoPR consultants may also participate in such workshops and prepare an independent evaluation report. In addition, selected excellent reports may be printed officially. At present, reports are posted on the website
- The review of the quality of reports shows that the reports cover all aspects of research like research problem, methodology, data and sampling, analysis and conclusions. Peer reviews by the academic community may help to improve the quality
- The findings of these studies can be used more meaningfully if we corroborate the results with the need of the ministry. As the MoPR focuses more on GPDP, HR of the panchayats and devolution of powers and functions, we may encourage a larger proportion of micro-scale studies that can be used for micro-planning and strategy formulation. One or two extensive studies can be encouraged in a year to contribute to policies.
- The study observed that the MoPR budgeting focuses more on recurring costs and human resource needs of the projects with 5 per cent institutional fees. There is no GST component in budgets. In the current context of conducting research in India, MoPR may increase the budget by adding 18 per cent GST, 30 per cent extra manpower, and 10 per cent intuitional fees. Given the increasing price changes, an additional 30 per cent may also be added to the current budgetary allocation.
- The ministry has selected mostly research organisations working on decentralised governance for conducting research. However, the organisation that delays the timely completion of quality research reports may be discouraged in the next rounds of research. It is also important to insist the PI to present the report to the ministry instead of nominated persons which may happen in some instances (at present, it is not observed). Sub-contracting of research or parts of the research may be entirely discouraged if it happens in any case. We could not observe any such instances in the present case.
- As far as adherence to the timeline is concerned, we observed that the delay in submission from the institutional side. This is to be disincentivised by adopting financial measures like a penalty. It is already there in the MoPR approach but needs to be implemented strictly.
- A significant shortcoming of the scheme is the absence of professional academicians in sanctioning and evaluating the final report in terms of its usefulness to the MoPR policy, strategy and plans. It can be solved by taking academicians into the committees from the ministries' quasi-government organisations like NIRDPR or any other reputed organisations
- The studies on devolution power, decentralisation, etc., have implications for the localisation of SDGs. This will help empower local governments to effectively act on livelihoods-based projects for the people to eke out a living from local resources through efficient planning like GPDP. This also helps other flagship programmes of the MoRD, like labour budgeting in MGNREGS, SHGs under NRLM, etc. We recommend strengthening these studies to localise SDGs in the next term as the SDGs play a significant role till 2030 in policy discourse.

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A DECADE OF MAHATMA GANDHI NREGS: ASSESSMENT AND WAY FORWARD (2020)

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Dr. S. V. Rangacharyulu
Dr. Digambar Chimankar
Dr. Anuradha P.
Dr. Neeraj Mishra
Dr. K. Jayasree

Introduction

A decade has passed since the enactment of the Mahatma Gandhi National Rural Employment Guarantee Act, 2005. The primary objective of the Act is to guarantee at least a hundred days of wage employment in a year for those rural households whose adult members are willing to do unskilled manual work at a minimum wage rate. The scheme is expected to reduce the magnitude of rural poverty by providing an exit pathway. In this context, knowing what went right or wrong in the past and the way forward is important. Hence, national assessment of a decade of Mahatma Gandhi NREGA has been felt necessary. It is a comprehensive pan-India assessment focused on employment, livelihoods, inclusiveness, governance and management aspects.

Objectives

This assessment focused on the following objectives and issues:

- Assess the impact of Mahatma Gandhi NREGS on wage employment
- Assess the impact of Mahatma Gandhi NREGS on sustainable rural livelihoods
- Assess the impact of Mahatma Gandhi NREGS on inclusiveness and rural governance
- Assess the effectiveness and efficiency of Mahatma Gandhi NREGS management cycle.

Methodology

The study used both primary and secondary data. Using secondary data, the trends in financial allocation and implementation aspects in terms of coverage, participation and employment generation were analysed. The secondary data on various aspects were for twelve years of Mahatma Gandhi NREGS implementation from its inception is divided into four phases for analysis: Phase I 2006-07 to 2007-08, Phase II 2008-09 to 2010-11, Phase III, 2011-12 to 2013-14 and Phase IV 2014-15 to 2017-18.

Primary data was collected from each Gram Panchayat, and the national-level assessment was done based on this data collected from a total of 7,950 beneficiaries. A sample of 30 beneficiaries who have actively participated in the programme during the three-year period was identified for the study, i.e., 2016 17, 2015 16 and 2014 15, were drawn as the primary sample of the study. In addition, 10 Mahatma Gandhi NREGA Job Card Holders who either participated very sparsely (less than 10 days) or never participated

during the three periods identified for the study to assess the impact on their non-participation. The assessment has taken up 265 districts with an equal number of Blocks and Gram Panchayats representing the High and Low Performance of Mahatma Gandhi NREGA for data collection. It gives a total sample of 10,600 households across the States.

Study Area

The study is carried out across the country. Keeping in view the likely impact of Mahatma Gandhi NREGA on employment, asset creation, inclusiveness and governance. As the works differ across agro-climatic regions, we have taken representation of all agro-climatic regions of the country for data collection. As the entire country is divided into 15 major climatic zones. These 15 Climatic sub-zones are further sub-divided into 127 agroclimatic sub-zones based on further minute issues. In view of the Pan India implementation of Mahatma Gandhi NREGA, two districts from each agro-climatic sub-zones were selected. However, since a few of the agro-climatic sub-zones are spread over a small geographical area (for instance, a few of the sub-zones are spread across only part of the district, etc.) and some sub-zones, the geographical spread is very wider, a four-category of study area selection is adopted to draw the study area.

Findings

Coverage of the Scheme: As per the Mahatma Gandhi NREG Act 2005, registration is mandatory for getting a job card issued for houses to avail unskilled manual work for the adult members. The number of job cards has increased from 3.08 crore in 2006 to 12.75 crore in 2018. The coverage of the programme at the national level was 62 per cent in 2008-09 increased to 69 per cent in 2014-15. However, the percentage of rural households covered under the programme in 2014-15 remained the same till 2017-18 at 69 per cent. The coverage in northeastern States (apart from Assam) in terms of active job cards is the highest, more than 91 per cent. Many States, namely Goa, Gujarat, Punjab, Haryana, Uttarakhand and Uttar Pradesh, fall below 50 per cent of active use of the issued job card.

Issuance of job cards: The assessment found an increasing gap between households registered for job cards and issued. The difference between the number of households registered for job cards and cards issued has been increasing from a minimum of 0.167 crore in 2014 to a maximum of 0.441 crore in 2017-18.

Demand for employment: The anticipatory demand for employment is defined as the estimated number of households that demanded employment under Mahatma Gandhi NREGS as per labour budget projections in a particular financial year. The realised demand for employment refers to the actual number of households that were given employment out of the total anticipated demand. The gap between anticipated and realised demand has widened since 2012-13. The relative position of States in the realisation of anticipated demand during the period 2014-18 shows Bihar, Chhattisgarh, Gujarat, Haryana, Jharkhand and Karnataka have a low realisation of anticipated demand.

The issue of unmet demand: Another critical issue associated with demand realisation is unmet demand. The available literature reveals that unmet demand continues to be an issue in implementing the scheme. From the total sample households who participated in Mahatma Gandhi NREGS, 16.6 per cent of

households reported facing unmet demand.

Financial Utilisation: The gap between union budget allocation and funds made available has been increasing in recent years. There is no doubt that the government allocated more funds when they expanded the scheme to all rural districts. However, the available data indicates that the third phase (2010 -11 to 2013-14) of Mahatma Gandhi NREGS was volatile due to high variation in fund allocation, availability and actual expenditure from 2010 to 2014-15. The excess expenditures over and above the available fund created an unstable situation in financial management during the third phase (2010 to 2014). More specifically, States like Karnataka, Andhra Pradesh, Haryana, Rajasthan and West Bengal spent more than the available resources that range from 20 to 50 per cent of the available fund, which contributed to 11 per cent more spending at the national level as compared to the available resources during this period. Spending above the available fund is an important challenge in guaranteeing employment.

Ne-FMS System: Ne-FMS was conceived to expedite the wage payment process, but it is also subject to the time taken to generate and authorise FTOs at the field level. It is reported that there is no such issue of delay in payment from the government of India's side since the money flows electronically.

Minimum Wage: There is an increasing trend in received wages for Mahatma Gandhi NREGS workers. During 2006-07 to 2017-18, the average wage received per person increased from Rs. 65 to Rs. 169 per day. The wage rates received under Mahatma Gandhi NREGS are lower than agricultural wages. The gap between male and female wages in agriculture and wages under Mahatma Gandhi NREGS has been widening over a while.

Assets: In terms of the number of assets created, Category D constitutes the highest number, whereas Category A possesses the highest share of expenditure since the inception of the scheme. Since the scheme's inception, we have noted that the expenditure incurred on asset creation has been high for Category A. The category B types of works become more prominent after 2014 to pass on the benefit of the programme to marginal and small farmers. Category B has been in prime focus since 2013-2014, intending to improve the direct livelihood benefits of marginal and small farmers. The share of Category A created in terms of number has declined due to the shift from common property assets to individual assets to promote sustainable direct livelihood at the farm level.

Workforce, Employment, income, and consumption: The primary data shows that the total workforce is 16,961 adult members from the sample Mahatma Gandhi NREGS beneficiary households in which 55 per cent are male and 45 per cent female. The proportion of young workers in the total workforce is the highest, and the elderly population is low in beneficiary households. The percentage of young workers (18 - 45 years age group) is 68 per cent. Around 25 per cent of the workforce belongs to the 45-60 age group. Older adults (above 60 years of age) are just 7 per cent of the workforce. The share of Mahatma Gandhi NREGS in volume in total employment is about 11 per cent, which means Mahatma Gandhi NREGS is a supplementary employment provider in rural areas.

Inclusiveness and contribution to decentralised governance: The study noted that the share of non-SC/ STs in total employment days is very high compared to SC/STs under Mahatma Gandhi NREGS. The share of STs has declined from 36 per cent to 17 per cent in total employment. In the case of SCs, their share in total employment has increased initially from 26 per cent in 2006-07 to 31 per cent in 2010-11, and it declined to 21 per cent thereafter. States with high rural poverty have shown moderate participation of

SCs under Mahatma Gandhi NREGS, except for Bihar and West Bengal. Since its inception, Punjab, Haryana, Uttar Pradesh and West Bengal registered high involvement in all four blocks. The SC participation in Puducherry continued to be highest from the beginning in 2008-09 to 2014-18.

Efficiency and effectiveness: As far as the efficiency and effectiveness of the scheme are concerned, the assessment shows that the efficiency level of the scheme is 38 percentage points (for the country as a whole), and across States, the efficiency index varies between 19.9 percentage points (Maharashtra) and 64.6 per cent (Kerala). Rajasthan, J&K, UP, Chhattisgarh, Bihar, Jharkhand and Maharashtra fall short of the national average and implant their attention. For this purpose, the 'weak' entitlements need to be identified for special focus to be laid.

The assessment shows in States including Bihar, Gujarat, Jharkhand and Tamil Nadu, both efficiency and effectiveness scores tally, while the gap is wide in Assam, Kerala, Odisha and Punjab. Assam, Kerala and Rajasthan depict larger values than others, which implies that these States are well ahead of others so far as efficiency is concerned, but they lag in effectiveness.

Conclusion

The assessment shows that the Mahatma Gandhi NREGA implementation has impacted differentially on wage employment opportunities, livelihood security, inclusiveness, and decentralised governance at different scales. Since its inception, the scheme has faced various challenges due to increasing pressure on the demand side for employment, as evident in growing job card registration, participation in the scheme, and unmet demands. At the same time, the coverage remained stable at the national level after the inclusion of all rural districts into the scheme in 2008-09. The study noted that women's participation has increased in Mahatma Gandhi NREGS works. On the demand side, the anticipated labour demand showed an increasing trend, particularly after 2014. The realisation of the anticipated labour demand also showed an increasing trend but at a lower rate at the national level. As a result, the gap between the anticipated labour demand and realised demand increased over a while. In a State-wise analysis, we observed a differential picture across India in terms of labour demand; and also noted that some of the States with a high incidence of rural poverty are lagging in coverage and employment generation. The study noted that workers faced the issue of unmet demand in all States, and their response provided a differential picture across States. People need employment, but there are issues with meeting this increasing demand. Employing all those people demanding work is a major challenge of the scheme. Undoubtedly, the increasing demand for work has already manifested in many States as an important challenge. It is creating pressure not only on the available financial resources but on institutional capacity and workforce for implementation. In this regard, we further explored policy options in terms of motivating and transferring a subset of young, educated and skilled beneficiaries but participating in wage employment programmes to other higher-order economic activities. The State-wise estimates on the proportion of people motivated to transfer to higher-order skilled economic activities show the potential of skilling among MGNREGS workers. The strengthening of the ongoing programme called UNNATI is one of the options in this regard.

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RuRBAN MISSION: A STUDY OF SMART VILLAGES IN THE MAKING

Dr. R. Ramesh
Dr. P. SivaRam

Introduction

The Ministry of Rural Development, Government of India (GoI) launched a mission called Shyam Prasad Mukherji 'Rurban Mission' (SPMRM), popularly known as 'Rurban Mission' in February 2016. The basic presumption was that most of the rural areas in the country are not stand-alone settlements but part of a cluster of settlements, which are relatively proximate to each other. The National Rurban Mission (NRuM) aims to stimulate local economic development, enhance basic services, and create well-planned Rurban clusters. These clusters selected should illustrate potentials for growth, have economic drivers and derive locational and competitive advantages. These clusters, once developed, would be classified as 'Rurban'.

Developing a cluster of villages that preserve and nurture the essence of rural community life without compromising with the facilities perceived to be essentially urban. Thus, it was conceptualised with a view to developing 'smart villages' in India.

Objectives

1. To assess the cluster identification strategy adopted by the States
2. To ascertain the quality/process by which the ICAPs are prepared and assess the relevance of growth drivers focused on Rurban Clusters
3. To discover the range of, and pragmatism behind the convergence of various schemes brought about in the ICAP& DPRs
4. To study the institutional set-up and operational arrangement for programme implementation.

Methodology

This is 'formative research' conducted to understand the working of Rurban Mission on the ground. The outcome of this is expected to feed into designing a large-scale scientific study on the performance of the mission. Basically, this is a qualitative study. The prime methods used are studying each cluster as a case through direct observation, group interviews and chain of interviews - supported by desk review of documents from the four clusters under study.

Study Area & Sampling: Four clusters were purposively chosen to conduct this rapid study, without spending much time travelling. Four clusters – two from Tamil Nadu, viz. Velayuthampalayam Cluster in Tirupur and Madukkarai Cluster in Coimbatore; and two from Kerala viz. Mangattidam in Kottayam cluster, and Aryanad in Vellanad Cluster – were identified for this study.

Findings

Cluster Identification: One of the essential criteria followed in cluster identification under Rurban Mission is that a cluster must cover a population of 25,000 – 50,000 in plain areas. This has necessitated the District Administration (DPMU & CDMU) to cover too large an area – putting together many Gram Panchayats. Given that the villages to be covered under a particular cluster are too many, the works carried out seem too sparse or sporadic. Eventually, the impact created becomes too thin to recognise. This is found primarily in Tamil Nadu rather than in Kerala clusters because the size of Panchayats in Kerala is big, necessitating combining two or three Panchayats only. Whereas Tamil Nadu has to bring in five or six Gram Panchayats - with nearly 20 – 22 habitations - to make a cluster, it was not the case for Kerala. Moreover, the settlement of habitations within a Gram Panchayat is closely knit in Kerala, whereas it has been too scattered in Tamil Nadu. For instance, preparing a combined plan for about 20-22 habitations of the Tamil Nadu cluster has been a challenge. States must be allowed to go for pragmatic customisation with regard to cluster identification and area delineation.

Parameters of Cluster Identification: The idea was to select Gram Panchayats with excellent growth potential. The rise in land values and high concentration of non-farm population have been given more weightage during the selection of areas where clusters are to be promoted. Accordingly, Panchayats have been put in order. The least developed Gram Panchayats have been left out, and the Panchayats, which can be developed as Rurban clusters, have been selected from high grade as per the parameters laid by MoRD.

Institutional Framework: The State has taken initiatives to establish an exclusive institutional framework for Rurban Mission, as laid down in the implementation framework. Accordingly, in Tamil Nadu as well as in Kerala it was found that there are State Project Management Units (SPMUs) at the State level, which is an empowered committee; and in every district wherever Rurban Clusters have been identified, there are District Project Management Units (DPMUs); and at the Block level, there are Cluster Development Management Units (CDMUs). The CDMUs should play a key role in planning and execution/execution monitoring of all the converged schemes. However, it came in the discussions with officials that the CDMUs are not as active as the DPMUs or SPMUs are. The idea behind CDMU was to act as an additional institutional layer between Gram Panchayats and Block. It is viewed more as a 'temporary committee' constituted for convergent planning. The CDMU, as originally contemplated, must ensure the sustainable operation of the cluster. It must make further plans for providing traction and elevating the image of the cluster so that it is widely recognised for what it was promoted as a cluster. This idea has not gained a firm grounding.

Integrated Cluster Action Plan (ICAP): As reported, a systematic process has been adopted for preparing ICAP. First, they started with an orientation on NRuM and the idea behind the programme. Gram Panchayats are identified as a cluster based on accepted criteria. The cluster profile has been presented to all the elected representatives, the officials from departments, and the agencies involved in preparing the cluster action plan. Deficiency in the cluster has been discussed, and schemes that require converging to overcome the deficiencies have been identified. The PRI members, village-level functionaries, community leaders, NRuM representatives, town planning representatives, representatives from State Nodal Agency, and all the relevant departments that ought to have participated in the convergence planning were present in these exercises.

Convergence of Schemes: Tamil Nadu clusters have managed to converge seven or eight department schemes only, whereas the Kerala clusters have done exceptionally well by bringing in schemes from more than 10-12 departments of the Central and the State governments. In Kerala, the highest concentration has been on village streets, drinking water supply, water conservation, and upgradation of primary schools. In addition, Kerala has brought in the additionality in terms of beneficiary contribution, CSR funds, and GP's own source revenue. In Tamil Nadu, the focus has been on rural water supply, solar application, smart schools, and skilling. All four clusters – both in Tamil Nadu and in Kerala - have assembled schemes worth Rs.70 Crore each to become eligible to claim Rs.30 crore CGF. They have not fallen short.

Incentive: The Critical Gap Fund (CGF) Rs.30 crore given under Rurban Mission has served as an admirable incentive for the State Government and the district administration to think in terms of convergence with other departments and programmes. It has moved them off their seats and made them approach nodal officers of other schemes and heads of other departments. The budget perceptibly reveals that the district administration has prepared ICAP that will bring in the maximum CGF that a cluster can claim under the Mission. Therefore, CGF has served as the prime mover of the Rurban Mission Programme. The officials who are implementing schemes opine that convergence, in reality, has happened for the first time in the development history of this country.

Utilisation of CGF: An analysis of 'the type of activity' in which CGF has been much used revealed the following. In Tamil Nadu clusters, it has been mostly used for agri-services processing such as nursery raising, agri-clinics, sericulture units, millet processing, etc. In Kerala, it was for inter-village connectivity, access to village streets, setting up biogas and waste incineration units, geriatric care, rehabilitation of differently-abled persons, setting up rural markets, playgrounds and recreation facilities etc.

Work Identification: The CGF is capped at 30 per cent of the capital cost or Rs.30 crore, whichever is lesser (in the case of plain areas). This has made the CDMU to be fixated on the overall budget they are supposed to arrive at. The thinking has been about being within the budget rather than holding a well-thought-out vision for a Cluster and determining what is required to offer the traction or power a given cluster needs. This mindset should have been expected, and addressed during the training of DPMU/ CDMUs.

Conclusion

The strategy adopted by the NRuM to make the States/districts to think and initiate convergence-in-action has really worked. Convergence of departments has taken place, and convergence of programmes has taken place. The NRuM deserves to be credited for being the first programme that demonstrated convergence in planning, as well as on the ground. However, the incongruity between direction of change desired in a cluster and the types of schemes converged, coupled with sparse/sporadic nature of interventions undertaken from various departments, does not render perceptible change as envisaged by the mission for economic activities to take an upward spiral.

Recommendations

1. The 30 per cent Critical Gap Fund (CGF) for every cluster must be continued, as it serves as the prime mover of this programme amongst the State and district administrations. Two important attractions

that Gram Panchayats (clusters) find in Rurban Mission are (i) the geospatial planning, and (ii) the comfort of being able to plan for activities/interventions that no existing schemes can fund – because CGF can cover such investments/expenditures. Therefore, the concept of CGF under NRuM must be continued.

2. The location of habitations is too widespread when it comes to combining 5-6 Gram Panchayats to make one cluster. Consequently, after planned interventions got implemented, it becomes difficult to recognise the effect of convergence. The density of schemes implemented is too thin to recognise. Therefore, States must be allowed to go for pragmatic customisation with regard to cluster identification and area delineation.

3. The NRuM primarily envisages livelihoods promotion and creation of infrastructure attendant to livelihoods promotion. This is one of the key features of NRuM. In ICAPs/DPRs, the components under common basic infrastructure creation are found to be on the higher side, rather than the expenditure on agriculture promotion, agro-processing or livelihoods enhancement/diversification. In this regard, attention must be paid during the scrutiny of Cluster Action Plans in the future phases.

4. Cluster Development and Management Unit (CDMU) is viewed more as a 'temporary committee' constituted for the purpose of convergent planning. Once the planning exercise is over, and the ICAP got approved, the CDMU becomes silent or non-existent in the clusters. The CDMU, as originally contemplated, must ensure the cluster's sustainable operation and involve progress monitoring. Further, it must make further plans for providing traction and elevating the image of the cluster so that it is widely recognised for what was promoted as a cluster. This idea has not gained a firm grounding. CDMU, as an institution, requires further orientation/training on the role and significance of the NRuM. There must be incentive mechanisms such as a 'performance grant' to ensure sustained functioning of CDMU.

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AWARENESS AND CAPACITY BUILDING ON ECO-RESTORATION AND SMART CLIMATE APPROACH IN THE STATE OF TRIPURA

Dr. Mukesh Kumar Shrivastava

Introduction

The problem of Climate Change has now unequivocally been accepted by the global community, and India cannot afford to be an exception, as environmental degradation does not follow any country's boundaries. India's North Eastern Region (NER) is a compact land mass which contributes substantially in terms of forest resources to the national average of forest cover of 23.9 per cent. NER constitutes one of the twelve bio-diversity hotspots, with more than one-third of the country's biodiversity. Significance of NER is even strategic for the country; therefore, the stability of the area from socio-politico and economic angles becomes all the more important.

North Eastern Region is critical from a climate change perspective as more than two-thirds of the population is basically rural and depends on climate-sensitive natural resources such as agriculture, forest biodiversity and water. While Mitigation strategies have not yet taken off in NER, adaptation measures have been initiated.

In order to adapt better to likely adverse consequences of climate change, this research study envisages assessing vulnerability and reducing the vulnerability of local populace to climate change in a target-oriented manner in target-oriented study area.

This research study is significant in assessing vulnerability, identifying the need for awareness and capacity building among the people, and making higher adaptability. This research study focused on analysing different dimensions of community-based vulnerabilities to climate change and their adaptation mechanism in most climate-vulnerable districts of the State of Tripura. The innovative component of the project is the selection and prioritisation of districts with respect to their vulnerability and impact of climate change.

In addition, individual project activities have been selected according to their relevance to climate change adaptation measures. Implementation of individual project measures (like awareness and capacity building training and workshop for the local people and development professionals) have been carried out according to established project objectives. In general, the measures are envisaged to provide four core objectives in two selected districts of Tripura.

Objectives

This research aims to strengthen target groups' adaptive capacities, thereby reducing their vulnerability to Climate Change in a target-oriented manner. The objectives are as follows:

1. Situation analysis of the vulnerable districts through baseline survey to identify the environmental issues and to find out the possible strengths of the community

2. Training need assessment for the different stakeholders in relation to the effects of climate change.
3. Awareness generation among the community stakeholders and officials to contribute to the reduction of climate hazards and environmental degradation.
4. Incorporating eco-restoration and formulation of climate adaptation response strategies into local practices.

Methodology

The focus of the study was to find out the effect of climate change issues and climate-resilient sustainable adaptation and mitigation strategies in most climate-vulnerable districts of the State of Tripura. The innovative component of the study is the selection and prioritisation methodology of districts with respect to their vulnerability to the impact of climate change. Accordingly, the village, Gram Panchayats/Village Councils and blocks were selected where the prevalence of farming was found, and the stressed ecosystem was confirmed. A total of 180 farm households were surveyed from two districts (North Tripura and Gomati) in the State of Tripura. The researchers have used purposive sampling to identify the farm households in the study areas.

The villages covered in the study were Samatalpara, Rangamati, Dakshinpara (from Amarpur, Gomati), Kurti Rajnagar, Kurti Bazar, Ward No. 1, Ward No. 7 (from Kadamtala, North Tripura). The identification and sampling of the villages in the study areas purely depend on less employment opportunities, vulnerability to Climatic risks, High climatic threats zone, etc.

Data was collected through interview schedule, focus group discussion, observation and participatory rural appraisal.

The Livelihood Vulnerability Index (LVI) based on different dimensions of community development and vulnerabilities was also calculated.

Study Area: Details of the study area are given below:

State	District	Block and Village	Justification/ CCA Relevance/ vulnerability
Tripura	1. Gomati	Amarpur Block-Bampur Village	High agricultural vulnerability with the risk of high flood, Vulnerability to drought, Water vulnerability
	2. North Tripura	Kadamtala Block-Baghan GP (Ward-7)	High risk of flood and drought-prone areas

Findings

1.1. Among the respondents, the majority (54.6 per cent) were from Scheduled Castes, of which 72.2 per cent were male members and 27.8 per cent were females who were directly related to farming

1.2 More than 26 per cent of the respondents had the farming experience of more than 30 years. These farmers have experienced multifaceted problems associated with crop productivity, profitability, food and nutrition security, environmental externalities and overall system stability and sustainability

1.3 The above-mentioned problems are again shaped by climatic variability, inappropriate technologies, skewed gender relations, commercialisation of farming and open market regime. Moreover, decreasing per capita agricultural land availability compelled most farmers to operate in small fragmented patches of land for cultivation. The research study explored and reported that more than 96 per cent population in Gomati district had lost their possession (including farmland) due to various extreme climatic events in past decades.

1.4 In response, smallholder farmers of these areas have experimented with and developed new land use systems to better manage their farming systems and sustain them in the long term. These innovative techniques are embodied as resource integration or sustainable resource intensification in farms, and these are called integrated farming systems in common parlance. In this study, more than 90 per cent of farmers have reported that they have initiated integrated farming system practices in the last 6-10 years.

1.5 Due to lack of awareness and training on organic farming, most farmers have reported practising agriculture totally by using chemical fertilisers. Hence, the training may pertain to organic manure and fertiliser preparation.

1.5.1 Water is an essential natural resource. Among many stressors, altered climate exerts pressure on water resource systems, thereby increasing demand and creating a need for vulnerability assessments. In this study, a quick review of water vulnerability was performed with an appropriate data collection instrument. The water vulnerability score value of Gomati (0.668) is considerably higher than the other district.

Farmers from both districts are reported to be facing major climatic issues. The researcher also realised that to manage this innovative farming system as a means of solving the problems of smallholder farms, there is an urgent need to assess the dimensions of vulnerabilities of these farming systems in the long run. Further, it is recognised that sustainability and vulnerability are not linearly associated with each other. This implied that integration does not always reflect in the vulnerability scores, and different perspectives in measuring vulnerability may produce divergent results at the individual farm level. Therefore, there is a need to consider the different perspectives while measuring it. However, in this study, they are referred to as seven dimensions (consisting of socio-demographic profile, livelihood strategies, social networks, health average, food security, water vulnerabilities, natural disasters and climate variability). They were individually analysed, and a composite index was generated (Livelihood Vulnerability Index-LVI) to have a mirror understanding.

In this study, the researcher adopted vulnerability measurement sub-components for each major component based on various vulnerability and sustainability assessment frameworks to study the sustainability of 180 farms, each from two districts of Tripura, and then assessed their vulnerability using the vulnerability index score and statistical tests.

Conclusion

1. In the first part of this study, we classified and characterised the smallholder farming systems of Tripura based on the degree of farm-level characteristics and the dimensions of vulnerabilities with some specific adaptation methods, which identified the farming experience of the farms, family size of the smallholder farm families, age distribution of the smallholder farms, house construction technique and many others parameters.
2. In the second part, the researcher observed that the value of different components of the vulnerability index of the studied farms is higher in Gomati district than North Tripura vulnerability score. The farms of this region are more inclined to enhance their resilience against climatic variation/fragility of ecosystem, with an exclusive focus on subsistence and family welfare.
3. In the third part of this study, the network analysis was established, like the unidirectional and mutual relationships between different institutions in the study area. The network properties such as density (proportion of interaction among various institutions compared to the maximum possible interactions among them) and number of ties (number of interactions between any two institutions) were recorded. We have addressed the relationship between these institutions, which shows their existing relationship in terms of institution function and accessibility.

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PERFORMANCE OF WOMEN-HEADED GRAM PANCHAYATS IN BIHAR: AN ANALYSIS ON POWER, RESISTANCE, NEGOTIATION AND CHANGE

Dr. Mukesh Kumar Shrivastava

Introduction

The 73rd Constitutional Amendment Act 1992 paved the way for democratising the rural local self-government and engendered it. The amendment has introduced a new Part IX to the Constitution titled 'The Panchayats,' Articles 243 to 243(O) and a new Eleventh Schedule covering 29 subjects as the functions of the Panchayats to make the Panchayati Raj Institution an inclusive institution of local self-government. Articles 243G and 243H empower the Panchayat to prepare plans and levy taxes. Article 234D deals with the reservation of women. The legislative innovation has enabled women to participate in decentralised planning, governance and development of the village area.

Complying with the mandates, the State government of Bihar introduced modified Panchayati Raj Acts and Rules in 2006, which reserved fifty per cent of the total number of seats for the women of Scheduled Castes, Scheduled Tribes and Backward Classes. As a result, a total of 63,914 women have been elected at different levels of Panchayats in Bihar. The Government of Bihar has also devolved the 20-line departments to the Panchayati Raj Institution to make the panchayat an effective institution of development. The other side of the coin is that a large number of elected women representatives remain outside the realm of power, and decision-making process on the subject is transferred to them. The prime reasons are patriarchal values, caste hierarchy and gender differences. These are still prevalent and practised in Bihar, which deters the woman from discharging duty as Mukhiya (Gram Panchayat Head). Both the constitutional and social power dynamics, the degree of resistance and the way of negotiation have a direct bearing on the performance of women elected representatives in the Panchayati Raj Institution. The research probed into the socio-cultural factors that are important determinants of performance in a patriarchal society and analysed the performance of women elected representatives as the head of Gram Panchayat.

Objectives

The objectives of the study are as follows:

1. To identify sociocultural determinants that significantly influence the performance of women elected representatives
2. To analyse the current situation of women's representation in decision-making processes at the bottom level planning process and its implementation
3. To analyse the impact of the reservation of women in the Panchayati Raj Institution and the constraints faced by them
4. To analyse the facets of restraints and the way of negotiations by elected women representatives to establish themselves as active leaders.

Methodology

Under the broader framework of exploratory and descriptive design, the study used a mix of quantitative and qualitative processes of research methodology. The primary data was collected from the twenty-four (24) woman-headed Gram Panchayats identified through a multi-stage sampling method from four cultural–linguistic zones and a tribal-dominated district of the State, i.e., Magadh, Bhojpur, Maithili, Angika and Champaran. The interview schedules, observation guide, and FGD guide were the prime tools for data collection.

Twenty-four women mukhiya (GP Head) include women from the open category, Scheduled Caste (SC) category, Backward Class (BC) category, Scheduled Tribe category, Unreserved (Women) category and Minority Category.

A total of seven hundred and twenty (720) household respondents in the twenty-four (24) Gram Panchayats spread over six districts were interviewed. A total of 360 female and 360 male household respondents on the functioning of Gram Panchayat and socio-cultural & power dynamics in the villages. Analysis was done by using both quantitative and qualitative techniques. The secondary data was collected through data capture format, desk review and the review of relevant documents.

Study Area

The study was conducted in the State of Bihar. The State of Bihar is known as the birthplace of ancient republics, namely Lichhavi and Sakya Gantantra. The State has a rich history of local self-government. The State of Bihar, first time in the country, has made the provision of 50 per cent reservation for women belonging to Scheduled Castes, Scheduled Tribes and Backward Castes.

It has opened the door for women from different social settings and has given them an opportunity to come into power and play a role as a catalyst. In this way, the old norms of patriarchal society have been challenged in a traditional society like Bihar. Thus, it is a matter of interest to explore whether a quantitative rise in the representation of women in political decision-making institutions is paving the way for the political empowerment of women and the socioeconomic development of the village.

Findings

Cumulative findings are as follows:

Most of the mukhiyas' (41.7 per cent) were young (between 25-30 years old), while around 17 per cent were in the age group of 51-55 years. Out of the total interviewed mukhiyas' more than 66 per cent were literate, while one-third were educated up to the middle level. A good percentage (12.5 per cent) were educated up to the graduate level. From an occupational point of view, the majority (62.5 per cent) of mukhiyas respondents were housewives. Around one-third of the women mukhiyas had land in their name. The majority of household-level respondents were literate. Male literacy was higher than females. A sizable percentage of the respondents were educated. They were in business and jobs.

On the aspect of participation, it was found that 50 per cent of women mukhiyas joined politics because of reservation and family desires driven by social dynamics. The finding also shows that most of the elected women mukhiyas were 1st timer or 1st generation politicians. The household's respondents

were of the view that the present mukhiya won the election because of reservation, caste numbers, religious dominance, family reputation and supported candidate. A small percentage of the respondents said that they had voted for a particular candidate because of their educational qualifications and they were young. The reservation of seats was the biggest motivator (33.33 per cent), followed by social service and self-motivation. About 80 per cent of the women mukhiyas were in favour of the reservation. However, most of them were unaware of the reservation provision made under BPRA-2006.

To the question on attitudinal change towards women mukhiya, a large number of the respondents said that there is some change. But a significant percentage (29.2 per cent) of the respondents said there is no change. Many mukhiyas shared that their husband has been the biggest beneficiary along with the other family members.

On the development front, 95.8 per cent of the respondents were unaware of the function and funds devolved to the Panchayat. The finding shows that most of them never tried to know about their power, role and responsibilities.

A significant percentage (20.8 per cent) of the respondents did not spare time for Panchayat-related work. More than 80 per cent of the respondents admitted that all the work was carried out by the husband. It was found that only 16.7 per cent of the mukhiyas faced some problems during the planning and implementation of schemes, while 58.3 per cent answered that they were unaware. Fifty-eight per cent) of the respondents believed they were never involved in identifying beneficiaries under CSS and SSS. A smaller percentage (12.5 per cent) of the mukhiyas were aware of the GPDP. One of the biggest reasons for ignorance was the lack of capacity-building programmes.

On the question of resistance, the majority of the women mukhiyas were not ready to share their experiences formally. But in the informal discussion, they accepted that they faced opposition at home and in society. They also shared that they were not in a position to oppose but preferred to compromise with the situation. However, around 13 per cent of the mukhiyas accepted that they faced resistance while identifying the scheme or beneficiary.

On caste and gender-based resistance, findings show that twenty-eight per cent (20.8 per cent) of the respondents came across the resistance while most (79 per cent) refused to disclose it. However, researchers observed the opposition during the FGDs. Around 42 per cent of women mukhiyas did not feel comfortable in male-dominated GP meetings. It was found that compromise and avoidance were the prime techniques of negotiations.

From the household's respondent's perspective, villagers were not satisfied with the performance of the respective mukhiya. But in future, they wished to vote again because of prevailing social dynamics.

The prime demand of the households was the inclusion of names in the beneficiary list of PMAY, PDS system, toilets, job cards, link roads, etc. The findings of the study show that more than 80 per cent of the respondents were unaware of various schemes. Household-level respondents accepted that their women mukhiya could have done better, but this has not happened due to socio-cultural interference. Two-thirds of the respondents opined that caste and patriarchy are still prevalent, which are related to the functioning of a Mukhiya. During the FGD, inter-caste conflict was observed by the researchers. There was a mixed response towards the sensitiveness of mukhiya and extending help in time of need.

There was general apathy among the upper category of society as the seat was reserved. During the

FGD, it was found that a significant number of people did not know the name of mukhiya. They voted for the present mukhiya in the name of her husband and family. Some of the people also said that they did not contact the women mukhiya because of many reasons. In most cases, it was found that women mukhiyas were not available to meet with the people.

On the vision front, 75.0 per cent of women mukhiya said that they wish to be elected again, and 50 per cent of them wish to be elected to a higher political office.

Conclusion

The study concludes that the number of EWRs has increased significantly, but actual participation, i.e., understanding the job responsibilities, attending meetings, taking part in planning & implementation, and decision-making, is a farfetched goal. It is not because women are not able or willing to do so, but the socio-cultural dynamic has deterred them. Women mukhiya has not skilfully negotiated the transition but opted to sacrifice their interest for the family interest. In other words, the social dominance and political ambition of male members have marginalised the performance of women head GP. Providing awareness and capacity building requires special attention to bring the women mukhiya to the forefront. The presence of women staff in the administration will help in getting them into the centre of development and governance in the Gram Panchayat.

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STUDY ON THE ROLE OF TRADITIONAL AND NEW HIGH-VALUE CROPS FOR ENHANCING FARMER'S INCOME, NUTRITIONAL SECURITY AND SUSTAINABLE ECONOMIC DEVELOPMENT IN NORTH EAST INDIA

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Introduction

North Eastern Region (NER) is primarily a hilly region enriched by several rivers and valleys. Agriculture plays a vital role in the region's economy. The region has a very high dependency on agriculture and allied activities. More than 80 per cent of rural households depend on agriculture as their principal means of livelihood. Agriculture, horticultural and forestry are the key contributors to the State Domestic Product (GDP).

The government policy to look beyond food security has given enough thrust on income security with potential biodiversity for agriculture and proposed to double farmer's income by 2022 marking the 75th year of independence. In the budget of 2016-17, the Government of India has set a policy target of doubling farmers' income by 2022. Accordingly, the government has also announced several measures, including agricultural market efficiency, expanding dairy processing facilities and enhancing farmers' capacity to diversify into non-farm activities. In this context, this study explores crop situation, cultivation practices, existing resources, agri inputs-outputs details, marketing facilities and hindrances faced by the farmers of North East has made this region vulnerable.

Objectives

- To explore and identify region-specific traditional crops and also new crops which have high nutritional value, high demand, and fetch reasonable prices in the market
- To study the existing practices, varieties/cultivars, technology etc., being used for the cultivation of these crops by farmers and the problems thereof
- To assess the existing infrastructure, policy support, post-harvest management, institutional arrangement, economic linkages and marketing of these crops
- To identify areas of innovations/improvements/technologies/practices for popularising and improving the productivity of these crops and doubling farmers' income by 2022.

Methodology

The study recorded various factors and dimensions of the agriculture sector like land details and land patterns, agriculture inputs, acidity/alkalinity of the soil, homestead land, farming experience, institutional

access, farm revenue, vegetable yield, fruit yield, cash crop yield, marketing details and irrigation system according to available data. A series of interviews and FGDs were conducted with the key stakeholders in the study. Further, the study recorded the hindrances faced by the farmers from different aspects and ranked them accordingly for better understanding and to suggest policy measures. Data was collected from 860 households of 42 villages from six States of the North East. Data on crop details were recorded from a total of 860 individual households.

Study Area

The study has covered six States (Nagaland, Tripura, Meghalaya, Sikkim, Assam and Arunachal Pradesh), twenty-one districts and forty-two villages in North East India. These districts are Lakhimpur, Dhemaji, Kokrajhar, Jorhat, Golaghat, Barpeta, Majuli Lower Subansirim, East Siang, Papum Pare, Upper Subansiri, West Kameng, Gomati, North Tripura, West Garo Hills, Ribhoi, Mokokchung, Kohima, North Sikkim, South Sikkim and East Sikkim.

Findings

Based on the analysis of the study, the following major findings were drawn:

A. Background Details of the Respondents

In the first part of the study, we found respondents of different categories in different States of North East India. The study has covered so many tribal communities, and others as its respondents from diverse parts of NE India like Aos and Angamis in Nagaland, Tripuri in Tripura, Khasi, Garo from Meghalaya, Lepcha, Bhutia, Nepali, Sherpa from Sikkim, Adi, Nyshi, Apatani & Monpa from Arunachal Pradesh, and Mising from Assam, etc. The respondents from different communities are further categorised in terms of gender categorisation, age distribution and based on some other factors.

The majority of the respondents covered in the study include the small and marginal farm holders of different States in North East India. The land types and land categorisation include categorisation of land in terms of own land, homestead land, community land, agricultural land, leased out land, leased in the land, forest land, irrigated land, non-irrigated land, etc., as per the availability of the data. Occupations of the respondents are categorised into two major groups, namely Primary occupations and Secondary occupations. The study found that most respondents are associated with agriculture as their primary occupation in all the States. The economic status of the respondents is categorised based on their income from three different agricultural seasons: Kharif, Rabi and Zaid. The study's findings suggest that the income is higher in Kharif and Rabi seasons. In Zaid season, the income of the respondents is significantly less as this season is considered a lean season for agriculture. Water scarcity is the biggest problem in the majority of the States, and the farmers suffer from economic loss in most cases due to a lack of irrigation facilities.

The educational status of the respondents was categorised primarily as literate and illiterate, and further, it is categorised according to the educational standards as per the availability of data. As per the data majority of the respondents in the study are literates, whereas very few of them could not get access to educational institutes.

B. ***Agriculture Details: Major Crops, Cropping Pattern, Indigenous Cultivation Practices, Irrigation Details, Training and Capacity Building, Soil Testing***

i. The study has identified the major crops of each State and recorded every possible detail of the crops like cultivation practices, yield ranges, uses, cropping patterns, marketing strategies, etc. The findings of this part of the study reach the conclusion that the major crops of the study areas include:

	Name of the States	Major crops in the specific study areas
1.	Nagaland	Rice, gum rice, millets, cabbage, radish, squash, gourd, pumpkin, bamboo shoot, potato, brinjal, king chilli, tomato, colocasia, tapioca, mustard, cucumber, broccoli, banana, kiwi, pineapple, passion fruit, orange, lemon, plum, goose berry, etc.
2.	Tripura	Rice, maize, millets, cabbage, cauliflower, radish, carrot, gourd, pumpkin, bamboo shoot, brinjal, king chilli, tomato, colocasia, tapioca, mustard, lady's finger, banana, guava, jackfruit, mango, etc.
3.	Meghalaya	Rice, millet, maize, cabbage, radish, squash, cauliflower, carrot, potato, brinjal, chilli, tomato, colocasia, tapioca, gourd, capsicum, lady's finger, banana, pineapple, jackfruit, plum, passion fruit, orange, star fruit, cashew nut, ginger, black pepper, garlic, turmeric, bay leaf, areca nut, etc.
4.	Sikkim	Rice, millet, maize, black rice, cabbage, cauliflower, radish, carrot, squash, pumpkin, king chilli, ginger, spices, cardamom, banana, orange, guava, etc.
5.	Assam	Black rice, sticky rice, cabbage, cauliflower, radish, carrot, squash, gourd, bottle gourd, pumpkin, bamboo, potato, brinjal, king chilli, tomato, masoor, urad, arhar, rajma, green gram, etc.
6.	Arunachal Pradesh	Rice, millet, maize, cabbage, cauliflower, radish, carrot, squash, potato, brinjal, king chilli, tomato, lady's finger, banana, kiwi, orange, etc.

ii. For irrigating the agricultural fields, different sources of irrigation are utilised. The primary sources of irrigation in the States are rainwater and traditional water bodies. This region is highly dependent on natural moisture and rainfall for growing varieties of crops leading to a high degree of instability in agricultural production

iii. The indigenous farming systems in NER are, by and large, organically practised. Enrichment of integrated & organic farming in traditional cultivation systems can be developed for maintaining soil health in Hills and forest ecosystems in NER by promoting crop diversification, introducing new high -value crops, integrated farming system, agroforestry, and scientific jumping. All these methods are the potential enough to maintain soil health for sustainable agricultural development in the region

iv. The training and workshop curriculum has been diligently prepared, understanding the present agriculture scenario, which plays a critical role in agriculture development. Though according to the findings of the study, a moderate number of the respondents (E.g., Tripura-33 per cent, Meghalaya-59 per cent, Sikkim-33 per cent) from different States of NEI hardly could get access to any of the training programmes

v. Apart from that, the study found the soil testing status under the guidance of the agriculture department of the study areas. According to the findings, very few respondents from the study States could properly test their soil.

C. ***Identification of Area Specific High-Value Crops***

The main objective of the study was to explore and identify region-specific traditional and new high-value crops with high nutritional value. As per the findings, the list of the high-value crops, along with identified potential clusters/districts, is given below:

S.No.	Crops	State	Potential Districts/ Clusters
1.	Passion Fruit	Nagaland	Kohima, Mokokchong
2.	Kiwi	Nagaland, Arunachal Pradesh	Kohima, Mokokchong and West Kameng, Lower Subansiri
3.	Plum	Meghalaya	Ribhoi, West Garo Hills
4.	King Chilli	Nagaland, Sikkim, Assam	Kohima, Mokokchong, East Sikkim, South Sikkim, Lakhimpur, Jorhat
5.	Black Pepper	Sikkim	East Sikkim, North Sikkim, South Sikkim
6.	Banana	Tripura, Assam	Gomati, Kokrajhar, Lakhimpur
7.	Gooseberry	Nagaland	Kohima, Mokokchong
8.	Pineapple	Meghalaya	Ribhoi, West Garo Hills
9.	Ginger	Nagaland, Meghalaya	Kohima, Mokokchong & Ribhoi, West Garo Hills

D. ***Hindrances Faced by the Farmers in Agriculture***

An attempt has been made in this research study to analyse the agricultural hindrances faced by the farmer's community in the northeastern States of India. Agriculture is the main economic activity in the region. Despite the major impact of the green revolution in the irrigated areas of the country, modernisation of agriculture has escaped this region as evidenced by poor adoption of modern technologies, low consumption of fertilisers and other indicators of growth. The agricultural production system in the region is predominantly rain-fed and mono-cropped at the subsistence level.

E. ***Overall Characterisation of Agriculture in Northeast India***

1. The percentage of cultivated area to total geographical area ranges very low (in hilly States like Arunachal Pradesh, Nagaland, Sikkim, Tripura, and to some extent in Assam and Meghalaya) as compared to the all-India level
2. Domination of rice as a single crop is vulnerable to risk and low levels of productivity. There is very less opportunity for the introduction of new crop varieties due to many hindrances, though this study has identified some of the major crops as area-specific high-value crops

3. The prevalence of traditional agricultural practices and low productivity is another concern in this area
4. Agricultural diversification of crops, livestock, fish and silk exists in the region, but their contribution to economic development is negligible, as reflected in the low per capita income.

Conclusion

The present study explored and identified high-value crops and the characteristics of farm households based on different factors. Using large unit-level farm household samples, the study found the traditional cultivation practice as well as existing high-value crops, have the potential of welfare indicators for the farmers. There is an inverse relationship between the cultivation of remunerative high-value crops and the probability of being poor. The introduction of large-scale cultivation of identified high-value crops for the region needs urgent policy attention. This study addressed the potentiality of the area for cultivating high-value crops for income enhancement and poverty reduction. This is important for policy implications as enhancing farmers' income, and welfare has been given the utmost priority in the study. With the findings of the significance of crop diversification towards high-value crops, the study demands concentrated efforts to promote high-value crop cultivation in the region. Also, there is a need to ensure the parallel development of a supportive market environment encompassing backwards and forward market linkages.

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CONCURRENT EVALUATION OF THE MONITORING OF THE IMPLEMENTATION OF NATIONAL FOOD SECURITY ACT 2013: AN EVALUATION IN ANDHRA PRADESH

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Introduction

The Public Distribution System (PDS), which began to manage food supplies during scarcity, has evolved as a system for the distribution of food grains at affordable prices. PDS is operated under the joint responsibility of the Central and the State Governments.

The National Food Security Act, 2013 is an Act of the Parliament of India which aims to provide subsidised food grains to approximately two-thirds of India's 1.2 billion population. It was signed into law on 12th September, 2013 retroactively from 5th July, 2013.

The main objective of the National Food Security Act (NFSA) is providing food and nutrition security to people by providing access to foodgrains at affordable prices. The Act provides for coverage of up to 75 per cent of the rural population and up to 50 per cent of the urban population for receiving subsidised food grains under the Targeted Public Distribution System (TPDS), thus covering about two-thirds of the population.

Since the enactment of the NFSA, the ministry has monitored the progress mainly through official sources like periodic progress reports, regular meetings, field visits, etc. But the information regarding the exact implementation of the scheme on the ground is lacking. There is a need, however, for more in-depth, inclusive and comprehensive monitoring of the implementation process on a regular basis for adequate empirical evidence for the qualitative evaluation of the programme. This calls for an institutional mechanism with the required reach and resourcefulness. Hence, concurrent evaluation is a tool to provide fairly good information on outputs and key outcome indicators every quarter with the main objectives of facilitating action for improved quality of implementation/service delivery and serving the end beneficiaries with quality services.

The study titled "Concurrent Evaluation and Monitoring of National Food Security Act 2013 in the State of Andhra Pradesh" was entrusted to the National Institute of Rural Development and Panchayati Raj (NIRDPR), Hyderabad by the Ministry of Food, Consumer Affairs and Public Distribution, New Delhi for the year 2018 – 19 and 2019 – 20.

Objectives

- The main objective of the concurrent evaluation is to assess the overall progress of the implementation of NFSA (2013) in Andhra Pradesh State and also measure as well as monitor the change it has brought in, specifically:

- At systematic level: Assess and analyse the progress of implementation of various aspects of the NFSA 2013
- At beneficiary level: Evaluate the benefits of NFSA on the target groups to achieve the objectives of the NFSA.

Methodology

The list of 2011 Census districts and villages/cities/towns constituted the sampling frame. During each quarter, three districts, one each from an NSSO region (due to variations in social and economic characteristics within a State), were selected. The districts were randomly selected for evaluation during each quarter representing the Inland Southern region of NSS, Coastal Southern region of NSS and Coastal Northern region. A multi-stage sample design was adopted for the concurrent evaluation. Districts/cities/ towns/villages/urban wards and households form the first, second and third stages of sampling, respectively. In each village, 15 sample NFSA beneficiary households (i.e., 10 PHH & 5 AAY) were selected using a systematic random sampling method.

Sampling Method

- In each quarter, three districts, one each from an NSSO region, were randomly selected using the equal probability approach as first stage sample unit. Within the State, districts were selected randomly so that not more than one district is covered per NSSO region per quarter.
- Village/Urban ward (where FPS is located) formed the second stage units of selection from which sample households were selected.
- Five units (four villages and one urban ward) were randomly selected
- In each village, 10 PHH and five AAY beneficiaries were chosen using a systematic random sampling method. Adequate representation of ST/SC, poor and vulnerable population were ensured in the sample
- In each village, one fair price shop was also covered
- During the district-level inspection of a godown, interactions were held with District level Vigilance Committee, District Grievance Redressal Officer and a District level Food and Civil supplies officer.

Sample Design

A sample of 975 households, 65 FPS dealers, 26 Mandal Level Stock Points, 13 District Grievance Redressal Officers, 13 District Vigilance Committees and all the 13 District Supplies Officers were interviewed.

Sampling Technique

- In each quarter, four districts from each NSSO region were randomly selected using the equal probability approach as first stage sample unit. Within the State, districts were selected randomly in such a way that not more than one district is covered per NSSO region per quarter.

- Village/Urban ward (where FPS is located) formed the second stage units of selection from which sample of households was selected.
- Five units (four villages and one urban ward) (where FPS is located) from rural/urban in each district (based on the urban-rural distribution of NFSA population in the State) were randomly selected.
- In each village, 15 sample NFSA beneficiary households (i.e., 10 PHH and 5 AAY) were selected using a systematic random sampling method. Adequate representation of ST/SC, poor and vulnerable population were ensured in the sample.
- In each village, in addition to 15 NFSA households, one fair price shop was also covered.
- During the district level inspection of a godown, interactions were held with district level vigilance committee, District Grievance Redressal Officer (DGRO) and a district-level food and civil supplies officer.

Data Collection

Data was collected from primary and secondary sources to meet the research objectives. Primary data was collected through interactions with the stakeholders of the NFSA 2013 at every level.

Secondary data was collected from journals, books and newspapers, publications related to the public distribution system, etc.

Analytical Framework

The study is descriptive and analytical in nature. The data collected through questionnaire was summarised and presented in tables. Cross-tabulations, charts, and percentages were the main statistical indicators used to analyse the empirical data.

Study Area

The study was conducted in Andhra Pradesh, and all 13 districts were drawn for the purpose of this study.

Findings

At HH Level

The selection of the beneficiary and issue of ration cards in the State has been made transparent. Information on these aspects has been made available in the public domain. Since the concept of Below Poverty Line has been discontinued in NFSA and a broader concept of Priority Household has been introduced, the State has simplified the exclusion criteria to four broad points such that no genuine beneficiary is excluded.

Active Ration Cards in the Sample Districts

- Time period notified by the State government for the delivery of services: Days and timings for issuing of ration are from 1st to 15th of every month, from 8 AM to 12 PM and 4 PM to 8 PM.
- Online ration card management system in the State is as follows:
    a. Online mechanism for receiving applications for new/duplicate ration cards
    b. Online mechanism workflow-based system
    c. Online services available at mandal level centres are operated by the department at the last mile point through CSCs/local private entrepreneurs and even at village GP level
    d. There is a provision for acknowledging the application or providing a status update to the applicant through SMS
    e. It is cross-checked that details of the Ration Card Management System are correctly reported on NFSA

More than 88 per cent of the total ration cards in the sample districts belong to priority households (PHH). More than 98 per cent of the Fair Price Shops (FPS) in sample districts are Electronic Point of Sale shops (EPoS).

The beneficiaries were fully aware of their entitlement to foodgrains/commodities, their share as well as the prices of the commodities. There were no complaints regarding the quality of food grains, underweighing or overcharging for commodities. The beneficiaries are quite satisfied with the timing and duration of opening of PDS shops and also were fully satisfied with the quality of food grains and grain preference. There are instances of the beneficiaries not being interested in collecting foodgrains because they grow better rice than that distributed through PDS. This facilitates the possibility for corruption to creep into the system.

Transparency Portals and Online Grievance Registration system/Toll-free helpline numbers (1967/1800-series) are available in all the sample districts.

The use of E-PoS at the FPS has made distribution of foodgrains very easy, fast and transparent. Barring a few occasions due to poor connectivity during peak periods, the E-PoS machine functions exceedingly well at the FPS level. The beneficiaries have expressed their preference to collect food grains than to receive cash subsidy.

Overall Satisfaction

Overall, the distribution of PDS food grains ensured the food security of the poor. The beneficiaries expressed the need to increase the entitlement limits of the foodgrains already in distribution and bring more essential commodities like kerosene, cooking oil, etc., under the ambit of PDS. From the dealer's point of view, it is expressed that the commission per bag could be increased, delivery of food grains has to be made through the department, and alternative thumb impression facility has to be introduced at the FPS level.

At FPS Level

Ownership Pattern of Fair Price Shops: As per the Civil Supplies department, selection and appointment of Fair Price Shop Dealers under the Andhra Pradesh State Targeted Public Distribution System (Control) Order, 2018

i) State Government owned corporations/Undertakings or Companies or Gram Panchayats/Urban Local Bodies.

ii) Societies and

iii) Individuals

A quantity of 10 kg rice is being distributed free of cost for Annapurna cardholders who are destitute HIV patients. In Andhra Pradesh, under NFSA, five kg of rice is distributed per person for PHH cardholders and 35 kg per card (irrespective of the number of members in the family) for AAY cardholders. Stocks are being delivered to the doorstep of the FPSs very promptly, and the same is being distributed to the beneficiaries by the FPSs without any lapse after successful biometric authentication. EPoS devices are used at all stages of the foodgrain movement (Table 1). The same is also made available in the public domain.

Table 1: Rates and quantities of scheduled commodities that are distributed to beneficiaries of various categories of beneficiaries in Andhra Pradesh under PDS

S. No.	Scheduled Commodity	Scale of Distribution	Cost of Commodity to be remitted by FPS Dealer per kg in ₹	Dealers' commission per kg in ₹	End consumer price per kg in ₹
1.	Rice to Priority/ White cards	5 kg per Unit in the ration card	0.30	0.70	1.00
2.	Rice to AAY cards	35 kg per card (irrespective of the number of members in the family)	0.30	0.70	1.00
3.	Rice to Annapurna cards	10 kg per card	-	-	Free of cost
4.	Sugar	1 kg per AAY card only	13.35	0.15	13.50
		½ kg per ANP / WAP / PHH card	19.85	0.15	20.00
5.	Wheat Atta	1 kg per card	15.50	1.00	16.50
6.	Redgram dal	2 kg per BPL Card	39.30	0.70	40.00
7.	Ragi (Millet)	Up to 3 kg per card (in lieu of Rice)	0.30	0.70	1.00
8.	Jowar (Millet)	Up to 3 kg per card (in lieu of Rice)			

It is observed that the display of information and transparency aspects, as per NFSA guidelines, are partially maintained at FPS. There is no delay in receiving foodgrains and there was an arrangement of door-step delivery of foodgrains to the FPS. FPS automation is fully done, and almost all the FPSs are well equipped with PoS devices/e-PoS machines and internet connectivity.

The margin/profit and viability of FPS depend on the number of ration cards allotted and the ownership, activities and performance of the FPS dealer. It is evident that the FPS owners are generating income from two main sources, i.e. the commission obtained from the distribution of food grains and the sale of gunny bags. It is true that the E-PoS device has increased the convenience of not just the fair price shop dealer alone but that of all the stakeholders like (beneficiaries, MLSP in-charges, vigilance and monitoring officials, etc.)

Supply Chain Management And Doorstep Delivery

Food Cycle:

In an attempt to ensure smooth and uninterrupted delivery of food grains to the beneficiaries, the Civil Supplies Corporation is following the following food calendar/cycle:

1^{st} to 15^{th} of every month = Distribution of foodgrains to all categories of cardholders

11^{th} to 18^{th} of every month = Payment to the Corporation by the FPS dealers towards ration for next month (through NEFT / RTGS).

20^{th} to 30^{th} of every month = Doorstep delivery of foodgrains to the Fair Price Shops

At Godown Level:

Transport of Food Grains:

STAGE I: FCO godown / buffer stock godown to Mandal Level Stock Point (MLSP).

STAGE II: MLSP to FPSs

The route and time of travel from the MLSP to the FPS are geo-tagged. Alerts are received in the event of deviation in the standard route.

- Monthly distribution cycle for foodgrains is followed in the State
- Allocation orders are generated online by the system from the State level to Fair Price Shops. The closing balance of fair price shops is received automatically, and centralised allotment is generated after considering the CB closure by fair price shops.
- The wholesale transporters lift monthly NFSA foodgrains from FCI godown to mandal supply points. Thereafter, retail transporters deliver foodgrains to fair price shops, and in places where retail transporters have not been finalised, fair price shop owners lift foodgrains from wholesale godowns.
- Stock position of all godowns and FPSs are captured online in real-time. Delivery orders, release

orders, truck challans, gate passes, etc., for NFSA commodities are generated from the system and are available on transparency portals. They are system-generated.

- Payment acknowledgement is generated online. There is a facility for dispatch of SMS Alerts of food grain arrival to citizens/beneficiaries/FPS Dealers. SMS alert facility is in place for citizens and fair price dealers. The allotment and lifting statistics are available on the ANNAVITARAN portal.
- The district and mandal level godowns are maintained by the State Civil Supplies Corporation
- The godowns owned by the Civil Supplies Corporation are modernised and well maintained with restrooms, drinking water and first aid kits
- It is observed that there is no delay in receiving and dispatching stock from godown to FPS.

Sufficient storage capacity has been observed in all the sample districts. Each of the godowns has the capacity to hold sufficient stocks for more than two months. This has ensured an uninterrupted supply of foodgrains to the FPSs and the beneficiaries.

Hamali charges: The hamalis are being paid Rs. 95 per tonne for the loading and unloading of foodgrains at the MLSPs. The department takes care of the transportation and handling charges (loading at the MLSP).

Grievance Redressal:

As per the NFSA, 2013, the States will have the flexibility to use the existing machinery or set up separate mechanisms.

Recommendations

1. The criteria for the selection of beneficiaries should be reworked.
2. The list of beneficiaries should be reviewed every three to six months after a thorough tracking/ monitoring of the history of the beneficiary with respect to the collection of foodgrains from any of the FPSs in the State. If a beneficiary doesn't collect food grains for three months for reasons other than health and migration, they may be deleted.
3. Ration cards should be delinked from housing/fee reimbursement/pensions/Arogyasri schemes. Most of the beneficiaries who do not collect foodgrains are still holding on to the ration cards to avail benefits under these schemes. The presence of such cardholders gives a lot of opportunity and scope for corruption in the implementation of NFSA, 2013 and corruption in Andhra Pradesh is mainly because of this issue
4. The monthly entitlements of the foodgrains may be increased from the current levels
5. The department may consider increasing the range of commodities under PDS by bringing more food items like cooking oils, tamarind, and other pulses (Bengal gram, black gram, green gram, etc.) chillies, which are of daily use. This would undoubtedly provide a lot of relief to the poor. Since the

prices of onions in the open market are volatile and, at times, are sold at Rs. 100 per kg, they also should be supplied through FPSs. This would enhance the income of the FPS dealers too.

6. The monthly income of the FPS dealers is insufficient to maintain themselves (especially the rural FPSs). Hence the FPS dealers may also be allowed to sell non-PDS commodities to enhance the sustainability of their operations. This could also bring down corruption.

7. At present, the FPS dealers are distributing foodgrains, iodised salt, palm olein oil and other items towards ICDS and MDM schemes and also to jails and model schools. Though there is a proposal to pay a commission to the dealers (Rs. 129.20/MT of rice for MDM and Rs. 200/MT of rice for ICDS), they are still not being paid any commission for this activity. This may be resolved.

8. The FPS level vigilance committees may be constituted as the NFSA, 2013 envisages vigilance committees at four levels, i.e. State, district, mandal/block and FPS level (though the study team did not find any reason to constitute vigilance committees at the FPS level).

9. Members should not be appointed/nominated just because of political affiliations or political clout but should be on merit. Education, intelligence, comprehension, and understanding should be considered while constituting the district, mandal or FPS-level vigilance committees.

10. Members of the vigilance committees should be sensitised about the NFSA, 2013 guidelines and other parameters in practice in the State.

11. Though the e-PoS device has increased the convenience of FPS Dealers, the problem of connectivity is still prevailing in some remote rural and tribal villages.

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STATUS OF LAND ALLOTTED TO THE POOR UNDER DIFFERENT LAND DISTRIBUTION PROGRAMMES: AN EVALUATION IN SELECT STATES

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Introduction

Land is the primary source of sustainable livelihood. Ownership of land gives people social dignity, economic viability and a sense of security. It is a finite natural resource, which is unlikely to define limits to agricultural growth under the existing technology is not too distant a feature. National Centre for Advocacy Studies (2002), in the book 'Land for Life', confirms that it is an undeniable fact that the unequal distribution of land and natural resources are the key reasons for increasing poverty, economic stagnation, rural-urban migration and increase of violence. Hence the utilisation of land plays a significant role in the development of a nation, especially for the rural community. On the other hand, landlessness erodes social status and makes people economically vulnerable and emotionally insecure.

India is one of the developing countries where land distribution programmes undertook with the dual objectivity of efficient use of land and ensuring social justice. The distribution of land has been a central question for agricultural development and rural reconstruction since the inception of economic planning in the country. The Planning Commission of India has rightly observed that "land reforms have been treated as an integral part of alleviating poverty, modernisation of agriculture and increasing the agricultural production programme." The draft of Eleventh Five Year Plan reviewed the issue of land reform for agricultural equity and efficiency that would help for the better condition of the rural poor. Agrarian societies of developing countries are marked by great inequalities of wealth, power and status. In these societies, land distribution is the most important material basis of inequality. A number of socioeconomic, demographic and institutional forces influence the process of land transfers.

In recent decades, land has become an extremely scarce resource in India. Under rising population pressure, the land has been used extensively as well as intensively for food security and other uses. But in order to sustain the productive capacity of land, it has to be used and managed properly through policy, institutional and technological instruments.

Objectives

- To examine the status of the land allotted to the poor in terms of possession and productive use
- To identify factors responsible for land alienation and non-possession of the land by the allottees
- To assess the needs of allottees of land for making their asset productive and a sustainable source of income and employment

Methodology

The present study is descriptive and analytical in nature to generate information about the status of land allotted to the poor under different land distribution programmes in terms of possession and productive use.

Hypotheses

1. The land allotted is under the possession of the allottees
2. Productive utilisation of the land depends on the access to the inputs
3. The land allotted to the poor is not in a condition to cultivate

Sampling Method

Multi-stage sampling method was used for the study to select the sampling units. In the first stage, three States were chosen based on sustainable livelihood practices (irrespective of the schemes/ activities).

In the second stage, two districts were selected from each State on the basis of the extent of agricultural land that has been distributed. In the third stage, two blocks/circles were selected from each district for the purpose of the study. In the fourth stage, two villages were selected through the purposive sampling method from each block/circle on the basis of maximum extent of land distribution.

Sample Design

A sample of 2400 hundred (100 allottees x 8 Villages in each State = 800 sample) (800 sample x 3 States = 2400 sample) respondents were taken for the study from the household list who were assigned the government land under various programmes like Ceiling Surplus, Aam/Khas, Gaon Panchayat and Minimum Needs Programme for agricultural purpose.

Sampling Technique

For this study, a simple random sampling method was applied to select the sample farmers. The lottery technique was used to select respondents from each sample village.

Data Collection

Data was collected from both primary and secondary sources to meet the research objectives. Data was also collected from various reports and documents of Block, Circle Offices, District Census Office, Director of Economics and Statistics, Director of Rural Development and Panchayati Raj, Annual Reports of the Commissions for Land Reforms.

At the village level, the general village information has been collected from the Gram Panchayat. The beneficiaries of the land distribution programme were also surveyed with the help of a structured questionnaire combined with personal interviews. Data was collected from the primary sources regarding

their social and economic background, the amount of land allotted, and the quality of the distributed land. Further, data was also collected regarding their consumption levels and general living conditions.

Through the questions, it has been sought to collect particulars like owned land, distributed land, irrigation and cropping pattern, investment made by the beneficiaries, purchase of land, and renovation of irrigation sources. It has been one of the study's objectives to enquire as to whether the distribution of government land has benefited the poor. The amount and sources of income from primary, secondary and other sources were also collected. It has also been sought to know the nature of expenditure and status of living conditions. The caste-wise and category-wise composition of sample respondents and the literacy levels among different size categories and castes were summarised. Income, expenditure level, debt particulars, and living conditions were related to land size and caste. Secondary data was collected from journals, books and newspapers related to demographic details, agricultural production, land particulars, cropping pattern, etc.

Analytical Framework

The study is descriptive and analytical in nature. The data collected through questionnaire was summarised and presented in tables. The main statistical indicators used to analyse the empirical data were cross-tabulations, charts, and percentages.

Study Area

The study was conducted in three States, i.e., Assam, Bihar and Uttar Pradesh. Two districts from each State, two blocks from each district and two villages or GPs in each block are drawn for the study.

Findings

The implementation of government land distribution programmes failed to receive desired objectives due to several problems. The major obstacles are, firstly, in many cases State allotted the land to the rural poor but failed to provide them with a proper record of rights. Secondly, most of the allotted land remains unused or unutilised due to the low quality of land. Thirdly, it was found the involvement of landlords as well as running legal cases in various levels of court between landlords and beneficiaries. From the study, it was found that only a few beneficiaries got benefited from the government-allotted land.

- In Assam, land has been allotted to the poor in rural areas under various Acts such as ceiling surplus and Minimum Needs Programme, etc. However, with the growth of population and the progress of land reclamation, the circumstances have changed from time to time, and the policy regarding settlement had to be modified to suit the conditions prevailing at particular times
- The families that have been allotted land under various programmes are generally poor, and the major problems faced by them is finance for cultivation of land, purchase of inputs, development of land and purchase of agricultural assets

- Before the distribution of land, the major sources of income of beneficiaries were wage labour, especially in both districts of Bihar and Uttar Pradesh. Although land allotment has resulted in significant changes in the total income of beneficiaries, however, majority of the beneficiaries revealed that the unproductive agricultural land and the lack of scope for irrigation facilities were the major reasons for the dwindling income of the households
- Landlessness has been reduced to some extent due to the implementation of various land distribution programmes. There has not been any significant change in the poverty level among the beneficiaries; the socioeconomic conditions remain pathetic.
- In Bihar, 17 per cent have 'parchas', but they did not have physical possession of the land, and a large quantity of allotted land has been found under Ahar Pynes (traditional water bodies); therefore, the sample beneficiaries revealed that they could not cultivate their land.
- Most allotted lands in Lakhimpur (Uttar Pradesh) and Morigaon (Assam) districts are flood-affected. In Lakhimpur district, sugarcane is at high risk due to floods as water logging damages the crop.
- Even after the allotment of land under different programmes, still many families are landless, whose socio-economic condition is pitiable
- The amount spent for land levelling and irrigation was more in Uttar Pradesh and Bihar than in Assam.

Conclusion

The allotment of land to the poor has not given much support to the rural poor to fulfil their needs. In order to have a significant effect on livelihoods as well as poverty eradication and more productive utilization of resources, efforts should be made to find out alternate ways.

- The beneficiaries could get ownership or possession of land if laws were properly implemented in most of the States
- Re-classification of newly irrigated areas should be undertaken with joint efforts of the Revenue Department and Gram Sabhas to bring these lands within the ambit of various land policy
- Introducing Card Indexing System to prohibit fictitious transfers in Benami names; the card system should have a co-relation with their Aadhar Card, Voter I/D Card or PAN
- Distribution of land under various programmes should be in the name of husband and wife on a joint basis as it will enable control of the Benami land. The issue of land should go with a built-in clause of gender equity. It is observed that after fighting the case before the highest revenue courts, i.e., the Board of Revenue, a party can file a civil suit against the order in lower courts. Again, they can allow the process of appeal and revision. Usually, there has been considerable delay in taking possession of the land by the government; thus, the landowner continues to be in physical possession of such land
- There is a weak monitoring system, which prevents the allottees' rights and possession over the land. Therefore, the number of atrocities and incidences of land grabbing by middlemen/agents after the

allotment is high. There is a need to focus on a monitoring system to provide possession of land to the beneficiaries

- Cases of illegal or improper allotments of land to be investigated and allotments to be cancelled- A provision to be made to that effect
- The absence of organisations as well as coordination amongst the officials from village level to centre level and hence more efforts are to be made to improve the status of land as well as conditions of allottees.

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A STUDY ON PERFORMANCE OF INDIRA AWAAS YOJANA (IAY) IN GOA (2013 TO 2016)

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Introduction

Housing is a fundamental human need. It is a basic requirement for human survival as well as for a decent life. Housing is not just for individual families alone. It is for the community. Basically, houses provide shelter from the elements of nature, privacy and protection from the hustle and bustle of the external world. As a dwelling place, it provides security and enables access to different facilities based on its location. Going beyond mere shelter, dwelling and house, ultimately everyone desires a home, 'which gives a sense of ownership and identity, affords psychological satisfaction and promotes self-esteem and confidence.' A home contributes significantly to the well-being and is essential for social and economic development. It supports livelihoods and promotes social integration. It is a form of cultural expression and symbolises social position.

Public housing essentially aims to provide the basic requirements of functional space for a family, that is, a core house 'or a starter house'. While it offers essential dwelling space in a limited area, it is complete in all respects, including a toilet. Such a house lends itself to expansion and development as the family grows or improves its economic status. The design and adequacy of a core house would vary from culture to culture. It is more than just a roof over one's head. It implies sufficiency of space, ease of accessibility, availability of minimum needs, provision of physical comfort and a pleasant micro-climate within and around, existence of a good environment and guarantee of safety and stability. It has to be organically linked to social, livelihood and ecological surroundings. It has to enable linkages to stimulate progress so as to free the next generation from the travails of the present one, mainly through options for education and vocation.2

In India, a substantial proportion of the households either do not own a house or have inadequate housing. As the population of the country is increasing rapidly, the number of houseless families is increasing at an alarming rate.

India is the second largest country in the world as far as the population is concerned. For such a vast country, studying the availability of housing conditions for the people is always a daunting task.

Development of the rural poor is the crux of the development strategy, and in order to achieve the same, the government has introduced several welfare programmes and schemes. One important scheme launched by the Ministry of Rural Development, Government of India in this regard is the Indira Awaas Yojana (IAY).

The rural housing schemes such as the Rajiv Awaas Yojana (RAY), a State-level scheme of the Directorate of Panchayats in Goa (for non-BPL families) and the IAY, (for the BPL families) aim at providing this basic need of shelter.

Since housing is one of the most important subjects for any country, governments in developing

countries are struggling to meet the housing demand and provide habitable shelters to the poor and the homeless. For a country like India, where population and inflation have faded the commoner's dream of owning a home, few government-sponsored housing schemes are a big respite.

The Indira Awaas Yojana (IAY) was launched during 1985-86 as a sub-scheme of RLEGP. The scheme Indira Awaas Yojana (IAY) was renamed as Pradhan Mantri Awas Yojana-Gramin (PMAY-G) on 20th November, 2016, to provide housing for the rural poor in India.

IAY, launched by Rajiv Gandhi, the then Prime Minister of India aims at providing houses to the poor in rural areas and is funded on a 75:25 cost-sharing basis between the Government of India and State governments. According to GoI guidelines (2004), the major target groups for houses under IAY are below poverty line households living in rural areas belonging to scheduled caste/ scheduled tribes, freed bonded labourers and non-SC/ST BPL rural households, and widows. The objective is primarily to help construction/upgradation of dwellings of members of the target groups by providing them financial assistance.

Objectives

The following objectives were adopted to study the socioeconomic benefits of IAY beneficiaries in Goa from 2013-14 to 2015-16.

1. To review the performance of IAY in Goa over the past three years.
2. To assess the socio-economic status of IAY beneficiaries on availing this scheme, and
3. To study the role of local bodies in the effective planning and implementation of the scheme.

Methodology

Data Source: The study was based on primary and secondary data. Primary data was collected through interview schedules set for the beneficiaries and questionnaires set for officials of District Rural Development Agency (DRDA) - North and South Goa who are handling this scheme and the BDO and local Panchayat elected members and another set of questions for the Focus Group Discussions. Detailed discussions were held with the officers/officials at various levels to gather information on implementation of the scheme. Secondary data was collected through Journals, articles and official records, internet, etc.

Sample Design: For assessing the impact of Indira Awaas Yojana, the performance during the years 2013-14 to 2015-16 was covered under the Sample Study. Random Sampling method was used to select the beneficiaries for the study. The Questionnaires for officials and Interview Schedules for beneficiaries (refer Annexures I and III) were prepared keeping in view the objectives of the proposed study. The schedules and questionnaires covered a host of areas starting with the socio-economic characteristics of the beneficiaries, level of awareness about the scheme, problems encountered, utilisation of funds, impact of the scheme, etc.

A total of 400 people were interviewed, i.e. 95 beneficiaries and five Field Functionaries (BDO, APO, TA, V.P. Secretary and one Sarpanch or Panch member) from each selected block.

Focus Group Discussions were held in all four selected blocks comprising 30 beneficiaries from each

block, and case studies were conducted. Besides, four success stories of IAY beneficiaries are included in the study.

Tools of Analysis: Data is analysed through different statistical techniques. MS Excel, graphs and charts were used for analysing the data wherever required. Arc GIS application was used to derive the location map of the study area. Data in the form of tables and figures are depicted in frequency and in percentages, respectively.

Limitations of the study: Every possible effort is made to study the performance of IAY and its impact on the beneficiaries, but subject to the limitation of time. When the actual research study began, the IAY scheme was going through the transition from IAY to PMGAY/PMAY-G, and the guidelines were being restructured. Therefore, the data on the performance of IAY in Goa and the economic aspects of the scheme were omitted for want of data from government officials (DRDA). Starting with the socio-economic characteristics of the beneficiaries, level of awareness about the scheme, problems encountered, utilisation of funds, impact of the scheme, etc.

Study Area

The study covered four blocks/talukas in both the districts of Goa, i.e., two blocks from North Goa and two blocks from South Goa were selected, having a sizeable number of BPL population and IAY households. Pernem and Bardez blocks from North Goa, and Quepem and Salcete blocks from South Goa were selected.

Findings

The data and feedback from the beneficiaries, officials and non-official sources have been analysed. Based on the findings, suggestions have been made for the effective implementation of the IAY scheme, which is now renamed as PMAY-G. The data gathered during the study shows that the IAY scheme in Goa was not executed as per the guidelines given to achieve all its objectives. The data analysis revealed the following findings:

1. There was no meaningful involvement of other local NGOs in creating awareness about the IAY scheme
2. Electronic and print media has played no meaningful role in spreading awareness of Indira Awas Yojana among rural poor people in Goa
3. No in-depth training sessions or meetings on IAY for APOs and TAs were conducted, which was very much required
4. It was found that most of the beneficiaries and even some of the officials of both the DRDAs were not fully aware of the components of the scheme and their responsibilities in implementing the scheme
5. There was a lack of responsibility among the officials concerned in implementing the scheme and passing proper information to the beneficiaries regarding the quality of raw material to be used, proper utilisation of funds and other specifications as per IAY guidelines

6. No house construction in Goa has space specifications. In North Goa, it was observed that the IAY houses had no logo. It was found that the beneficiaries were not informed about painting/displaying the IAY logo outside their houses. While in South Goa, most of the houses had put up the logo.
7. It was also found that no latest technology was being used in the construction of these dwelling units, so that some improvement may be made with low cost of construction as done in some States .
8. The survey revealed that Green Technology was not adopted in building houses under IAY in Goa.
9. Basic amenities like supply of water and drainage, etc., in these dwelling units were not paid much attention.
10. There was more than a six-month delay in availing the 2nd instalment. This was mainly due to the delay in submission of the 1st instalment report and necessary documents of the house status by the beneficiaries.
11. The IAY houses in North Goa were found to be without the IAY logo and the name of the beneficiary as required to identify the IAY houses.
12. Many beneficiaries have also availed the benefits of double schemes, the Atal Asra Yojana and Indira Awas Yojana, to meet their financial requirement to complete their house.
13. Most beneficiaries have gone to build beyond two rooms (extended by three to four rooms) by spending from their pockets or borrowing money from friends. They felt this was a one-time expenditure to sustain their life and security.
14. Many who have toilets do not use them but defecate in the open, causing health hazards to themselves as well as to the public.
15. It was found that the lump-sum amount of Rs. 45,000 is less than the estimated cost for completing these dwelling units in all respects. Therefore, many had to put in their own funds and resources by borrowing from friends, taking loans, etc., to complete their house.
16. No training sessions or orientation programmes were provided to the beneficiaries regarding the IAY scheme.
17. Few beneficiaries were unaware of their criteria for eligibility under this IAY scheme.
18. Bank officials were cooperative while dealing with the transactions. Beneficiaries did not face any problems with the same.
19. No resources/raw materials were made available to the beneficiaries, but they were given only the sanctioned amount.
20. Few beneficiaries have misused the funds for personal work rather than using it wisely and properly.
21. Most of the beneficiaries or their family members work on daily wages or in private sector as their education is in primary stages.
22. Most of the beneficiaries live in their ancestral house and have repaired the same with IAY funds.
23. Most of the beneficiaries were able to go to work freely as the new houses were properly secured and protected after renovation or a new construction.

24. Standard of living of beneficiaries has increased after shifting to the new house under IAY.
25. The expenses of the beneficiaries on maintenance and repairing cost of the earlier (mud or thatched leaves) houses has decreased after building a pucca house which is properly structured and safe. Thereby supporting/assisting the beneficiaries to be able to venture out far for work and be able to provide better education to their children.
26. Except for a few, most of the beneficiaries have basic amenities and equipment in their house.
27. The scheme needs to benefit the poorest of the poor and BPL families instead of just a few sections of society.

Suggestions

Although the performance of IAY has improved since its inception, a great deal remains to be done. Based on various findings and observations, the following recommendations have been made for qualitative improvement in the implementation of IAY scheme:

1. There is a need to create awareness about the scheme in Goa. It can be done by giving wide publicity to the scheme through electronic and print media
2. The role of DRDA should be more effective for creating awareness about the Indira Awaas Yojana in Goa in totality. Assistance from NGOs could be taken for spreading information about IAY in the rural villages
3. In-depth training and meetings on IAY need to be conducted for APOs and TAs, which was very much required for the smooth functioning and management of the scheme
4. All the concerned officers/officials should discharge their duties with responsibility and follow guidelines in implementing the scheme
5. Proper guidance should be provided to the beneficiaries or applicants while filling up the IAY forms so that there is a smooth flow of documentation and time-bound deadlines
6. BPL survey needs to be redone as it was last done about 20 years back, and many needy families are not included in the BPL list
7. The authorities should also use the latest, appropriate and affordable technology for durable construction of dwelling units with proper planning and structure
8. The authorities should pay special attention to the basic amenities like toilet facility, supply of water and drainage in these dwelling units under the scheme
9. The authorities should also arrange to engage technical/skilled labour for construction of these dwelling units under the scheme.
10. NOC formalities for acquiring the plot need to be reduced and made easier to benefit the locals, especially the uneducated, to avail IAY benefits.
11. Further, there is an urgent need to connect the Panchayats and block/district/ State level officers through LAN/ WAN to improve the flow of information from the primary source that will, in turn, improve monitoring as well as a corrective mechanism at the grassroots level.

12. The current lump-sum amount provided to the beneficiaries under the scheme should be increased up to the estimated cost of dwelling units.
13. The duties of the officers/officials of DRDA and other authorities concerned are not limited to providing financial assistance to the poor people for dwelling units under the scheme. In fact, their actual duty starts beyond this point to keep the beneficiaries vigilant towards the optimum utilisation of financial assistance.
14. The authorities should prepare success stories to create awareness among poor people about the IAY scheme.

Conclusion

Although IAY addressed the housing needs in rural areas, certain gaps were identified during the concurrent evaluations and the performance audit by the Comptroller and Auditor General (CAG) of India in 2014. These gaps, i.e., non-assessment of housing, the shortage, lack of transparency in the selection of beneficiaries, low quality of the houses and lack of technical supervision, lack of convergence, loans not availed by beneficiaries and the weak mechanism for monitoring was limiting the impact and outcomes of the programme.

Therefore, to address these gaps in the rural housing programme and in view of the government's commitment to providing "Housing for All" by the year 2022, the scheme of IAY has been re-structured into Pradhan Mantri Awas Yojana- Gramin (PMAY-G). The Government will provide an interest subsidy of 6.5 per cent on housing loans availed by the beneficiaries for a period of 15 years from the commencement of their loan tenure. The PMAY-G scheme can well be termed as a pro-women scheme due to its preference for female applicants in the family. All the houses built under PMAY-G scheme will be carried out through technology and will have eco-friendly compliance.

Indira Awaas Yojana (IAY) aimed to provide financial assistance to the rural houseless poor families and those living in dilapidated and kutcha houses living Below Poverty Line (BPL) for the construction of houses and also to provide house sites to the landless poor as well. Whereas, Pradhan Mantri Awas Yojana - Gramin (PMAY-G) aims to provide a pucca house, with basic amenities, to all houseless families and those households living in kutcha and dilapidated houses, by the year 2022.

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EFFECTIVE IMPLEMENTATION OF INDIRA GANDHI NATIONAL OLD AGE PENSION SCHEME/ DAYANAND SOCIAL SECURITY SCHEME IN GOA

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Introduction

"The State shall, within the limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in case of unemployment, Old Age, sickness and disablement and in other cases of undeserved want" (Article 41 of Indian Constitution).

The joint family system prevalent in India, which used to provide a natural support system to the elderly, is fast eroding due to the changing socio-economic scenario. The social security system protects vulnerable and weaker sections of society provided by the State to enable them to maintain a minimum standard of life.

Demographic Profile of Senior citizens

As a result of the change in the age composition of the population over time, there has been a progressive increase in both the number and proportion of aged people in India.

According to the Census of India (2011), there has been a steady rise in the share of elderly population (aged 60 years or above) in the total population over the decades. The proportion of older people in the population of India rose from 5.6 per cent in 1961 to 7.5 per cent in 2001. According to SRS statistical report (2011), it rose further to 8.0 per cent.

Indira Gandhi National Old Age Pension Scheme in Goa

In Goa, Indira Gandhi National Old Age Pension Scheme was implemented in 1995 through District Rural Development Agency. Initially, the pension amount was Rs. 75 per person, which was later raised to Rs. 150. Currently, the addition of Rs. 50 makes it to Rs. 200 per person from the centre contribution. This amount was paid in the form of cash earlier, which then shifted to transactions through cheques and in recent times, the pension is given directly through bank transaction.

No. of Beneficiaries under IGNOAPS

Year	Number of beneficiaries	Expenditure (Rupees in Lakhs)
North & South Goa		
1995-96	447	0.67
1996-97	907	9.21
1997-98	1758	9.40

Contd...

Year	Number of beneficiaries	Expenditure (Rupees in Lakhs)
North & South Goa		
1998-99	2195	24.93
1999-2000	2195	31.80
2000-01	2170	33.67
2001-02	1210 (Only North Goa)	10.89 (only North Goa)
2002-03	3734	28.99
2003-04	3787	36.09
2004-05	3731	32.54
2005-06	3439	29.75
2006-07	3409	35.11
2007-08	2687	64.49
2008-09	2049	65.23
2009-10	2734	64.56
2010-11	2734	65.64
2011-12	2136	54.64
2012-13	2136	51.24
2013-14 to 2016-17	1648	Transferred to the Directorate of Social Welfare
2016-17	1648	

Year-wise number of beneficiaries and expenditure details of Dayanand Social Security Scheme in Goa

Year	Number of beneficiaries	Expenditure by LIC (Rupees in Rs)	Expenditure by State (Rupees in Rs)
June 2013-14	99022	91747350	1763234598
2014-15	101717	107344505	2184918807
2015-16	101286	111553825	21227092635
2016- February 2017	101187	90369575	2077315640

Review of literature

- Issues related to senior citizens
- Demographic profile of senior citizens
- Evaluation of study on NOAP

Research Methodology

- Rational of the Study

National Old Age Pension Scheme & Dayanand Social Security Scheme tries to provide Social Security to the Senior Citizens of Goa. But how far it has been effectively implemented and has an impact on the life of the aged are the questions often raised by people. Thus, the study has focused on the actual implementation and overall impact of the Scheme.

Objectives of the Study

- To study the pattern of utilisation of the Old Age Pension
- To analyse the attitude of beneficiaries towards the scheme
- To assess the loopholes in the implementation of the scheme
- To suggest recommendations for effective implementation of the scheme.

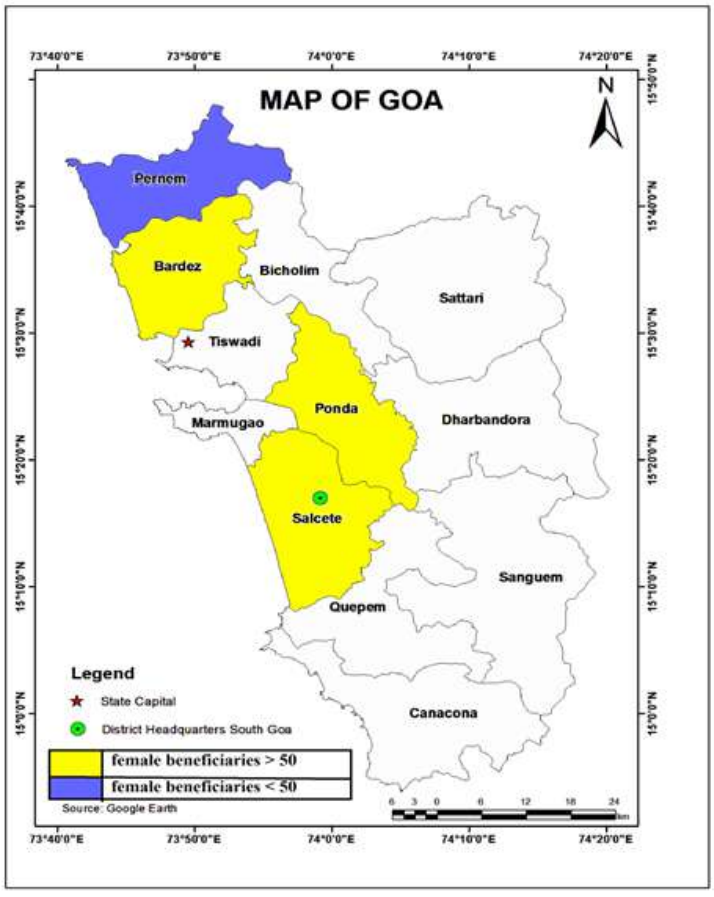
Hypothesis

- BPL status and income level are statistically independent
- There is no relationship between financial support and medical expenses
- There is no significant difference between gaining respect in the family and economic stability.

Area of the Study

Districts of Goa, i.e., North & South Goa, wherein an equal number of beneficiaries are chosen from both the districts based on the highest number of beneficiaries at block and panchayat level. From each district, two blocks are selected on the basis of the number of beneficiaries. Further, villages with the highest number of beneficiaries under NOAPS are chosen from each block.

- Source of data- Both primary and secondary
- Sample Design – Simple random sampling, total size - 292 beneficiaries
- Tool of Analysis – Statistical method.



Data Analysis and Findings

- Highest number of female beneficiaries

Demographic profile of beneficiaries

- From the graph, it is seen that the percentage of female population is more than the male beneficiaries, i.e., 71.23 per cent, compared to male beneficiaries, i.e., only 28.76 per cent
- Age group – it indicates clear dominance of female beneficiaries in all the age groups
- It is observed that the highest number of beneficiaries belong to the OBC category at 35.27 per cent, followed by other castes, i.e., 31.84 per cent, Scheduled Tribes at 29.1 per cent and lastly, scheduled caste at 3.76 per cent
- It is observed that the majority of the old age pension beneficiaries belong to the Hindu religion, i.e., 68.15 per cent, followed by Christians (30.13 per cent) and others contributing 1.71 per cent. A striking point to be noted is that none of the beneficiaries belongs to the Muslim religion
- 59.23 per cent of the female beneficiaries were widows, 10.95 per cent were found to be married, and only 3.42 per cent were found to be single. In the case of male beneficiaries, 25.34 per cent were married, whereas only 1.02 per cent were found to be single.
- Family size – category less than five members contributes the highest, i.e., 66.43 per cent, followed by 5-7 members with 28.08 per cent, 8-10 members with 4.25 per cent, and lowest is family size more than 10 members which shows the lowest percentage, i.e., 1.02 per cent.
- Family occupation- Most of the beneficiary's family occupation is seen to be service sector, with a proportion as high as 50.68 per cent. This is followed by daily wage work (31.16 per cent). Other occupations constitute 8.21 per cent, followed by farming which is a bit low compared to the rest of the occupations, i.e., 7.19 per cent.
- BPL status – 71.23 per cent of the beneficiaries fall below the poverty line, whereas 28.76 per cent do not hold BPL status.
- Stay of beneficiaries- Most of the beneficiaries live with their son/daughter, with a percentage of as high as 75.68 per cent. This is followed by staying alone (14.72 per cent), staying with a spouse, i.e., husband or wife (6.5 per cent), staying with relatives (2.05 per cent), and the lowest being others (1.02 per cent).
- Monthly income of family – majority of the beneficiary falls under the first category, i.e., income less than Rs.5000 (54.79 per cent), followed by Rs.5000 to Rs.10,000 (38.01 per cent), Rs.10,000 to Rs.20000 (4.79 per cent), Rs.20,000 to Rs.30,000 (1.26 per cent) and the lowest was seen in the category of monthly income more than Rs.30,000 (0.68 per cent).

Process of availing benefits of the scheme

- ***Source of information:*** Village panchayat with the highest percentage, i.e., 63.35 per cent, followed by political leaders (21.91 per cent), relatives (8.9 per cent), friends (4.45 per cent) and RDA staff and

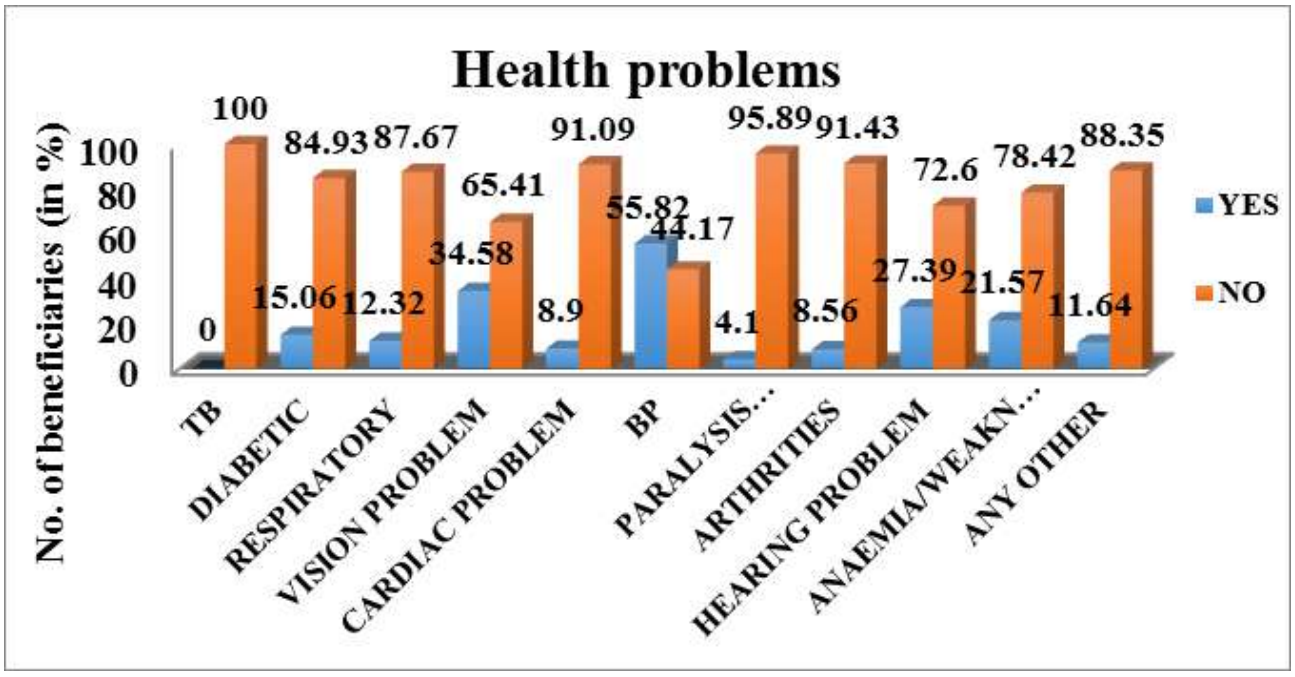
anganwadi workers (0.68 per cent each). The contribution of radio and television as the source of information for old age pension is NIL.

- ***Criteria:*** 72.6 per cent said that age was the main criterion to avail this pension. This is followed by BPL status, unawareness about the reasons, destitute and others with 17.8 per cent, 10.61 per cent, 5.13 per cent and 4.45 per cent, respectively.
- ***Source of form collected:*** Village panchayat shows the highest percentage with 42.12 per cent, followed by Panch members, MLA staff, others, and BDO with respective percentages of 27.73 per cent, 24.31 per cent, 4.1 per cent and 1.02 per cent.
- ***Document submitted:*** 41.48 per cent of the beneficiaries said they submitted election cards, whereas 34.24 per cent submitted birth certificates for verification. Some of them haven't submitted any documents yet, contributing to 20.3 per cent. This is followed by a medical certificate with 9.24 per cent, and very few, i.e., 0.34 per cent of beneficiaries, submitted their medical certificate and employee records for verification.
- ***The average date of pension receipt:*** the average date of pension received is between the 10th - 20th of every month, with 62.32 per cent, followed by 5th-10th of every month. Only 2.39 per cent said that they receive pension between 20th-30th of every month followed by the 1st-5th of every month, with a percentage as low as 1.71
- ***Pension delay:*** 57 per cent of the beneficiaries said yes, and 43 per cent of them said they never witnessed pension delay
- ***Reasons for the delay:*** 79 per cent of them did not know or are not aware of the reasons for pension delay, whereas 13 per cent of them said bank transaction was the reason for the delay and 8 per cent of the beneficiaries said that it was due to shortage of funds
- ***Bank staff support:*** 92.8 per cent of the beneficiaries said that the bank staff is cooperative, whereas 7.19 per cent of the beneficiaries said they did not find the bank staff cooperative
- ***Type of bank:*** 73.28 per cent of the beneficiaries holds accounts in nationalised banks, followed by cooperative banks. This is followed by private banks with 1.71 per cent and credit society with 0.34 per cent.

Utilisation of pension

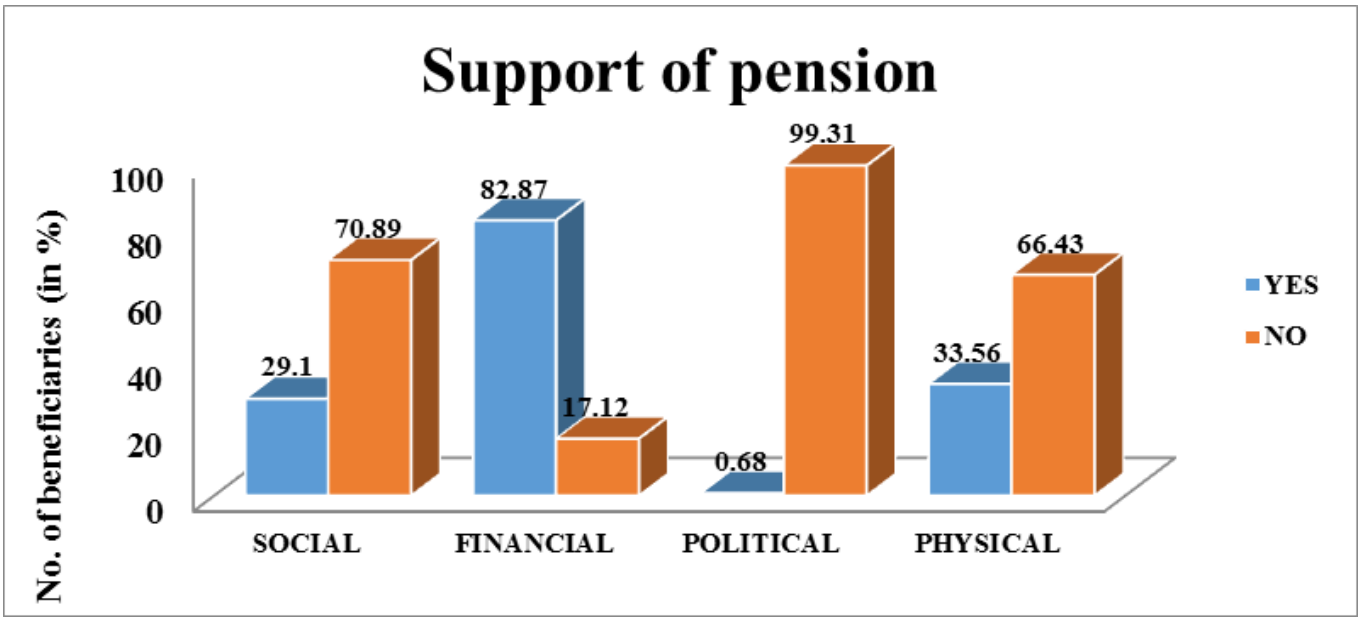
- 96.91 per cent responded they use their pension for medical purpose, followed by utilisation for food with 75.34 per cent, 39.04 per cent for clothing. These three are essential things on which most of the amount is spent, whereas 27.73 per cent of them spend it on other livelihood activities. 8.56 per cent of the beneficiaries said they handed over the money to their family. Very few of them use the pension amount for entertainment and other activities. This indicates that medical expenditure is high due to ageing and health issues.

Health problems of beneficiaries



- Facilities of treatment – 63 per cent of them said they go for treatment under public hospitals, whereas 37 per cent of them go for private treatment.
- Expenditure on health facilities – 45.54 per cent of them spends more than Rs. 1000 on health. This is followed by Rs. 500-1000 with 39.72 per cent. Very few, i.e., 13.01 and 1.71 per cent, spend Rs. 200-500 and less than Rs. 200, respectively.
- DDSY – 63.01 per cent of the beneficiaries said they had enrolled under the scheme, whereas 36.98 per cent haven't enrolled themselves yet.

Support of Pension



Hypothesis

- **H_0 (null hypothesis):** BPL status and income level are statistically independent
- **H_1 (research hypothesis):** BPL status and income level are statistically dependent

Pearson Chi-Square Tests		
		income_bene
BPL Sstatus	Chi-square	14.240
	df	2
	Sig.	.001*

The Chi-square statistic is significant at the .05 level.

It is clear that BPL status and income level are associated with the Pearson Chi-Square test for independence. It proves that the null hypothesis is rejected and research hypothesis is accepted. 71.23 per cent of the respondent belongs to the BPL family, and majority of the beneficiary, i.e., 54.79 per cent, fall in the category of income less than Rs. 5000 per month.

- **H_0 (null hypothesis):** There is no relationship between financial support and medical expenses
- **H_1 (research hypothesis):** There is relationship between financial support and medical expenses

			Medical expenses	
			Yes	No
Financial Support	Yes	Count	233	9
		N %	96.3%	3.7%

- About 96.3 per cent of beneficiaries used their financial support for medical expenses. Only 3.7 per cent did not use this support for medical expenses, which indicates a relationship between financial support and medical expenses. Hence research hypothesis is accepted, and null hypothesis is rejected
- **H_0 (null hypothesis):** There is no significant difference between gaining respect in the family and economic stability
- **H_1 (research hypothesis):** There is a significant difference between gaining respect in the family and economic stability

One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Gain respect in the family	52.059	291	.000	1.685	1.62	1.75
Economic stability	49.790	291	.000	1.890	1.82	1.97

- The significance value is less than .000, which indicates a statistically significant difference between both conditions, i.e., gaining respect in the family and economic stability among beneficiaries in terms of pension. Thus, the null hypothesis is accepted, and 35.95 per cent of the beneficiaries felt that the family members are looking after them in old age with the support of pension, and they do not have to depend on other family members.

Views and Opinions of Stakeholders

Knowledge about scheme

- Officials were aware of the scheme's salient features but could not provide the date of inception. Different methods related to IEC (Information, Education and Communication), such as awareness camps, conversation with the locals, magazine releases, and announcements in the church, were used to create awareness of the scheme.
- The block and village level stakeholders were unaware of the funds sanctioned by the Centre and the State for the scheme as the State officials took the decisions.
- All stakeholders were aware of the mode of disbursement of monthly pension to the beneficiaries and the pension amount. Only DRDA staff could explain the State contribution of Rs. 1800 and the Centre's contribution of Rs. 200 to the pension.
- The block or village level officials were unable to provide proper information/records of beneficiaries because the data of DRDA is not updated or it is now merged with the social welfare since 2013. The Department of Social Welfare has not kept any record at the village or block level.
- Stakeholders feel that they have not covered all the beneficiaries as some are unable to submit their documents. New beneficiaries should be added through timely identification, and their verification has to be done.

Procedure on Identification

- The officials under DRDA informed that under NOAPs, BPL and age were the major criteria for selecting the beneficiary. Village camps were organised to create awareness of the scheme. Documents on age proof were verified, and forms were collected for the disbursement of pension. The Panchayat body was involved in the verification of documents.
- But under DSSS, the criteria were based on the income level and age of the beneficiary. Panchayats' role in identifying beneficiaries is almost nil because the forms are directly provided either at MLA's office or the State office. Most of the beneficiaries completed the procedure with the help of MLA.
- There is no role of Village Panchayat or of Gram Sabha for the identification or scrutiny of the beneficiaries except for creating awareness about the scheme.
- Most of the forms are recommended by MLA's office under DSS; there is no political influence at the block and village levels.
- Beneficiaries of DSS are directly submitting the documents to the MLS and Social Welfare head

office, due to which there is no pension application/record. However, the State level officials provided information that there are pending applications due to improper submission of the documents

- NOAP records are available with the DRDA at the block level till 2002. Since then, there have been no separate records of NOAP because the scheme was merged with DSS.

Pension disbursement

- Initially, the method of pension disbursement was through cash payment, which was later disbursed by cheques. Nowadays, all the beneficiaries are getting their pension through bank transactions.
- There are cases of pension disbursement after the beneficiary's demise, but later, banks withdrew the amount from the beneficiary's account.
- Complaints were received regarding the pension delay, which was due to government fund problems and technical issues with the bank.

Opinions and Suggestions by Stakeholders

- The amount of pension should be increased as the standard of living, and medical cost has gone up. The living conditions of the beneficiaries have been improved due to pension benefit as it supports them financially.
- There should be less interference from politicians in implementing the scheme and proper verification of documents related to income certificate.
- The benefit of the old age pension scheme, especially BPL families, should be given to both, i.e., husband and wife, instead of only one person.
- Wherever the age proof is unavailable, the authority should accept it on an affidavit basis, and needy people should be allowed to avail themselves of the benefits.

Suggestions

- Implementing department should verify all eligible beneficiaries at the grassroots level so that all the details of the beneficiaries are accessible at the block and village level offices. Thus, this will help stakeholders to monitor the scheme in a better way
- Attention should be given to ensure that the benefits of the programme reach the targeted beneficiaries. Details of the programmes and awareness could be publicised through Radio/TV/local media, etc.
- Better coordination between the Department of Social Welfare and Rural Development Agency will help in the effective implementation of this programme.
- Application of beneficiaries should be rooted through Gram Panchayats so that Gram Panchayats can evaluate the beneficiaries
- Around 5.13 per cent of family members are working in the government sector, and 10 per cent of

the respondents replied that other family members also receive government schemes. In such cases, their names should be withdrawn as it is against the guidelines

- The District Rural Development Agency should update NOAPS beneficiary details on the MIS website at the national level.
- Convergence between different government programmes and schemes for the senior citizen
- The number of women beneficiaries is higher. Thus, special attention should be given to them
- A social audit could be conducted at the Gram Panchayat level to understand the situation and conditions of eligible and ineligible beneficiaries.
- Pension benefits poor beneficiaries since they have no other source of income. The Government of Goa should take the initiative for the timely disbursement of pension every month.
- Money spent on giving assistance to ineligible beneficiaries has economic implications for the State. These funds could have been utilised for financing other developmental programmes.
- There should be a separate counter in the bank for senior citizens, especially to disburse pension.
- Most beneficiaries spend their pension on medicines, so the government should take the initiative to arrange monthly health check-ups at the village or block levels.
- Awareness about Deen Dayal Swasthya Yojana should be created.
- A separate geriatric ward in Goa Medical College, which will meet the healthcare needs of chronically elderly patients, should be established.
- Goa government should take initiatives to implement the Maintenance of Parents and Senior citizen Act, 2005, so that the children are bound to take care of their parents.
- There is a requirement for appropriate monitoring to check loopholes and shortcomings in implementing the programme.

Conclusion

- Goa government has recognised the need for security for senior citizens by implementing DSSS. It was merged with NOAPS to support senior citizens to live with dignity, peace and freedom.
- The actual beneficiaries were denied the rights, which caused many imbalances in the funds available in the hands of the government. The eligible ones could not take the benefits of the old age scheme.
- For successful implementation of incentive-based schemes, some mechanism must be evolved so that assistance provided could be revised on a scientific basis periodically, at least after every five years.
- Even though there are many loopholes in implementing this scheme, especially in monitoring the schemes, it has successfully achieved its aim to a large extent of developing confidence among the senior citizen.

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HEALTH RISK OF INADEQUATE SANITATION: A STUDY FROM TRIPURA

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Introduction

People's health and economy are greatly impinged by improved sanitation. One reason for the slow progress of achieving health for all is that people generally have not fully understood the importance of improved sanitation solutions. Poor sanitation and economic losses are directly proportional to each other by being associated with the direct costs of treating sanitation-related illnesses and lost income through reduced or lost productivity. Poor sanitation also leads to time and effort losses due to distant or inadequate sanitation facilities, lower product quality resulting from poor water quality, reduced income from tourism due to a high risk of contamination and disease, and clean-up costs. This study, therefore, tries to understand the economic impacts of poor sanitation, especially with respect to the resultant health risks.

Adequate sanitation, good hygiene, and safe water are fundamental to good health and social and economic development. Improvements in one or more of these three components of good health can substantially reduce the rates of morbidity and the severity of various diseases and improve the quality of life of a large number of people, particularly children, in developing countries. Although linked and often mutually supporting, these three components have different public health characteristics.

Lack of sanitation leads to disease, as was first noted scientifically in 1842 in Chadwick's seminal "Report on an inquiry into the sanitary condition of the labouring population of Great Britain." A less scientifically rigorous but nonetheless professionally significant indicator of the impact on health due to poor sanitation was provided in 2007 when BMJ (British Medical Journal) readers voted sanitation the most important medical milestone since 1840.

The diseases associated with poor sanitation are particularly correlated with poverty and infancy and alone account for about 10 per cent of the global burden of disease. At any given time, half of India's urban population has a disease associated with poor sanitation, hygiene, and water.

Poor sanitation is responsible for one of the heaviest existing disease burdens worldwide. The diseases associated with poor sanitation and unsafe water account for about 10 per cent of the global burden of disease. Diseases related to poor sanitation are diarrhoeal diseases, acute respiratory infections, under nutrition and other tropical diseases such as helminth and schistosomiasis infections. Diarrhoeal diseases are the most common sanitation-related diseases. Globally, about 1.7 million people die every year from diarrhoeal diseases, and 90 per cent are children under five years, mostly in developing countries. Eighty-eight per cent of cases of diarrhoeal diseases worldwide are attributable to unsafe water, inadequate sanitation, and poor hygiene.

One of the reasons for the slow progress in expanding improved sanitation coverage in the world, in general, and in developing countries like India, in particular, is that policy-makers and the general public have not fully understood the importance of improved sanitation solutions. The governments in developing countries tend not to see improved sanitation as a necessary condition of economic development or a source of improved welfare, and cost-benefit analysis has not been commonly used to

justify increasing spending on sanitation programmes. Until now, policymakers and the general public have not been presented with comprehensive evidence of the economic impact that sanitation has on the economy, the environment, and population welfare. While medical researchers have extensively documented the health impacts of poor sanitation, much less is known about its economic consequences.

By gathering relevant research findings, this paper intends to report and discuss the currently available evidence on the economic aspects of sanitation, including the economic impacts of unimproved sanitation and the costs and economic benefits of some commonly improved sanitation options in developing countries. The evidence is expected to justify more decisive steps to reach the third important global goal (SDG) of Good Health and Wellbeing.

Objectives

- To identify the health risks arising out of the inadequate sanitation facilities in the rural areas of the State
- To study the economic impacts of inadequate sanitation facilities on rural households w.r.t cost of healthcare and productivity losses.

Methodology

To answer the second research objective, we frame a hypothesis based on the cost of healthcare and productivity losses due to inadequate sanitation. The purpose is to examine whether the households are pushed towards or back to poverty due to health expenditures arising from improper sanitation.

The burden of health payments is defined as out-of-pocket payments as a percentage of a household's capacity to pay.

$$oopctp_h = oop_h/ctp_h * 100 \quad \text{---------- (1)}$$

Catastrophic health expenditure occurs when a household's out-of-pocket payments equal or exceed 40 per cent of the household's capacity to pay.

$$Cata = 1 \quad if \quad oop_h / ctp_h * 100 \geq 40\% \text{ ------ (2)}$$

$$Cata = 0 \quad if \quad oop_h / ctp_h * 100 < 40\% \text{ ---------- (3)}$$

The present study uses household non-food expenditure as a proxy measure for a household's capacity to pay. We need to understand the occurrence of minor illness (outpatient care), hospitalisation care (inpatient care), and chronic illness as healthcare expenditure burdens on households. Thus, the share of healthcare expenditure in non-food expenditure can be written as

S_j = h exp / nf exp * 100

Where,

S_j = share of health care expenditure in non-food expenditure.

h exp = average household monthly expenditure on health.

nf exp = average household monthly non-food expenditure.

Study Area

Tripura is the land of 3,671,032 people (Census 2011). The economy of the State is proliferating though it is still predominantly agrarian, with more than half of the population depending on agriculture-allied activities. Most households in Tripura are concentrated in rural areas (82 per cent), and less than two -fifths (18 per cent) are in urban areas. As far as the sanitation sector is concerned, Tripura has a high incidence of open defecation, especially in the hilly interior and forest areas. The State has extensively implemented Nirmal Bharat Abhiyaan and currently, the Swacch Bharat Abhiyan and convergence with MGNREGS to address this problem. Schools and anganwadi centres are focussed on providing urinals and latrines, separate for boys and girls, in line with baby-friendly toilets in anganwadi centres to inculcate the habit of using sanitary latrines at a young age. However, many toilets lie dysfunctional due to lack of maintenance and damage. Earlier schemes of providing plastic squatting plates, free of cost, have not produced results as most of them lie unused as many people cannot afford to construct a toilet. Open defection has created problems of diarrhoea and vulnerability to malaria. Considering these objectives and background, the study demands a holistic coverage of the sample and the study area to capture every issue pertaining to the study's intentions:

In order to settle down the study area, the following approach has been adopted:

- The study will consider the sanitation scenario in both the rural and urban areas of the State. For this purpose, 1000 households each from the rural and urban areas will be selected
- Urban areas will constitute the Agartala Municipal Council as well as Nagar Panchayats in the State. Five hundred households from AMC areas and the same number from Nagar Panchayat will be selected for the study.
- Rural Areas will cover all eight districts in the State.
    - Block Selection Criteria: Two Blocks from each District, i.e., 16 Blocks, will be taken for the study. The criteria for selection would be the distance from the district headquarters, i.e., the nearest and the farthest blocks will be selected for the study.
    - Village & Household Selection Criteria: The households will select based on a two-stage systematic random sampling method. In the first stage, from each of the chosen Blocks, 32 primary sampling units (PSU), i.e., the villages, will be selected through PPS (probability proportion to size) method. Then 31 households will be chosen from each PSU through systematic random sampling. The primary data is collected from households using a structured questionnaire. A total of 1000 households will be covered during the survey.

Findings

The monetary impacts: The study reveals that out of 2000 households considered in the study, 1589 households reported making catastrophic health payments, and the rest of 411 were found non-catastrophic. Of the 1589 households in total, the out-of-pocket expenses in health equal or exceed 40 per cent of the household capacity to pay.

The average household size and the proportion of women and children in catastrophic households were higher than that of the non-catastrophic households. Amongst the catastrophic families,1114 were

from rural areas, and 475 were from urban areas, revealing a proportionate spread of catastrophe between the two areas.

Household Characteristics: The survey data reveals 82.44 per cent of the households with catastrophe belong to family size 1-6, and 70.10 per cent were from rural areas (Table No.1). As far as the education level is concerned, as shown in Table 1, catastrophe is more prevalent among households with maximum education qualification up to primary standard (24.54 per cent) followed households up to matriculation (22.65 per cent) and then by above higher secondary (22.78 per cent). This indicates that with increased education, chances of catastrophe decrease. In other words, the higher the literacy rate, the lower the probability of households slipping into poverty.

Occupational Pattern: The study shows that 33.48 per cent of the affected households were cultivators, followed by day labour or casual labour accounting for 23.53 per cent, and 21.01 per cent were involved in business or trade (mainly engaged in shopkeeping). The rest were from the service sector and others, specifically households whose sole earning member was the housewife of the family earning subsistence as the beneficiary to certain Centrally-sponsored wage employment schemes like MGNREGA.

Financial Inclusion and Social Identities: Financial Inclusion is an opportunity or service that financial institutions (e.g., banks) deliver to all sections of society at an affordable cost. These services include savings, payment, transfer, credit and insurance. According to the Census 2011, 59 per cent of households availed banking services in India (Bhaskar 2014). Generally, some identity documents are required to avail such services, which the catastrophic household possesses. The trend is similar among non-catastrophic households also. Presently, the Government of India has simplified the procedures for opening a bank account. An introduction from an existing account holder who satisfies all the norms will serve the purpose of opening an account for a person who has no identity documents (Jagannathan 2015). These simplifications have abled households to get financially included.

Access to Healthcare Facilities: Healthcare facilities are more or less equidistant from the residences of both catastrophic and non-catastrophic households. They have equal access to primary health centres, sub -divisional hospitals and local quacks (Table 5). The survey reported that catastrophic households were more exposed to qualified private practitioners when suffering from illness. This trend was reported mostly by the households belonging to the middle-income group (i.e., Rs. 10,000- Rs.25,000) considered in the study. All children in both categories were given full immunisation, and pregnant women were given antenatal check-ups.

The study attempts to use non-food expenditure as a proxy measure for households' capacity to pay; in other words, non-food expenditure has been used as the denominator for defining catastrophe. The reason for doing this is that income was not found to be directly responsive to medical spending or financing health care. It was found during the survey that two households with the same income category and nearly similar health payments, but one household was found financing healthcare from savings and the other with no savings had to cut back on current consumption to pay for healthcare. This difference was not reflected in the ratio of health payments to income which was the same for both households. Still, the proportion of health payments to household expenditure was found to be higher for households without savings. Therefore, not income but expenditure has been used as a denominator for catastrophe.

The present paper classifies the out-of-pocket payment for healthcare as catastrophic if it exceeds 40 per cent of annual household non-food expenditure, considered as the cut-off level (Kawabata and Carrin

2002; Xu et al., 2003; Karami et al., 2009) and finds that 1589 households face health burdens as their total health payments exceed 40 per cent of their capacity to pay.

In order to find out the major determining factors of catastrophic payments in healthcare arising out of inadequate sanitation facilities (viz. shared toilet or public toilets) as well as unhygienic sanitation behaviour (viz. unsafe drinking water-related impacts such as diarrhoea, intestinal worms, malaria, measles and lower respiratory infection) the survey collected healthcare expenditure data for various categories of treatment like –

- Inpatient care –recall period: 1 year
- outpatient care – recall period: 3 months
- chronic illness – recall period: 1 month
- birth delivery – recall period: 1 year

The information was collected on the last episode of illnesses (reported morbidity). Household health care expenditure is defined as the out-of-pocket expenditures on drugs and medicines, consultation fees, hospital bed charges, transport charges to the treatment site and daily leaving cost, including food and lodging for the escorts of the ailing household member.

The study shows the annual out-of-pocket expenditure on health stands at 65.58 per cent of households' capacity to pay, which depicts the probability of catastrophe.

We find that the out-of-pocket expenditure in outpatient care is the highest contributor to catastrophic health expenditure in the State. The finding also supports the fact that the outpatient OOPE in health is out of the coverage of the public insurance scheme ongoing in the State, commonly known as Rashtriya Swasthya Bima Yojana (RSBY).

The study reports that diarrheal diseases resulting from poor sanitation and hygiene affect more than 50 per cent of the sample population. Contact with human excreta is the source of many severe diseases with symptoms of diarrhoea. The study reports that the category of diseases which require hospitalisation/ inpatient care (68.67 per cent) is mostly acute diarrhoea and dysentery, whereas dehydration and malnutrition resulting from diarrhoea have enhanced the vulnerability to diseases like malaria, measles, respiratory infections and intestinal worms, especially in children has accounted for more health spending in outpatient care (70.48 per cent).

Thus, the study finds that the health risks arising from inadequate sanitation result in households slipping towards poverty are malaria, measles, respiratory infections and intestinal worms. These diseases are unceasing and require continuous cost; thus, they act as slow poison on their economic condition.

The Non-monetary Impacts

This study uses a societal perspective and examines the present generation to assess health risks that have significant economic impacts. Monetary impacts are those that have a direct associated financial expense to someone and one that is paid for in monetary terms by someone. The payer of the expense might not be the same person bearing the physical impact.

The monetary impact of inadequate sanitation has already been estimated and inferred. The economic impact is a more generalised concept than monetary impacts and includes imputed monetary values for non-monetary impacts. Some imputed non-monetary impacts that have direct implications in terms of market value reported in this study are, firstly, time loss to work or school due to illness, time loss to seek cleaner water sources, and restricted mobility, especially for women and girls.

Secondly, a crucial productive loss arising from inadequate sanitation is that households use various methods to avoid using unsafe and polluted water like filters, boiling and purchasing bottled water, resources that cost money for households.

Thirdly, the State has a great potential in the tourism sector, which is still striving to place its existence, and one of the important reasons is the poor and unimproved toilet facilities. The State is unable to generate sufficient revenue it has targeted from the tourism sector, which is a revenue loss.

Conclusion

We evaluated the effects of inadequate sanitation on out-of-pocket health payments up to June 2017. Our analysis shows that the type of medical care, the number of illness episodes, and the presence of a household member with inpatient, outpatient and child delivery were important factors leading to catastrophic expenditure. A household with a frequent illness member who requires OPD care has a higher chance of catastrophic payment followed by hospitalisation care. Households across their economic status have demonstrated the risk of such catastrophe.

It is commonly believed that hospitalisation care is the most susceptible domain that impacts household economic status. But this result shows that the medical expenditure for outpatient care, which is continual illnesses, is the most important determinant for catastrophic expenditure, followed by hospitalisation care.

Generally, the medical expenditure for treating diseases requiring non-hospitalisation care is lower than hospitalisation care, but its treatment continues for a long time. We found that health expenditure in outpatient care is the basic contributor to high health spending. The finding also supports the fact that outpatient out-of-pocket payment (OOPE) in health is out of Rashtriya Swasthya Bima Yojana (RSBY) coverage.

Moreover, the study finds that the health risks arising from inadequate sanitation push households towards poverty are malaria, measles, respiratory infections and intestinal worms. These diseases are unceasing and require continuous cost, thus acting as slow poison on their economic condition. Such diseases in most rural and urban areas are treated through outpatient care for different members of families at different points, which imposes a huge burden on the household as a whole.

Apart from the health impacts of inadequate sanitation, the study also identifies certain productive losses the State faces due to unimproved sanitation, such as time loss to work/school, restricted mobility for women and girls, and revenue losses to tourism.

The study has also captured that the demand for using public health facilities is gradually decreasing; one of the main reasons for not doing so is the long waiting time. This has provided an opportunity for the private sector to move in and exploit the market.

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PANCHAYATI RAJ SYSTEM: A STUDY AMONG WOMEN-HEADED PANCHAYATS IN KERALA

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Smt. Sherine Chacko
Dr. Amruthraj R. M.

Introduction

Under Article 243(D) of the Constitution of India, there is a mandate to provide one-third reservation for women in Panchayati Raj Institutions. This constitutional amendment is regarded as a path-breaking move to empower women at the grassroots level. Kerala went beyond this percentage, with the quota for female representatives being legally enhanced to 50 per cent in all local bodies, including all levels of leadership. Thus, the subsequent elections of 2010 opened up unprecedented political space for women at the local level in Kerala. The present study attempts to profile the women involved in PRIs, understand the challenges they encounter in engaging with PRIs as well as document the transformation as a result of their engagement with PRIs.

Objectives

General Objective: To understand the journey of women from homestead to centre stage through Article 243 D of the Constitution of India.

Specific Objectives:

1. To assess the demographic profile of women engaging with PRIs
2. To understand the push factors that motivated the women to engage in the election to PRIs
3. To understand the challenges encountered as the head of PRIs, vis-à-vis being women
4. To document the changes they experience as a result of engaging with PRIs as the head
5. To understand the perceptions of government staff and PRI members in the PRI about the women head of the respective PRI
6. To analyse the perspectives of the family members of the women engaging as the head of PRIs.

Methodology

Holistic multiple case study design is used to get a holistic view of a particular case or to study a single case in different dimensions. In the current study, the women representatives are seen in different environments such as home, panchayat and society. The data was collected through in-depth interviews and focus group discussions. Forty-two cases were taken for this study. The sub-units of the study are forty - two government staff in the PRIs, 150 elected ward representatives and 150 family members of the PRI presidents.

Study Area

Forty-two women-headed Gram Panchayats in Kerala

Findings

The finding of the study shows that reservation for women helped them enter into politics and power structure. The family and the political party they belong to provide strong support for them.

The major findings of the study are listed below according to each objective are below:

The Demographic Profile of Women Engaging with PRIs:

- The majority of the participants engaging with PRI are in the age-group of 50 to 60 years.
- Except for two, all the participants are married and have children. Among the forty-two participants, thirty-six have children pursuing school or college education
- Almost half of the participants have Pre-degree, Degree or PG as their educational qualification. Except for three, all the participants have SSLC as their minimum qualification
- More than three-quarters of the participants succeeded in either to be the President of the PRIs or to be a member of the PRIs by using the quota for women reservation in the General Category or under the Scheduled Caste reservation
- Except for fifteen, all the other participants have previous experience in participating in the election as a candidate for PRIs
- Thirty-eight participants claimed that their spouses encouraged them to compete in the elections for PRIs, while forty-one subjects believed that their children encouraged them.
- Majority of the participants consider their spouses as their major support while engaging with PRIs
- Thirty-seven participants among forty-two claimed to be managing domestic chores
- More than half of the participants engaged were homemakers, while more than a quarter of the participants were actively involved with government projects such as Kudumbasree and NRHM as ASHA.

The factors that motivated the women to engage in the election to PRIs:

- Majority of the participants are homemakers who claimed that the parties to which either they or their spouses belonged were the push factor for them to engage in politics
- More than a quarter of the participants claimed that their involvement in government projects such as Kudumbasree and NRHM as ASHA helped their social interactions, and this led to receiving request from the party to contest in the election
- Majority of the participants claimed that the influence of the political parties is the reason they were selected as the PRI President; only four participants were confident about the experience and exposure they already possess

- The study result shows that they were self-motivated women who were willing to engage with PRIs
- The findings of the study reveal that there are still women who obey their spouses and do whatever they ask (only one participant)

The Challenges Encountered as the Head of PRIs, vis-à-vis Being Women:

- Except for two, all the participants think their work schedules and responsibilities restrict their family, social, or personal interactions.
- More than a quarter of the participants claimed that they would not get time to participate in the training programmes offered by KILA due to sudden emergencies
- Except for four, the participants claimed that they are facing financial challenges in their Panchayat, which restrict them from initiating their ideas as projects or schemes
- Thirty-two participants claimed that they are facing socio-political challenges, while twenty-two participants Stated administrative challenges such as the turnover and transfer of staff as a challenge for the completion of the projects and 'own fund'
- A quarter of the participants claimed health challenges to fulfilling the role of the President, and nine participants Stated lack of knowledge and engagement as the challenge.

The Changes They Experience as a Result of Engaging with PRIs as the Head:

- Except for four, all appreciated the decision of the Government of India through Article 243 D of the Constitution of India.
- More than twenty-two participants claimed they could solve the people's problems in the stipulated time.
- Except for four, all the participants are willing to participate in the completion.
- All the participants could contribute changes to their panchayats in the domains of infrastructure, social, road and projects and schemes.
- All the participants claimed that their knowledge level, responsibility, feeling of powerfulness, levels of social relations and social interactions have increased.
- More than twenty-eight participants among forty-two claimed that their decision-making involvement, skills and capacities, and level of autonomy had developed substantially
- More than half of the participants claimed their credibility increased, while a few claimed an honorarium is a source of income for them.

To Understand the Perceptions of Government Staff in the PRI about the Women Head of the Respective PRI

- Forty-two government staff in as many selected PRIs were interviewed for the particular study.

- Half of the government staff are of the opinion that women's duty is not only to look after the family. At the same time, a quarter of the participants believe it is the mutual responsibility of men and women.
- Twenty-nine government staff claimed that the PRI president could manage the financial, administrative and social demands, while a quarter opined that they could handle it sometimes.
- Thirty-one government staff are of the opinion that the current PRI president is more active than the previous president; five found similar characteristics in them

The Perspectives of the Family Members of the Women Engaging as the Head of PRIs:

- One hundred and fifty family members, particularly forty spouses and 110 children or spouses of the forty-two PRI presidents, participated in forty-two different focused discussions as part of the current study
- Thirty-eight spouses claimed that they belong to political parties
- Except for one, all the spouses are feeling proud about their wife's achievement as the President of the PRI
- All spouses claimed that their wives are balancing work-life balance while twenty among 110 children or child's spouses contended that the mother is stressed and not able to manage work-life balance effectively
- All the children or their spouses in the interview claimed to help their mother with domestic chores, while only twenty-seven husbands among forty claimed to help with cooking
- In forty-one families, the PRI member shares the matters related to the Panchayat, and the families give them suggestions
- Thirty-eight families claimed help in the transportation of the PRI members.

The Perception of PRI Members about the Women Head of the Respective PRIs:

- One hundred and fifty ward representatives (81 represent opposition) from forty-two selected panchayats for the study participated in forty-two different focus group discussions
- One hundred one of the representatives claimed that women's duty is not to look after the families. At the same time, forty-nine participants think women's responsibility is to look after the family.
- Eighty-five representatives claimed that the president is able to manage the financial, administrative and social demands of the panchayat, while sixty-seven claimed 'no.'
- One hundred twenty-seven representatives claimed that the president is active or more active when compared with the previous president.
- Majority of the representatives said that financial and administrative challenges are present, while more than fifty participants claimed knowledge and engagement, and socio-political challenges
- Except for twenty-eight participants, all the participants claimed that women's reservation in PRIs through Article 243 D was a good decision, while twenty-five sought more reservations.

Conclusion

It is all accepted that the reservation of women in the Panchayati Raj system plays a vital role in women's representation in grassroots politics in India. The 73rd Constitutional Amendment Act and reservation for women have succeeded in bringing the womenfolk of rural India into the political forum. It is also important that women be in a position to influence decision-making, prepare and implement economic development and social justice schemes.

Earlier, the participation of women in Panchayati Raj Institutions was questioned regarding the substance and effectiveness of representation. Local committees insufficiently represented women. Women were rarely heads of Panchayats and needed lower positions to advance within the system. Thus, the act has been passed to ensure women's representation in the Indian Panchayati Raj system.

However, women members of Panchayats needed to be educated and informed about politics: their rights, the nature of Indian democracy, policies and programmes for women and the underprivileged and voting rights. There are several challenges still that women are facing in the local governance system. A combination of constitutional provisions, government policies, social action and self-awareness among women will eventually result in women becoming part of the mainstream political power-sharing and decision-making.

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MULTIDIMENSIONAL POVERTY ASSESSMENT AMONG SCHEDULED TRIBES IN ATTAPPADY

Dr. Jibini V. Kurien
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Introduction

Tribal people form one of the major segments of the world's population. They are found all over the world. They are called by different names such as "primitive, 'tribal,' 'indigenous,' 'aboriginal,' 'native,' and so on. People of every caste, sect, religion and ethnic group have evolved from some or the other tribal community. In other words, people of all castes and religions have passed through the tribal way of life. History witnesses the earliest evidence of evolution from a tribal way of life to civilized citizens – the Indus Valley Civilization (Harappa and Mohenjo-Daro) that proved that the valley had a developed city culture that had evolved from the aboriginal people and tribes of India. Generally, the term Adivasi is used for tribes that have existed since ancient times. The word "Adivasi" is made up of the two words "adi" and "vasi" and means a person or community inhabiting a geographical area (Kharte, 2018).

India has a large number of tribal people. The major tribes in India are the Gonds, the Bhils, the Santhals, the Oraons and the Minas. They live in different regions in the forest as well as in urban areas, and mostly speak their own languages. The States of Madhya Pradesh, Orissa, Bihar, Maharashtra, Gujarat, Andhra Pradesh, West Bengal and the Northeastern Region have a larger concentration of tribal population. The Andaman and Nicobar Islands are also inhabited by several tribes, such as the Great Andamanese, Sentinelese, Onges, Jarwas, Sompens, etc. According to The Oxford English Dictionary, the word 'tribe' is derived from the Latin term 'tribus', which was applied to the three divisions of the early people of Rome. The term, however, has gone through a lot of changes. It meant a political unit consisting of several clans.

According to the Ministry of Tribal Affairs, the tribal population of India, based on the 1961 Census, the tribals numbering 3 crore, which is now increased to 10.5 crore (2011 census). Today, tribal communities form 8.5 per cent of the total population in India (Chandramouli, 2013). The Ministry of Tribal Affairs was set up in October 1999 to promote integrated, social-economic development of the most deprived sections of Scheduled Tribes (ST) in a coordinated and planned manner (Ministry of Tribal Affairs 2018). There are 309 tribes living in the group of eight major States and 133 tribes living in the group of seven States, while 140 tribes are scattered over the remaining States of the Indian Union (Table 1).

Table 1: Tribal Population in India

Year	Tribal Population	Percentage to Total Population	Decadal Growth Rate
1951	19,111,498	5.29	41.19
1961	30,130,184	6.86	33.84
1971	38,015,162	6.94	24.80
1981	51,628,638	7.83	24.69
1991	67,658,638	8.08	23.79
2001	84,326,240	8.20	22.7
2011	10,43,000,00	8.61	23.7

Source: Census of India from 1951 to 2011, Government of India.

Unsolved Problems of Scheduled Tribes in India

While the progress made by Scheduled Tribes in terms of various achievements enumerated is a matter of satisfaction, a lot more actions have to be carried out with more focus on the following unresolved issues, which are crucial to raising the status of tribes on par with the rest of the population:

i. Low literacy and dropout rates despite the programmes for universalisation of primary education, which have been in effective operation since 1986

ii. Inadequate/Inaccessible Health Services

iii. Lack of accessibility to higher education; the tribal students face difficulty at the time of admission, food, clothing, stationery

iv. Lack of water supply

v. Lack of irrigation facilities and lack of institutional credit facilities

vi. Transportation facilities have not been developed

vii. The number of dependents is more than the number of earning members

viii. Health problems - health depends upon the quality of the food, and they are unable to afford a sufficient and balanced diet

ix. Exploitation by the outside communities due to illiteracy - lack of knowledge about the laws and rights.

Objectives

- To assess the awareness & dissemination of various welfare schemes adopted by Ministry of Tribal Affairs, Ministry of Rural Development, Tribal Sub Plan and other schemes for health, education, water supply, etc.
- To analyse the socio-economic problems faced by Scheduled Tribes in Attappady
- To study the factors leading to socioeconomic problems
- Providing suggestions to improve their living conditions and to develop special policies for their livelihood enhancement.

Methodology

The study focuses on the assessment of multi-level dimensions of poverty faced by the Tribes of the three Gram Panchayats - Agali, Pudur and Sholayoor - in Attappady Block. The sample size was determined based on the number of hamlets in each community. Households are considered as the sample unit for data collection using the survey method. Preference Ranking Method was conducted in one hamlet of each community to assess the priority of their needs to be addressed among the various dimensions of poverty they face. Key informant interviews were conducted with various stakeholders, including the functionaries, to assess the information dissemination of various government schemes to

address various poverty dimensions and to identify issues regarding the reach of these schemes to address their issues.

Sampling Method

The study is mainly based on a baseline survey conducted in the tribal settlements of Agali, Pudur and Sholayoor Gram Panchayats of Attappady block, Palakkad district, Kerala. Stratified random sampling technique was used for the selection of sample households.

Population and Sample

In the total of 13 block panchayats in Palakkad district, the tribal settlements are located in three Panchayats of Attappady block. Tribal hamlets of Attappady are found in all three Panchayats, namely Agali, Pudur and Sholayoor. The distribution of these hamlets in these Panchayats is given in Table 2. Out of the total 186 settlements, 29 hamlets were selected from the three strata using Stratified Random Sampling (13-18 per cent hamlets from each stratum).

Table 2: Details of total Hamlets [Population] based on tribal community

	Irula	Kurumba	Muduga	Total Hamlets
Agali	53	---	18	71
Pudur	42	19	5	66
Sholayoor	48	---	1*	49
Total Community	143	19	24	186

(Source: AHADS, Agali)

Table 3: Details of the sample selected for the study (4 Households/Hamlets)

	Irula	Kurumba	Muduga	Hamlets	Total Households
Agali	9	---	2	11	44
Pudur	2	4	3	9	36
Sholayoor	9	---	---	9	36
Total	20	4	5	29	116
Total Households	80	16	20	116	

The study was based on both primary and secondary data. Primary data were collected through a sample survey conducted among the three tribal groups (Irula, Kurumba and Mudugas) in the Attappady block. Socioeconomic details were collected from the respondents using a structured interview schedule. The interview schedule consists of two parts. Part one deals with the assessment of the multi-level dimensions of poverty, and part two deals with the assessment of awareness regarding the various schemes by the government to eradicate multi-level dimensions of poverty.

The secondary data was gathered from reports of the Integrated Tribal Development Programme (ITDP), Kerala Institute of Local Administration (KILA) Thrissur, MGNREGS Attappady report on ST families, Attappady Hill Area Development Society (AHADS) of Attappady, Census Reports, Reports of Kerala Institute for Research, Training and Development studies of Scheduled Caste and Scheduled Tribes (KIRTADS) and relevant books and journals.

Research Instrument

The global MPI is a new generation of multidimensional measures that support key priorities in the Sustainable Development Goals (SDGs): High-resolution poverty diagnostics are needed to leave **no one behind**. The global MPI is disaggregated by children, disability status, sub-national regions and rural/ urban areas. Linked indices of destitution and severe poverty highlight the very poorest. The SDGs call for analyses of **interlinkages across indicators**. The global MPI is built upon solid household-level multi-dimensional poverty profiles. The SDGs advocated **integrated multi-sectoral policies**. The global MPI shows the composition of poverty by indicator nationally – and for every disaggregated group – hence providing evidence for policy design.

The 2017 global Multi-dimensional Poverty Index (MPI) provides a headline estimation of poverty and its composition for 103 countries across the world. The global MPI measures the nature and intensity of poverty based on the profile of overlapping deprivations each poor person experiences. It aggregates these into meaningful indexes that can inform targeting and resource allocation and design policies that tackle the interlinked dimensions of poverty.

The present investigation appears to be particularly relevant for the Indian case; firstly, an analysis of poverty based on non-income may be particularly useful for a tribal area such as Attappady, where income data are not very reliable because of the extent of unorganised and seasonal jobs.

Framework to address the issue of multi-dimensional poverty

Various dimensions considered for multi-dimensional poverty analysis are:

- Education
- Food and Nutrition Security
- Drinking Water supply
- Health and Healthcare
- Sanitation
- Housing
- Electricity
- Farm assets, Non-farm assets

The MDPI is composed of three dimensions made up of ten indicators. Associated with each indicator is a minimum level of satisfaction, which is based on international consensus (such as the Millennium

Development Goals or MDGs). This minimum level of satisfaction is called a **deprivation cut-off**. Two steps are then followed to calculate the MPI:

Step 1: Each person is assessed based on household achievements to determine if he/she is below the deprivation cut-off in each indicator. People below the cut-off are considered deprived in that indicator.

Step 2: The deprivation of each person is weighed by the indicator's weight. If the sum of the weighed deprivations is 33 per cent or more of possible deprivations, the person is considered to be multidimensionally poor.

Analytical Framework: Data was collected through surveys using questionnaire/interview schedule, key informant interview and participatory rural appraisal technique. A structured questionnaire will be constructed using nominal/interval scale for analysis. All the demographical questions will be designed as the nominal scale using both open-ended and closed-ended questions. The questions framed using an interval scale will help the researcher find out the respondents' actual opinions regarding the dimensions of poverty.

Basic research tools like frequency distribution will be used for the nominal scale. The Garrets ranking technique/Pearson's rank correlation will be used to find out the result. For the interval scale (metric scale), tools like central tendency and measures of dispersion will be used. To justify the research hypothesis, either cross-tabulation, chi-square, Z-test or ANOVA will be used. Pearson correlation will be used to find out the hypothetical relation between the variables of Multi-dimensional Poverty analysis and the cited tribal welfare schemes of the government.

Study Area

Kerala, one of the 28 States of the Indian Union, is the southernmost State on the shores of the Arabian Sea. It has an area of 38,863 Sq.km (1.18% of Indian landmass) with 30 million people and is divided into 14 districts. The Western Ghats and its peripheries form the main abode of the tribal people in Kerala. The scheduled tribe population of the State is 4,84,839, which is 1.45 per cent of its general population (Census, 2011). There are 36 different tribal communities in the State, of which five are primitive tribes.

The study site, Attappady, is an extensive mountain valley above the crest of the Ghat ranges, spreading over nearly 745 km2; it is a unique place in the State. It is located in the mid-eastern part of Kerala and the northeastern part of Palakkad district, adjoining Coimbatore and Nilgiris districts of Tamil Nadu. It forms almost the eastern half of Mannarkad taluk and is separated from the rest by a hump-like, steep mountain range. The northern and eastern boundary of the area is towards the Nilgiris and Coimbatore districts of Tamil Nadu. It is bordered by Palakkad taluk in the south, and Karimba and Pottessery and Mannarkad revenue villages of Mannarkad taluk, and Eranad taluk of Malappuram district in the west (GoK, 1976).

The Attappady block panchayat has three Gram Panchayats - Agali, Sholayur and Pudur. The population of Attappady consists of Adivasis and non-Adivasis. The three Adivasi communities are the Kurumbas, who are essentially forest communities and have been categorised as a 'primitive tribe', the Mudugas, and the Irulas. There are 187 hamlets known as 'oorus' in Attappady, which are habituated by both the Adivasis and the non-Adivasis. The present study attempts to carry out a multidimensional poverty analysis of Attappady tribes, aiming to develop policies for improving their living conditions.

The Intensity of Tribal Problems in Attappady

Attappady tribal block, established in 1962, is located in Palakkad district of Kerala, east of the Silent Valley in the Western Ghats, one of the world's most famous biodiversity hotspots. In 1901, this region was mostly forested and inhabited exclusively by hill tribes. Forest coverage which was 82 per cent in 1959, came down to 19.7 per cent in 1996. The share of tribal population came down to 40.9 per cent in 2001 from 90 per cent in 1951. The share of scheduled caste (SC) population among the total population was 4 per cent, while that of the general category was 55 per cent. According to 2001 figures, 66,171 people reside in Attappady, of which 27,121 were tribals (40.9 per cent). Out of 27,121 tribals, 20,883 persons (77 per cent) belong to the Irula group (non-primitive), 3,487 persons (13 per cent) belong to Muduga group (non-primitive), and 2,755 persons (10 per cent) belong to Kurumba group (primitive). There are 189 tribal hamlets, with a total of 8,585 tribal households.

Attappady gained public attention because of the deaths of infants due to malnutrition/hunger in 2013. Again, it fell under a dark shadow, owing to the deaths of children that continued in 2014 as well. Data up to 31st December, 2014 reveals the death of 22 children (13 as per government statistics) and the death of 37 infants during pregnancy. In 2013, 47 deaths of infants were reported from Attappady and schemes amounting to Rs.400 Crore were announced by the Union as well as the State government. Moreover, the three-tier Panchayat set apart Rs.1.26 Crore to eradicate malnutrition. The Adivasi population remained excluded from the social and economic development growth story of Kerala. There is no shortage of laws meant to protect the tribal people, but ground reports from Adivasi areas reveal that those who are supposed to implement these laws instead constantly violate them. The continued death of infants in Attappady is an unfortunate testimony to this. The Panchsheel principles of Nehru were the basis of the policy approach for the existence, survival and development of Adivasis who got secluded from the mainstream for historical and cultural reasons. When we examine the balance sheet of the last six decades, it can be observed that the actual situation is far different.

Findings

- The male population is declining
- Even though most of them had enrolled for schooling, only 3.5 per cent had attained education up to undergraduate or post-graduate level
- Out of the total 177 respondents in the age group of 6-18 years, 18 had dropped out of school due to financial problems, lack of interest in studies, family responsibility, long distance to school and lack of transportation facilities
- 8.2 per cent of the individual respondents face unemployment
- All children in the age group of less than six years and 6-12 years have normal weight, while 5.7 per cent in the age group of 12-18 years are underweight. While the women in the age group of 18-60 years, 34 per cent are under-weight and the men in the age group of 18-60 years, 9.6 per cent are under-weight
- Out of 116 households, 15 suffer from serious diseases such as sickle cell anaemia, tuberculosis and heart problems/cancer.

- Twenty-four per cent of the households have floors made of sand and dung
- For drinking water, 49.1 per cent of households have pipe facility to their dwelling place
- 13.8 per cent of households use wood as cooking fuel, while the remaining households use different fuels such as kerosene/forest gas/LPG along with wood as cooking fuel. Households using LPG as cooking fuel is 4.3 per cent
- 84.5 per cent of households have electricity connection, while 15.5 per cent do not. More number of households in Sholayur Panchayat do not have electricity connection when compared to other panchayats
- Of the total 116 households, 66 households have land for agricultural purposes. More households in Muduga Community have land for agricultural purposes when compared to other communities
- Out of 116 households, 70 (60 per cent) have respondents to include in Social Security Pension. Of these, only 28 households (40 per cent) are getting Social Security Pensions, and the remaining 42 households (60 per cent) are not registered in any social security schemes
- Out of 116 households, women members in 102 families (88 per cent) have enrolled in women empowerment schemes, and the remaining 14 households (12 per cent) do not have a membership. They have membership in Gothra Kudumbasree and Adivasi Mahila Shakthikaran Yojana.
- Findings from Chi-square Analysis
- Findings indicate that there is no relation between gender and job
- Findings indicate that there is a relation between community and usage of cooking fuel such as electricity, LPG, biogas, kerosene, wood powder, wood
- Findings indicate that there is relation between community and education
- Findings indicate that there is relation between community and the health of women and men
- Findings indicate that there is relation between community and job
- Findings indicate that there is relation between community and asset holdings such as electricity, radio, refrigerator, television, mobile phone, bicycle, motor-bike, vehicles, agro land
- Findings indicate that there is relation between community and sanitation/toilet facility
- Findings indicate that there is no relation between education and house roof, house floor, land, or men's health. There is a relation between education and job, use of LPG, toilet facility, or women's health.

Conclusion

The multidimensional poverty assessment identifies multiple deprivations at the household level in education, health and standard of living. This study is focused on the multidimensional poverty assessment of these three indicators of tribal households in Attappady. The study reveals that deprivation in education, health and standard of living exists among the three communities in Attappady. In Kurumba community, more women are underweight, while more males are underweight in Muduga community. All the communities face health problems. No children until 12 years are underweight, which is a good sign, but after 12 years, the issue of being underweight starts.

Regarding the basic infrastructure, all the communities also face a lack of sustainable houses, sanitation facility, clean cooking fuel, electricity connection, lack of land for agriculture, etc. Kurumba community faces more deprivation regarding the electricity connection than the other two communities. The study shows that there is no relation between education and house roof, house floor, land or men's health, and there is a relation between education and job, use of LPG, toilet facility, or women's health. This means that even though they are educated, their basic infrastructure will not be developed, indicating that education impacts the use of LPG, sanitation and women's BMI.

The study also focuses on awareness of various welfare measures adopted by the government for poverty eradication. Based on the analysis and findings, it can be concluded that Scheduled Tribes in Attappady are facing poverty in various dimensions despite the implementation of various welfare initiatives by the government. They face various socio-economic problems and are unaware of the various welfare initiatives that make them unable to reap the benefits of government welfare schemes. The unsolved problems remain unsettled in almost all hamlets.

The statistical analysis such as frequency distribution, cross-tabulation and Chi-square analysis prove that Hypothesis 1: Scheduled Tribes in Attappady are facing poverty in various dimensions despite the implementation of various welfare initiatives by the government and Hypothesis 2: The scheduled tribes in Attappady are facing multiple socio-economic problems. Hypothesis 3: As Scheduled Tribes in Attappady are unaware of the various welfare initiatives cited above, they are unable to reap the benefits of government welfare schemes can also be accepted. Beyond the statistical analysis done on the data collected through questionnaire part I and part II, the preference ranking analysis conducted in three hamlets of three communities also supports the statistical analysis. The analysis of the Focus Group Discussion also States some difficulties in implementing welfare schemes and programmes effectively. The analysis shows that even though various programmes are implemented, some have to be tailored according to the needs of the area/region specific.

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COMPARATIVE STUDY BETWEEN ANNUAL LAND PRODUCTIVITY OF SHIFTING CULTIVATION AND NÛL FARMING (SEASONAL FARMING AT RIVER BANK) IN KOLASIB DISTRICT, MIZORAM, INDIA

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Shifting cultivation/jhuming is the traditional practice among the Mizos which involves slashing and burning forests for crop cultivation for one year. On the other hand, a recent method of cultivation emerging amongst local people called nûl farming (Seasonal farming at river bank), which requires eight months of tending, is used to compare and analyse the economic potential between shifting cultivation and nûl cultivation.

Objectives

- To study the productivity of shifting cultivation and nûl cultivation practice
- To obtain the cost-benefit ratio (BCR) for shifting cultivation and nûl cultivation
- To analyse the economy and efficacy of cultivation system/pattern with respect to shifting cultivation and nûl cultivation.

For this study, the sample size of 40 farmers was determined by NIRDPR; 20 farmers represented shifting cultivators and the rest nûl cultivators. And the study is confined to cultivated areas from 0.2 to 1.0 hectare for both systems. In shifting cultivation, the net productivity ranges from Rs.5,012.50 per ha to Rs.20,125.00 per ha with mean average productivity of Rs.12,498.00 per hectare, while nûl cultivation has higher net productivity ranging from Rs.28,462.50 per ha to Rs.82,000.00 per ha with mean average productivity of Rs.43,132.00 per hectare. And cost-benefit ratio per hectare of shifting cultivation ranges from 1.18 to 1.79 with a mean average BCR of 1.46 per hectare, and the cost-benefit ratio per hectare ranges from 1.56 to 2.05 for nûl cultivation with a mean average BCR of 1.86 per hectare.

By analysing the data obtained, it is considered that nûl cultivation is bearing higher efficacy than shifting cultivation by achieving higher net productivity as well as BC ratio for all respondents' cultivated areas. Through the rigorous statistical analysis, we get the correlation coefficient between cultivated area and BC ratio for shifting cultivation as – 0.31 and that for nûl cultivation as 0.33, while the correlation coefficient between area and net productivity for shifting cultivation is – 0.17 and that for nûl cultivation is – 0.20. This statistical analysis helps us conclude that there is no strong relationship between productivity or CB ratio and the ground area of the cultivated land unless all the other factors are taken into account by further studies.

Even though nûl cultivation gives only vegetables while shifting cultivation produces wide varieties of vegetables, cereals, and grains, and while both the cultivation practice differed by mixed cropping to relay cropping with successive harvests, there is a vast difference between the periods required for tending the fields which appear to result into a substantial difference in input cost as well as output cost for differing productivity. Here, it is observed that per hectare productive and BC ratio of nûl cultivation is higher than those of shifting cultivation because of the efforts given by the State government in promoting nûl cultivation by supplying seeds, seedlings, training, field visits, technical supports like awareness campaign, shorter period of exposure to pest and disease attack, lesser weeds problem due to passage of rainy season, favourable environment during the winter season and better price for off-season vegetable produced from nûl cultivation.

Based on a number of site visits and open interaction with farmers, it is found that improved crop variety, market demand-based crop selection, formation of farming society and land control/land holding pattern are necessary for increasing productivity of shifting cultivation, whereas crop diversification, market regulation and formation of farming society are recommended for enhancing the productivity of nûl cultivation.

It may be further suggested that exhaustive price control, soil & water conservation, pest & diseases management, farmer's training, better transportation and connectivity, availability of basic needs like water supply, electricity, primary healthcare, primary education and strong political will in the agricultural sector should be given high priority to uplift agrarian masses for sustainable and successful cultivation in the study area.

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PROBLEMS AND PROSPECTS OF OIL PALM PRODUCTION IN MIZORAM WITH SPECIAL REFERENCE TO KOLASIB DISTRICT

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Introduction

With the ever-increasing demand and the rising import of edible oil in India, the Government of India decided to promote oil palm cultivation to meet domestic demand. Oil Palm Development Programme (OPDP) was started in the year 1991-92 under Technology Mission for Oilseeds (1986) and later restructured as the Integrated Scheme of Oilseeds, Pulses, Oilpalm and Maize (ISOPOM) in 2004-05. Oil Palm Area Expansion (OPAE) was rolled out in 2011-12 to bring additional area under oil palm cultivation under Rashtriya Krishi Vikas Yojana (RKVY). OPDP has been continuing under mini mission II of the National Mission on Oilseeds and Oil Palm (NMOOP) since 2014-15.

A total area of 1,01,000 hectares was identified as oil palm potential area in Mizoram. OPDP was started in the State under ISOPOM in 2005-06. The Mizoram Oil Palm (Regulation of Production & Processing) Act, 2004 was passed in Mizoram Legislative Assembly on 2nd December, 2004 with a provision for the emergence of a contract system for seed supply and marketing of the produces.

The present study pertains to Kolasib district, the northernmost district of Mizoram, bordering Assam. It has a total geographical area of 1,472.2 km^2 or 17,55,000 ha. The potential area for oil palm cultivation is 17,350 hectares, the second largest area next to Mamit with 18500 hectares. The district came under the purview of the contracting company, Godrej Agrovet Ltd., which had already established a Palm Oil Mill at Bukvannei, and palm oil extraction started in 2014.

Objectives

- To study the impact of Government Schemes and Policies, especially MGNREGA, on small and marginal farmers
- To identify problems faced by the oil palm growers in Mizoram
- To suggest measures for profitable oil palm cultivation.

Hypotheses

1. Financial constraint is the main hurdle to successful oil palm cultivation
2. The educational level of the farmers has a significant effect on the performance of the oil palm cultivation
3. Training & Capacity Building plays a vital role in enhancing farm production.

Study Area and Methodology

The study area covers two RD Blocks of Kolasib District, viz. Thingdawl and Bilkhawthlir RD Blocks. FGD and PRA were also conducted in selected villages during the survey to obtain a clear picture of the real situation. Primary data was collected from randomly selected samples by conducting a survey using interview schedules from March to June 2018. Analysis was made on the 185 samples, who were harvesting the oil palm fresh fruit bunch during 2017. The data collected from the survey and other sources were analysed using statistical measures like mean, percentage, standard deviation, etc. Statistical analyses like t-test, regression and z-test were adopted to prove the proposed hypotheses. Various aspects of oil palm cultivation in the study areas, including the socio-economic background of the growers, landholding status, cultivation practices, problems and general perceptions of the respondents, were analysed.

Findings

a) ***Socio-economic Profile:*** The socio-economic status was studied where the average age of the oil palm farmers in Kolasib district was 59 years which was higher than 45.87 years in Imo State of Nigeria (Onoh et al., 2012) and 46 years in Delta State, Nigeria (Ajieh, 2013). This shows that farmers were relatively old and above the economically productive age group. To encourage young farmers, interventions must be made for the revival of oil palm cultivation.

Out of the total population of 1043 from the 185 respondents' families, there were 544 (52.16 per cent) working population and 499 (47.84 per cent) dependents. Female workers comprised 23.49 per cent of the total population of the sampled households, whereas that of males was higher at 28.67 per cent. The high percentage of working population created a good scope for developing oil palm cultivation, if mobilised properly.

With high literacy of 96.76 per cent, it is expected that farmers will learn the techniques of farm management easily with proper training and can expect improvement in the yield of oil palm. Married persons comprised 80.54 per cent, and others were unmarried (4.87 per cent), divorcee (4.32 per cent) and widow or widower (10.27 per cent).

AAY families comprised only 3.80 per cent, BPL included 27.60 per cent, and the majority were APL comprising 68.60 per cent. Land Settlement Certificate was possessed by only 6.50 per cent, 46.50 per cent had Periodic Patta, the majority of the farmers (45.90 per cent) held Village Council Pass, and 1.10 per cent of them were leasing land from others. The average area of total landholdings of the 185 sampled farmers is 7.38 hectares, while the average area of oil palm cultivation was only 2.48 hectares.

b) ***Agricultural Inputs and Practice:*** Among the sampled oil palm farmers, 68.10 per cent used to apply fertilisers, which were supplied at a subsidised rate. Many of them have stopped the application of fertilizers as the supply at a subsidised rate was stopped. Irrigation was practised by only 13.50 per cent. Herbicide was applied by 58.90 per cent, and pesticides were used by only 11.40 per cent. Intercropping was practised by 56.8 per cent. There is a lot of space for improvement in the application of inputs.

c) ***Economics of Oil Palm Cultivation:*** The 185 sampled growers were producing FFB during the period, and the total area for Oil Palm cultivation was 459.40 ha, while the average Oil Palm cultivation area was 2.48 hectares per grower. Seedlings were provided free of cost, and subsidy on the establishment and annual maintenance costs were given till the age of four years of plantation from the Oil Palm Development Scheme.

The field survey found that the annual maintenance cost per hectare was Rs. 19,435.00 only. Oil palm fresh fruit was sold to the mill at Rs. 5.50 per kg, and the rate was fixed in 2014. The average production was 44.06 quintals per hectare or 4.41 metric tonnes per hectare, which was still very low (15 metric tonnes for a 3-10 year age plantation in Andhra Pradesh – Rao 2013). However, the sale of FFB was still lower at 41.73 quintals per hectare due to non-collection or rejection by the company. Farmers processed a total quantity of 392 quintals of FFBs, which were not collected or rejected by the company, and the average gross annual income per hectare was Rs. 24,659.00 only.

The per capita gross annual income from Oil Palm was only 21.27 per cent of the respondents' total per capita gross annual income, which clearly shows that oil palm was used only as a subsidiary source of income by the farmers. The current cost-benefit ratio of oil palm cultivation was 1.27, and when all the plants mature, it is expected to increase to 1.59.

d) ***Statistical Analysis of Oil Palm Cultivation and Problems Faced by the Farmers:*** The impact of the socio-economic factor and government schemes like MGNREGS and NLUP/NEDP on the harvest of FFB were studied and analysed using Regression Model and ANOVA to prove the hypotheses. The impact of MGNREGS and NLUP/NEDP on the yield of FFB was positive but not statistically significant.

Analysing the problems faced by the oil palm farmers, it was found that only 38 per cent of the sampled farmers faced financial issues, which was not the main problem. Therefore, hypothesis number 1: "Financial constraint is the main hurdle for successful oil palm cultivation", is rejected.

Hypothesis number 2: "Education level of the farmer has a significant effect on the performance of the oil palm cultivator" is rejected with $F(1,183) = 1.884$, $p = .174 > .05$ with $R2 = .010$, where the change in education level will lead to change in harvest by only one quintal, which is not statistically significant. Using Brown-Forsythe and Welch tests, the result was $F = 10.514$, $p = .003$. Therefore, it was concluded that there was a considerable difference between the harvests of the trained and non-trained farmers. Thus, hypothesis number 3: "Training & Capacity Building plays an important role in enhancing farm production", is accepted.

However, transportation problems, animal attacks and low price of FFB were the main problems significantly hampering the performance of the farmers.

Conclusions

Instead of going for a fresh plantation, it is suggested to replace the dead plants (gap filling) with protection from animal attack to ensure full utilisation of the land already allotted for the plantation. Keeping environmental concerns in mind, it is suggested that no fresh plantations should be made by cutting virgin forests; rather, degraded lands should be utilised for any fresh plantation to reverse the degradation process and to achieve ecological balance.

Godrej Agrovet Pvt. Ltd. at its palm oil mill at Bukvannei village is planning to process the by-products for manufacturing bio-fertiliser, which is a good initiative and may also go further to produce materials for mushroom cultivation as well as production of animal feeds.

Improvement in the transportation system, including construction of a new approach road to the farms hitherto not accessed by vehicle and repair of the existing link road to make it an all-weather road for uninterrupted transportation of the FFBs even during the rainy season (peak season), will relieve much of the farmers' problems.

The upward revision of the price of FFBs would surely make it a viable activity for the farmers. This, in addition to improvement in the transportation system, will ensure the harvesting of all the fresh fruit bunches of the oil palm, thereby supplying more FFBs to the Mill. The Mill, at present, is working at a range much lower than its capacity due to shortage of FFB supply. This will be a win-win situation for both the company and the farmers. Training and capacity building may be given more importance to enable the farmers to manage their farms for better output.

Addressing various problems the farmers face will make oil palm cultivation in the State a lucrative job and attract more youngsters to the industry.

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ACTION RESEARCH FOR ADOPTION OF PUKPUI VILLAGE IN COMMUNITY HYGIENE AND SANITATION

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Introduction

Individual health and hygiene largely depend on adequate availability of drinking water and proper sanitation. There is a direct relationship between water, sanitation and health. Consumption of unsafe drinking water, improper disposal of human excreta, improper environmental sanitation and lack of personal and food hygiene have been major causes of many diseases in developing countries. Therefore, sanitation is one of the basic determinants of quality of life. Proper sanitary practice prevents contamination of water and soil and thereby prevents diseases. The concept of sanitation was, therefore, expanded to include personal hygiene, home sanitation, safe water, garbage disposal, excreta disposal and wastewater disposal.

"A clean India would be the best tribute India could pay to Mahatma Gandhi on his 150th birth anniversary in 2019," said Shri Narendra Modi, Prime Minister of India, as he launched the Swachh Bharat on 2nd October 2014. The programme's mission was to focus on sanitation and cleanliness and eliminate open defecation in India by 2019. After three years, the Swachh Bharat Abhiyan report said that almost 550 million people were practising open defecation until 2014; 250 million no longer practice open defecation. Sanitation coverage has already gone up from 42 per cent in October 2014 to 60 per cent in May 2017. The Government of India approved Phase- II of SBM(G) in February 2020. A large sum of money has been invested to achieve this programme's multi-dimensional goals throughout the country. In this programme, behavioural change among people through mass awareness campaigns and involvement of community has played a remarkable role.

In general, Mizo people have deep sentiments toward the Mizo tribal culture and tradition that has been in practice as long as Mizo history goes back to our ancestors, wherein voluntary work for the community and individuals played a central role in every village. The study first focused on the current practice of community hygiene and sanitation, followed by designing or planning for improvement with interventions and community mobilisation. The study was designed in such a way that community leaders would play a central role in social mobilisation and voluntary works in this project. The ETC was tasked to carry out motivational aspects through awareness campaigns and training programmes.

Profile of NGOs in the project village

The most prominent NGO in this village is Young Mizo Association (YMA). All adult people, irrespective of gender, are members of this NGO. YMA is the most important NGO in Mizoram. All the voluntary works

like funerals, search and rescue operations in accidents or disasters, etc., have been taken care of by YMA in every village. In the case of this research work, it was firmly believed that YMA would be able to play a key role in behavioural change; community mobilisation and social works, which are voluntary, are to be entrusted to YMA.

The next important NGO is Mizo Upa Pawl (MUP), i.e. Mizo Elders Association, in which any person above 60 years can be a member. This NGO is not expected to contribute to works or activities requiring physical labour but to community mobilisation with their intellect and influence.

The third notable NGO is Mizo Hmeichhe Insuihkhawm Pawl (MHIP), i.e. Mizo Women Association. This women association has made a significant contribution to society voluntarily. This NGO is expected to take part in the research at the household level, with the members' role being homemakers. All the hygiene principles and good practices at the home level can be achieved through the active participation of female members. These three are major NGOs in Mizoram; each plays a similar role in every village across the State.

Taking these issues under consideration, action research for the adoption of Pukpui village in community hygiene and sanitation was proposed having the following objectives as given below:

Objectives

a. To study the factors affecting community hygiene and sanitation in the proposed study area and to work out the necessary interventions and steps to be taken to bring about improvement in the said field with the involvement of the people as a first step of the study

b. To recognise the importance of voluntary social work for the community and motivate the local community about the importance of community and personal hygiene, and enhance individual roles in bringing changes with regard to sanitation issues in the area by way of community mobilisation and awareness generation

c. Observe change resulting from the interventions and community mobilisation and modify if needed to achieve the most convenient and sustainable results.

Methodology

Description of the study area, steps followed in this action research and key findings and major suggestions are briefly highlighted below:

The data collected from the surveys and other sources were analysed using simple percentage analysis.

Focus group discussion (FGD)

FGD was held two times with leaders of prominent NGOs and Village Council members (Gram Panchayat) at the initial and final stages of the research. In the first FGD, the objectives and steps to be taken in the action research were explained, and their cooperation was invited. All members present agreed to support the proposal and felt that appropriate measures have to be taken both at household and community levels.

It was reported that there were twelve public urinals and one latrine for public use in the village. Around

60 community dustbins in the village were made by the YMA and distributed evenly to all three YMA sections. YMA members and families living nearby were entrusted with the maintenance of these facilities whenever necessary. The village sanitation committee carried out the task of publicity about the cleanliness of streets and side drains. It was reported that there are no public conveniences in the village market, and the VCS or VC has carried out no sanitation inspection.

Action Plan:

After a comprehensive discussion, a subsequent action plan was drawn up, and roles to be played by ETC and the community leaders (VC, NGOs) were decided. The ETC will carry out sanitation and cleanliness campaigns and training at school and for the community. Community leaders will address other items, such as the restriction of domestic animals, e.g. dogs, goats, etc., by maintaining existing rules and regulations and negotiating with families rearing domestic animals within the village to shift their animal shelters away from the roadside to other convenient places. Community leaders shall also launch campaigns among households with available land for compost pit construction for household biodegradable waste collection and initiate voluntary social work in community hygiene and sanitation.

Data Collection:

The household surveys were conducted two times using questionnaires at the initial and final stages of the study. More than 75 per cent of total households were covered in this study. In the last survey, almost the same questionnaires were used to collect data. Some new questions on personal achievement during the research period, commitment to hygiene and sanitation practices and suggestions for future action after the completion of the research period were added.

Study Area

A community-based action research or interventional study was conducted in Pukpui village, Lunglei District, Mizoram, among people aged 15 years and above. The study was conducted from January 2017 to January 2018. All the households in the village were listed in this study as voluntary involvement of the community at large at the beginning of the research was to be determined, and motivational aspects and achievement due to the interventions were to be assessed at the final survey to learn about the impact of the research.

The total number of households residing in this village is 450, and the total population is approximately 2100, as per information from the village elders. There are six schools, viz. three primary schools, two middle schools and a high school. Community assets and facilities available are one community hall, one VC house cum BNRGSK hall, one market shed, five anganwadi centres, and a health sub-centre. Ninety per cent of households already availed piped water connection.

The study area is Pukpui village, located to the north of Lunglei town, around 7 km from the heart of the town. Though it is situated on the periphery of Lunglei town, it has a separate village council (local government). Therefore, this Action Research takes it as one unit or village. Lunglei is the second biggest town in Mizoram, next to Aizawl city. It is the most important town in southern Mizoram and has a population of 57,011 as per the 2011 Census.

Findings

The results obtained were divided into three broad sections, as given below:

The first section was general information about the village, socio-economic conditions of the surveyed families, their main occupations and average annual income. Three per cent belonged to AAY (AAY-covered families), whereas 52 per cent and 45 per cent belonged to BPL and APL groups, respectively. The population of BPL ranked highest in the three categories given. The majority of the residents engaged in agriculture, and the subsequent important occupation was government service. The average annual income per family fell within the income group of Rs. 50001 to Rs. 1,00,000.

The second section was the status of the surveyed families in sanitation and hygiene practices, their awareness level about hygiene and sanitation and their involvement in voluntary social work for the community. The results obtained are briefly discussed below:

Dustbins, Toilet Facility and Drinking Water

Around 30 plastic dustbins for household use were distributed to all the participants of one training on sanitation and cleanliness. All the surveyed families have at least one to eight dustbins by the end of the research period.

From the initial data collected, 67.37 per cent had sanitary latrines, while 32.6 per cent relied on unsanitary latrines (pit latrines). There were households having more than one sanitary toilet - 52 families had two toilets, and 11 families had three toilets. Regarding drinking water supply, 97.2 per cent of the surveyed families benefited from government piped water supply, 345 families out of the total surveyed families have sufficient drinking water, and only 16 families have limited water supply. This data indicates that there is no major challenge to addressing water supply.

Disposal Method of Garbage and Community Dustbins

The initial data collected showed that 153 families dumped their kitchen waste into their kitchen garden to enhance the fertility of their gardens through a natural process without a proper compost pit. In the final survey, 85 families reported having a private compost pit for decomposing waste materials, against 25 families in the initial survey. The number of families who disposed of their garbage in the nearby forest came down to 29 only from 141 families. Burning debris was not encouraged in awareness campaigns due to its environmental impact; only 11 families were found burning garbage in the final survey.

There were around sixty community dustbins available in the whole village. Nine more dustbins were added from the project fund; they were put in conspicuous places for public use. The community fruitfully utilised these facilities.

Rearing of Domestic Animals

In the project village, 35.24 per cent reared animals at least pig, poultry or dog. The most common animals are pigs and poultry. A good number of families (19 per cent) had dogs as pets. Though the population of dogs is comparatively high in Mizoram, it is fortunate that there are no stray dogs without

owners so far as we can enquire. Animal houses were constructed adjacent to their homes, only 3-4 metres away, except for two families who managed to keep their animals outside the village. The cleaning frequency of animal houses had increased in all the parameters, such as every day, every two days, every three days, every week and once a month by the end of the study. No answer or did not clean animal shelters at all decreased to 32 families from 63 families recorded in the initial survey.

Perception of Awareness Generation during the Study Period

Sixty-seven per cent of the respondents said that at least one member of their family attended training or awareness campaigns on sanitation and hygiene conducted for the community relating to the action research. Eighty-nine per cent said that they are aware of the project taken up by the ETC on community hygiene and sanitation covering their village. Ninety-seven per cent said they are motivated and are willing to continue hygiene practices. Sixty-seven per cent said that constant awareness generation is vital for each member of the community; the importance of social work and the efforts of individuals in hygiene practices are given equal weightage (10 per cent).

Voluntary Social Works

The initial data showed that 93.55 per cent of the surveyed families were already involved in voluntary village sanitation works, cleaning streets and side drains near their houses even before the interventions and training. Though they have contributed to the sanitation of their community through voluntary social works, seventy-five per cent of the respondents still opined that they have not rendered enough social services for their community. In the final survey, all the respondents said they were willing to continue voluntary social work for the community with a deep sense of ownership even after the research period.

The third section was their opinion about community hygiene and sanitation, improvement and suggestions.

Initially, 78.26 per cent (288) said the village is partially clean, and all the respondents were willing to work for the cleanliness of their village.

Improvements at the household level reported were keeping the toilet clean, construction of toilet, regular cleaning of animal shelters, sorting of garbage, consumption of clean and healthy food, maintaining kitchen utensils clean, drinking safe and potable water only, improvement in personal hygiene, keeping beds clean, keeping flowers at home for decoration.

Conclusion

In the FGD held at the beginning of the study, it was learned that the village had been well-demarcated by the YMA in three sections. This facilitated village administration and social work. All NGO leaders were actively involved in various voluntary works. No proper dumping ground was exclusively for the village, and no garbage vehicle was available. People managed their family waste by themselves. But by the end of the study, the government arranged garbage vehicle service once a week, and about 50 per cent of the households availed this service. The awareness level of sanitation and government schemes was very low. NGO leaders and village authorities tried their best for community hygiene through voluntary social work

by putting community dustbins in public places, constructing public urinals, and making public announcements about community hygiene. Nine more community garbage cans were added to the existing 60 from the project.

Good practices to be followed by children and adults may be given special attention. Besides learning at home, school and church can play an important role as learning centres. Planting flowers or shrubbery to beautify schools and public places are recommended. The desired goal in this endeavour should be turning public places clean, green and beautiful. Despite sufficient water supply, the challenges could be their attitude towards cleanliness in general, and the level of personal hygiene and community sanitation as a whole. More families should try to utilise garbage vehicles for transportation of garbage.

The respondents opined that awareness creation is the most important activity to be taken up on a constant basis. Therefore, the continuous effort by the community is significant as it is an ongoing process.

A proper compost pit is recommended for households with kitchen garden or suitable place for managing biodegradable kitchen waste. The next major step for the community is to designate suitable land outside the village to keep domestic animals and restrict animals by enforcing certain acts and rules.

It was a great experience to work with leaders of prominent NGOs and members of the Village Council having a common goal. Sanitation, owing to the implementation of Swachh Bharat Mission (G), is a common interest and focused subject of every rural household in India. Each individual needs dedication and constant effort to be well accustomed to good practices. Further work in this line is required to corroborate the findings of this research work.

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2. Undertake, aid, promote and coordinate research on its own and/or collaborate with State, national and international development agencies;
3. Analyse and offer solutions to problems encountered in the planning and implementation of the programmes for rural development, decentralised governance, panchayati raj and related programmes;
4. Study the functioning of the Panchayati Raj Institutions (PRIs) and rural development programmes across the States;
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