ISSN 2319-6157

THE ADMINISTRATOR

Journal of LBSNAA

January, 2020
Volume 60, Number 1

LBSNAA

Lal Bahadur Shastri National Academy of Administration

Published by : TRPC
Lal Bahadur Shastri National Academy of Administration, Mussoorie (Uttarakhand)
Printed in India at Print Vision, Dehradun - 248 001

The Administrator

Volume 60 January, 2020 Number 1

CONTENTS

Affordable Housing Initiatives in Uttar Pradesh: The Challenge and Opportunities

Nitin Ramesh Gokarn

Abstract

India is a rapidly urbanizing country facing development challenges associated with rapid growth. One of the key challenges for a developing country like India is urban migration, which is further compounded by limited resources to meet an increasing housing demand. Urban migration has contributed to congestion, pressure on basic amenities, such as water, sanitation, and housing shortages. Nationally, the government estimated a shortage of over 18.78 million homes in 2012, of which 95per cent were in the EWS (economically weaker sections) and LIG (low-income group) segments. This is expected to reach 30 million by 2022. This ever-increasing gap between demand and supply in the affordable-housing segment is forcing people to live in slums and illegal colonies. Urban housing shortage is primarily driven by EWS and LIG categories, yet capacity addition has been primarily in the middle-income group (MIG) and the high-income group (HIG) by real estate developers due to higher returns from these projects. High land costs, delay in project approvals, increasing building material costs and low profit margins have made low-cost housing projects less attractive to private developers. Besides, housing (including affordable housing) being a state subject, creates complexities in implementation because of precarious financial condition of development authorities, state/city-level agencies, and their limited capacities in handling these projects. For successful implementation of affordable housing projects, collaboration and coordination between the central government, state government, urban local bodies, private sector, and financial institutions is necessary.

In order to mainstream affordable housing, the government needs to act as an enabler for development and be involved in facilitating investments, both public and private, and streamlining processes across the value chain. Stakeholders will benefit from the availability of suitable land parcels with the requisite trunk infrastructure, expedited clearances, and a suitable mechanism of financing. Moreover, for the planning and

design process to transition smoothly into project execution, it is important that the development authorities have the requisite capacity to handle projects of this type and scale. Providing suitable financing options to beneficiaries who predominantly work in the informal sector is also essential for the mainstreaming of affordable housing. Another key aspect is the maintenance post-handover of housing units to the beneficiaries. It is essential to address this aspect to create sustainable benefits. We need to keep in perspective that affordable housing will cater to a much needed highly productive economic workforce in the country. It is imperative that both the public and private sectors join hands and drive innovations for developing sustainable affordable housing projects and vibrant communities.

2. The Challenge of Affordable Housing

2.1 Affordable Housing defined

The meaning of "affordability" changes with the context as there is nouniform fixed definition. Different countries have different definitions but largely, affordable housing refers to housing units which can be afforded by that section of society the income of which is below the median household income. Internationally, housing affordability is defined in multiple ways. One of the most commonly accepted definitions of affordability refers to housing affordability which is taken as the proportion of the measure of expenditure on housing to the income of the household. This is also accepted by the Government of India, which states in a document as follows - "Affordable housing refers to any housing that meets some form of affordability criterion, which could be income level of the family, size of the dwelling unit, or affordability in terms of EMI size or ratio of house price to annual income."(High Level Task Force on "Affordable Housing for All", December 2008).

The Ministry of Housing and Urban Poverty Alleviation, Government of India in its 2011 report takes note of both income and size criteria to define the concept as given in Annexure A.

As per the Reserve Bank of India, 2014, affordable housing is defined for houses of values up to ? . 65 lakh located in the six metropolitan cities viz., Mumbai, New Delhi, Chennai, Kolkata, Bengaluru, and Hyderabad and houses of values up to ? . 50 lakh in other cities for purchase or construction of dwelling unit per family.

2.2 Global scenario

The United Nations recognized the importance of access to decent affordable housing as a fundamental human right for the health and well-being of people and the smooth functioning of economies and has imbibed it in the United Nations Universal Declaration of Human Rights. Globally, high housing costs are common, creating challenges for individuals, families, governments, and businesses. The current situation of housing across the globe as per an estimate of McKinsey Global Institute is highlighted in Annexure B.

To augment the supply of land for affordable housing, the following six mechanisms have been used across the world:-

(i) Transit-Oriented development: It has advantages of improving labor mobility and, potentially providing a mechanism for funding both affordable housing and transportation infrastructure. Access to rapid transit that can get residents to work within an hour is particularly important for low-income residents who often cannot afford a car. Over the past four decades, Hong Kong has added 1.4 million homes in the New Territories, across the harbor from Hong Kong Island, most of them oriented to transportation infrastructure: 43 per cent of residents and 56 per cent of jobs are within 500 m of rail and metro stations. In cities where new transit facilities have been built, land values in the surrounding areas have risen by 30 per cent -60 per cent. By capturing a share of that increase (through land sales or “betterment” assessments), the government can pay for the infrastructure investment and the cost of affordable housing.

(ii) Releasing Public Land: Governments often own large parcels of undeveloped land in cities. Such land is frequently valued below market prices. In Turkey, the TOKI (government-backed housing agency) has assembled 4,120 sq. km., or 4 per cent of urban land, largely by acquiring land from other government entities. This land is developed in partnership with private developers under a revenue-sharing scheme that allows TOKI to split development costs and fund further land acquisition and development of affordable housing. China’s government releases public land to the market every year, selling development rights and 70-year ground leases to developers. In Monterey, California, the city helped

turn an old military base into on a mixed-use development pattern with an affordable housing component. The value captured from the release of public land is also a potential source of funding for infrastructure development.

(iii) Unlocking Serviced Idle Land: Significant amounts of serviced residential land (with access to utilities and infrastructure) within urban areas are unused or underdeveloped. In Riyadh, Saudi Arabia, some 40 sq. km. parcels of land that are zoned as residential and have access to suitable infrastructure have remained idle for two decades. Land remains idle for a range of reasons, including lack of demand and hoarding for speculation. Rising market values around the parcel result in an "unearned betterment" for owners. In some cases, a lack of clear title keeps land off the market. Tax and regulatory policy can unlock idle land through incentives (e.g., property tax exemptions for new development) or penalties, such as idle-land taxes. To discourage hoarding, China charges the equivalent of 20 per cent of land price to owners who leave urban property undeveloped for a year; after two years, the land can be confiscated. In the Philippines, municipalities impose idle-land tax to unlock land for development.

(iv) Enabling Development through Land Pooling or Readjustment: Ownership of idle or underused land or dilapidated properties is often fragmented, making the development of such land parcels complex and time-consuming. Land pooling and readjustment have been used successfully in Japan, South Korea, and Gujarat in India. Under these schemes, owners pool their land in exchange for higher density and infrastructure investment. The readjusted land is then returned to the owners, creating higher value which is an incentive for owners to contribute land for development.

(v) Ensuring Clear Titles and Formalizing Informal Land Use: Informal land can be formalized through legal structures that facilitate individual or collective ownership. Simply establishing who actually owns land can make it accessible to the market. In developing economies, land-registration systems have not evolved. UN-Habitat estimates that 70 per cent of land in developing countries is unregistered. An efficient land-

registration system establishes clear ownership rights that enable transactions to move ahead without the risk that another party will later assert ownership rights. A modern land-registration system provides a database of all parcels, their value, land-use restrictions, and any encumbrances (such as mortgages) so buyers have certainty of ownership.

(vi) Improving Building Codes and Using Inclusive Planning: By changing building codes and regulations, cities can significantly lower the amount of land used per housing unit, by adjusting the permitted floor-area ratio (FAR). Developers then can construct more per square meter of space for each square meter of land and can fill more demand for housing, particularly in areas close to transit stations. This practice has been used successfully in Seoul to expand housing supply. Broad reform to urban land regulation needs to be complemented by inclusive planning that requires developers to supply affordable housing or land on which affordable housing can be built. Under inclusive principles, in return for higher revenue per square meter of land (a density bonus), the developer must set aside a certain portion of a project for affordable units. This can provide land for affordable units at very low cost, even for free. In Barcelona's La Marina development, increasing the FAR from 1.0 to 2.3 made it possible for the developer to offer half of the units as affordable housing, with prices at a third of the market rates. Many cities have also adopted transferrable development rights (TDRs), allowing a private developer to fulfil its affordable housing requirement on another site.

The National scenario

Affordable housing in India has several challenges, such as lack of land, high construction costs, unfavorable tax environment, and lack of incentives. According to the Ministry of Housing and Urban Poverty Alleviation (MoHUPA), Government of India [Report of Technical Group on Urban Housing Shortage (2012–17)], there was a shortage of 18.78 million dwelling units out of which 96 per cent pertained to EWS (56.18 per cent) and LIG (39.44 per cent) segments. A major catalyst instrumental in this segment's growth has been the central government's initiative to boost affordable housing, for which the government has initiated several measures over the last fifteen years. The National Urban Housing and

Habitat Policy (NUHHP), 2007 set the objective of "Affordable Housing for All". Later, the government had set the target year to 2022 to realize this objective. Pradhan Mantri Awas Yojna (PMAY) (Urban) was launched in 2015 by the government for achieving housing for all by 2022, which includes the target of constructing 20 million houses by March 31, 2022, for the urban poor. Financial assistance to States / Union Territories (UTs) is given to three identified income categories: EWS, LIG, and MIG. As per MoHUPA, by January 2019, nearly 69 lakh houses were approved, while 13.59 lakh of these were completed.

The development of EWS and LIG housing under the PMAY is estimated to need an investment of more than US$2 trillion, which translates to about Rs. 250–260 billion annually. Affordable housing will require about half the total investments and 70 per cent of urban housing needs. India's urban population is expected to reach about 810 million by 2050. Several structural issues such as high gestation period of housing projects, limited and expensive capital, spiraling land and construction cost, high fees and taxes, unfavorable development norms, and low affordability are bottlenecks restricting desired growth in housing stock.

Affordable housing has been one of the focus areas for the government over the past few years. In the Union Budget 2017–18 the government has taken steps that are highlighted in Annexure C.

State Scenario - Uttar Pradesh

The growing pace of urbanization and spatial polarization of urban population in large cities in the state is creating pressure on housing and civic amenities. The total housing shortage during the 12th Five-Year Plan in urban areas of the State was estimated at 30 lakh dwelling units out of which about 90 per cent belonged to EWS, LIG, and MIG categories. The high urban growth entails considerable investment in housing. While the urban population is increasing rapidly, supply of serviced land and housing units is restricted leading to creation of sub-standard, illegal housing stock, and growth of slums. According to the Central Statistical Organization, the slum population of Uttar Pradesh was a little over 10 million in 2011 comprising 23.05 per cent of the total urban population. The main challenges thrown up by growing urbanization include

increasing slum population, acute shortage of affordable housing, shortage of potable drinking water supply, environmental problems like air, water and noise pollution, poor sanitation, increasing pressure on land, encroachments, haphazard urban growth, etc. Since affordable housing is a social obligation of the State, it requires innovative thinking and planning. Existing housing and infrastructure scenario calls for review of policies, rules and regulations, adopting innovative concepts, and promoting public–private partnerships (PPP) for provision of affordable housing along with related infrastructure.

The Uttar Pradesh Urban Housing and Habitat Policy lays down strategies to meet the ever-growing urban housing demand with a major focus on affordable housing. Various strategic interventions comprise integration of availability of land, infrastructure development, planning norms, building bye-laws, building materials, and resource mobilization, etc. The multipronged strategy envisaged in the state urban housing policy is as per Annexure D.

The state is spearheading the implementation of EWS and LIG Housing Policy as well as the Affordable Housing-in-Partnership (AHP) Scheme under the PMAY. The state government had formulated Hi-tech Township and Integrated Township policies to promote private investment in the housing sector with special emphasis on affordable housing by providing incentives in the form of land assembly, land use conversion, exemption from internal and external development charges, and granting exclusive development rights in the township license area. Six Hi-tech and 20 Integrated Townships are being developed. The progress of affordable housing under these projects is given in Annexure E.

Uttar Pradesh has also notified a land pooling scheme in order to enable land assembly for implementation of affordable housing schemes, in 2019. At present, land pooling schemes are under implementation by the Housing and Development Board and the development authorities. To reduce delays in plan approval and encourage affordable housing in the self-help sector, the Online Building Plan Approval System (OBPAS) has been made compulsory from September 2018 in the Housing and

Development Board and all the development authorities.

3. Affordable Housing Initiatives in Uttar Pradesh

3.1 EWS and LIG Housing Policy

A policy for providing affordable housing to the EWS and LIG categories was announced in 2013 in compliance with the National Urban Housing and Habitat Policy, 2007. The salient features of the policy have been mentioned in Annexure F.

3.2 Affordable Housing Policy

3.2.1 Objectives of the Policy

The major thrust of central and state urban housing policies earlier was to provide affordable housing to EWS and LIG categories but it did not cover affordable housing to lower-middle and middle-income groups which accounted for 60 per cent of the total urban housing demand during the 12th Five-Year Plan. Uttar Pradesh's Affordable Housing Policy was announced in 2014 to achieve outcomes as have been stated in Annexure G.

3.2.2 Approach to Affordable Housing

(i) The policy envisages minimization of dwelling unit cost through judicious integration of various elements, i.e., access to cheaper land, liberal and flexible planning norms, use of cost-effective materials, and technology.

(ii) Certain non-financial incentives like high FAR and density have been provided to the private developers to bring down the cost of land.

(iii) Affordable housing schemes under this policy can be implemented in urban as well as rural areas.

(iv) State government and its agencies, i.e., U.P. Housing and Development Board and the Development Authorities will play the role of facilitator and regulator.

3.2.3 Incentives to the Developers

Various incentives to private developers in UP are listed in Annexure H.

3.2.4 Role of the Government and its Agencies

Government agencies-the Housing and Development Board and the Development Authorities–are required to play the role of enabler and

facilitator as follows:-

(i) Government Agencies will ensure the availability of external services and transport linkages to affordable housing sites, if required.

(ii) Time-bound resumption of community lands and exemption to buy land above 12.5 acres under the U.P. Zamindari Abolition and Land Reform Act, 1950.

(iii) Promote the use of cost-effective building materials and technology to economize construction cost.

(iv) Facilitate convergence with centrally sponsored AHP Scheme (PMAY) and other state schemes.

(v) Monitoring and redressal of problems at Awas Bandhu level.

Under this scheme, 110 private developers were registered in Awas Bandhu. Detailed Project Reports (DPRs) of 42 AHPs were approved involving 332 acres of land, and construction of 35,427 houses. Various projects are under implementation at present in different cities of the state.

3.2.5 Possible Limitations of the Current Policy

(i) Non-availability of suitable land in residential use forced many developers to buy land in agriculture use. Though conversion of use from agriculture to residential is exempt from payment of conversion charges, the procedure for conversion of use in accordance with the applicable rules resulted in delays in the projects.

(ii) Land parcels selected by private developers in the periphery areas for implementation of their projects did not have off-site infrastructure due to which several projects could not be approved.

3.3 Affordable Housing-in-Partnership (PMAY)

PMAY was launched in June 2015 to build 20 million houses for EWS and LIG, targeting the urban housing problem through four models:– Insitu slum redevelopment, AHP, Credit Linked Subsidy Scheme (CLSS), and Beneficiary-led House Construction (BLC). The scheme provides financial assistance of ? . 2.50 lakh to every EWS unit out of which ? . 1.5 lakh is the Central share and ? . 1 lakh is the State share. AHP under the PMAY can be a mix of houses for different categories but it will be eligible

for central assistance, if at least 35 per cent of the houses in the project are for EWS category and a single project has at least 250 houses. Salient features of the Affordable Housing Scheme launched in the State in June 2018 are listed in Annexure I.

PMAY-AHP is being implemented by the U.P. Housing and Development Board, development authorities, and private developers. The combined targets and physical progress of the scheme is outlined in Annexure J.

Keeping in view the poor response from the private developers, the state government is contemplating modifying the existing policy to make it attractive for the private sector.

4. Critical Issues in Affordable Housing

There are various factors affecting the pace of affordable housing development in India as well as in Uttar Pradesh and restricting private sector participation. The key factors include the following:

(i) Lack of availability of land within city limits: The high population density, rapid urbanization, and poorly conceived regulations have created shortage in land parcels capable of development within city limits. Excessive controls over central parts of cities and difficulties in land recycling have resulted in a push toward the periphery. Land acquisition has been a thorny issue, giving rise to land mafias and illegal encroachments, and reducing the availability of land at an affordable price.

(ii) Scarcity of marketable land: Large tracts of centrally located urban land are owned by public entities-railways, industries, and defense. These are non-marketable pockets and lend themselves to the proliferation of slums and squatter settlements as the authorities are often unable to monitor their holdings.

(iii) Land titling issues: Not only Uttar Pradesh but the country as a whole lacks a robust system to protect land rights. There are two aspects to land titles: first, formal recognition of property rights by the State through a system of titles; and second, facilitation by the State, of efficient trade in rights, through a process of registration. Both of these elements exist in India but in incomplete forms. First, not all land transactions require

registration, for example, land acquisition, court decrees, mortgages, etc. Second, while Indian law requires compulsory registration of land sale, the registration authority is not mandated to verify history or ownership; thus it is the transaction and not the title that is registered.

(iv) Rising land and construction costs: Both land and construction costs have increased, compounded by price appreciation of construction materials and labor. From the customer's angle, obtaining finance is difficult even if the customers have regular incomes when they are employed in the unorganized sector as income proof is required in the loan process.

(v) Lack of employment opportunities: Lack of employment opportunities in the vicinity of affordable housing projects is discouraging allotment of these units to the targeted beneficiaries.

(vi) Lack of external infrastructure: Lack of external trunk infrastructure, social infrastructure, and connectivity through public transport, increases the cost of living thereby resulting in lower occupation of affordable housing schemes. Insufficient action in providing connectivity to external infrastructure by the authorities has forced many developers to abandon their projects.

(vii) Lack of beneficiary database: There is a lack of a proper beneficiary database to facilitate affordable housing developers/financing institutions to identify their target customers.

(viii) Lack of mainstreaming of low-cost technologies: Lack of mainstreaming of low-cost building materials and technologies by the government and its agencies has deterred the affordable housing projects to achieve economies of scale.

5. Opportunities and Policy Interventions

Development of large-scale affordable housing is the greatest necessity as well as a challenge to urban India today. Affordable housing can promise a solution to the proliferation of slums, unorganized real estate development, unplanned growth, and congested transit routes. It is vital that certain critical issues are addressed urgently to make affordable housing a possibility. The following policy interventions can reduce the cost of affordable housing and substantially narrow the affordable housing gap by 2025. These largely

market-oriented solutions-lowering the cost of land, construction, operations and maintenance, and financing-could make housing affordable for households earning 50 per cent-80 per cent of the median income:-

5.1 Unlocking Land Supply

Since land is usually the largest real-estate expense, securing it at appropriate locations can be the most effective way to reduce costs. Some of it may belong to the government and could be released for development or sold to buy land for affordable housing. The housing of low-income households is located largely on lands owned by public agencies. For affordable housing, interventions, such as using TDRs for land owned by the Railways or converting occupied public land into social rentals can augment land supply. Vacant land should also be identified and brought back into the land market. Private land can be brought forward for development through incentives, such as increasing the density of the FAR.

5.2 Incentivize Developers to Build Affordable Housing

Guidelines may be developed to grant free sale areas, extra FAR, and other policy measures so that real estate developers are incentivized. Schemes for redevelopment and slum rehabilitation should be developed with incentives that generate sufficient returns for the developers. The cost-benefit analysis of regulations should be carried out from a development perspective to ensure that schemes to facilitate the development of affordable housing are viable.

5.3 Streamline Land Records

Adequate availability of land should be ensured for housing and infrastructure by computerization of land records, use of Geographical Information Systems and efficient dispute redressal mechanisms.

5.4 Reducing Construction Costs

Project costs could be reduced by about 30 per cent and completion schedules shortened by about 40 per cent, if developers make use of value engineering (standardizing design) and industrial approaches, such as assembling buildings from prefabricated components manufactured off-site. Efficient procurement methods and other process improvements

would help. New technologies that can reduce construction and building maintenance costs, and ensure time-bound delivery of houses should be streamlined. Such strategies can reduce costs by 15 per cent –20 per cent per unit.

5.5 Guidelines for Identifying the Right Beneficiaries

There is a need to formulate guidelines that would help in identifying the right beneficiaries for affordable housing projects. This would require strengthening/creation of a city-wide database for EWS/LIG beneficiaries identifying their income levels, occupation, family size, and prospective work locations. The database should be made available to FIs and developers to help them understand, reach out to their prospective customers, and also ensure transparency in the allocation of housing units. The facility should also be provided for potential EWS/LIG customers to register themselves with a state level/city level agency and to express their interest to procure an affordable housing unit. This would help in ensuring the reach to right beneficiaries and avoid involvement of speculative investors into the projects.

5.6 Lowering Financing Costs for Buyers and Developers

Financial instruments underpinning affordable housing need to be made friendlier toward the urban poor and take into account their levels of financial literacy, capabilities, and inclusion. Governments could encourage microfinance companies to provide housing gap financing especially catering to the affordable housing segment. A developer rating system should be evolved based on the completion of similar projects in the past to reduce the perceived risk by FIs and lower the cost of construction finance. A re-think of the financial ecosystem and encouragement of poor-centric tools will not only potentially expand and revitalize a flagging finances industry but also has the ability to potentially reduce per unit housing costs.

5.7 Improved Operations and Maintenance

20-30 per cent of the cost of housing is operations and maintenance. Energy-efficiency retrofits, such as insulation and new windows, can cut these costs. Maintenance expenses can be reduced by helping owners find qualified suppliers (through registration and licensing) and by

consolidated purchasing. Setting up of a Resident Welfare Association (RWA) for external maintenance of affordable housing schemes should be made mandatory for the project developer. A revolving maintenance fund with an initial corpus may be created to cover maintenance costs for a long period.

5.8 Reducing Approval Time

It is critical for government to enable actually functional and efficient single-window clearance systems for affordable housing projects. Success in the affordable housing segment demands management of project cost and timelines to prevent cost-time overruns.

5.9 Enact Rental Housing Schemes

State policies should be designed to deliver and manage rental housing. Rental housing already represents a significant proportion of low-income housing practice hence, it must be acknowledged and encouraged by policies.

5.10 Promote Self Built Houses- *in situ* Upgrading

The advantage of self-built housing is that it is already located on land where key factors determining home locations-affordability, livelihood, work opportunities, and mobility-are already met. Income-poor urban residents make housing choices largely on the basis of work location. Self-built housing is a picture of tradeoffs, they are willing and able to make. However, the challenge is that self-built housing is located on land that is without legal security of tenure. Therefore, the key challenge is to find innovative ways to enable communities to gain the security of tenure on already existing self-built housing. Domestic and international cases– Ahmedabad, Bangkok, Venezuela, and Sao Paulo– point to the possibilities of large impacts through large-scale *in situ* upgrading.

5.11 Adopt Inclusionary Zoning

Zoning should be made more inclusive and particularly suitable for tackling the housing shortage in the country. Inclusionary zoning seeks to create the equivalent of the “Special Zone of Social Interest” (ZEIS, in Portuguese) used in Brazil. Mandatory reservation of land at the city, ward or even project level as mandated by affordable housing policies as

well as the National Housing and Habitat Policy, could effectively be made more secure if backed by special zoning allocations in project, ward and city-level plans.

Inclusionary zoning could also incorporate livelihood to create integrative, dynamic mixed-use spaces. Creating integrated mixed-use zones that see home and street as spaces of work as well as residence, therefore, would greatly increase access and mobility for low-income residents as well as bring their work into the sphere of legality, allowing both access to finance as well as the possibilities of expansion and infrastructural improvement.

5.12 Enhancing the Project Execution Ecosystem

This would require capacity building of developers through the promotion of knowledge-sharing platforms/forums to help them understand the best practices/models adopted in other states, adoption of low-cost construction technologies, and workable solutions to reduce construction costs, among others. Awareness should also be generated about low-cost technologies already piloted and demonstrated and guidance on rates and costs through authorized agencies (such as Public Works Department (PWD) Schedule of Rates). Moreover, bottlenecks in mainstreaming new technologies should be eliminated, by providing appropriate training and skills to the construction manpower, in emerging and low-cost technologies. New certification programs may be developed and implemented to ascertain the skill of the supervisory and managerial workforce in low-cost and emerging construction technologies.

5.13 Encourage Beneficiary Involvement

The current G+3 vertical model is unable to allow incremental growth and expansion as well as make space for work. Low-rise, high-density forms that have been successfully implemented earlier must be applied at scale within the new policy paradigm. It is imperative to move beyond the family-based housing unit toward community and flexible modes suited to, for example, migrant workers.

6. Conclusion

Providing affordable housing on a large scale is the greatest challenge in urban India today, promising a solution to the proliferation of slums, unorganized real estate development, unplanned growth, and transit congestion. It is vital that certain critical issues are addressed urgently to make affordable housing a possibility. On the demand side, the critical issues include identification of the right clientele, increasing reach through micromortgage financing mechanisms and self-help groups, and flexible paying mechanisms to cater to variable income flows. On the supply side, incentivizing through policy (extra FAR, free sale areas, etc.), schemes for slum redevelopment and rehabilitation, ensuring adequate availability of land, streamlining of land records, inclusion of mass housing zones in comprehensive development plans, encouragement to private participation and partnership, and single window clearance for smaller projects are necessary. Developers need to focus on the marketability of small formats with reduced down payments. Success in the affordable housing segment demands management of project cost and timelines so as to prevent cost-time overruns. Inadequate infrastructure is a challenge. As developments increasingly tend for suburban and semiurban locations, the concomitant development of connectivity and access by the public housing agencies becomes vital.

With respect to subsidies, while the continuation of targeted subsidies to low-income segments is advisable, enabling low-cost credit to low-income developers and housing finance companies (HFCs) would be beneficial. A robust industry calls for better customer education, more transparency, and better communication. Industry associations, international development agencies, and practitioners should collaborate periodically to monitor the market, disseminate information, and provide feedback to both the industry and the general public. Affordable housing thus calls for a collaborative, multipronged, and concerted effort from all stakeholders.

ANNEXURES

Annexure A

The Ministry of Housing and Urban Poverty Alleviation, Government of India in its 2011 report, takes note of both income and size criteria to define the concept of Affordability is given below:

Category	Size of Dwelling Unit	EMI or Rent
EWS	Minimum of 300 sq. ft. super built-up area	Not exceeding 30 per cent - 40 per cent of gross monthly income of buyer
	Minimum of 269 sq. ft. (25 sq. m.) carpet area	
LIG	Minimum of 500 sq. ft. super built-up area	
	Maximum of 517 sq. ft. (48 sq. m.) carpet area	
MIG	600–1200 sq. ft. super built-up area	
	Maximum of 861 sq. ft. (80 sq. m.) carpet area	

EWS: economically weaker sections; LIG: low-income group; MIG: middle-income group.

Source: Ministry of Housing and Urban Poverty Alleviation, 2011

Annexure B

The current situation of housing across the globe as per an estimate of McKinsey Global Institute is highlighted below:-

- 330 million urban households around the world live in substandard housing or are financially stretched by housing costs;
- 200 million households in the developing world live in slums;
- In developed economies, like the United States, Europe, Japan, and Australia, more than 60 million households are financially stretched by housing costs;
- Based on current trends in urban migration and income growth, it is estimated that by 2025, about 440 million urban households around the world– at least 1.6 billion people– would occupy crowded, inadequate, and unsafe housing or will be financially stretched.

Variouscountries around the world have adopted different strategies to address the problem of affordable housing. Countries, such as Singapore, the Netherlands, Sweden, and Denmark, follow the universal approach, whereby

the entire population is provided with acceptable and affordable housing. More common is the targeted approach of countries like Canada, Malaysia, USA, and most of the European Union, wherein weaker sections are the focus so that they would not get excluded from the housing market. Both supply-side (public housing or assistance to developers) and demand-side subsidies (periodic cash allowances or capital grants to support housing costs) are common practice; ranging from subsidized rentals in the Netherlands to subsidized ownership in Spain. Many countries combine rental and ownership schemes. Private participation is encouraged in various ways: higher densities are permitted in the USA, mixed-use housing in the UK, and fee waivers and fast-tracking procedures in Malaysia and Canada. Malaysia has also established public–private partnerships (PPPs) with role definitions for the public (land and procedures) and private players (finance and execution). California has emerged as a leading state in the USA with a comprehensive legislative package for low-income housing with inclusionary zoning. Singapore and Hong Kong have experimented successfully with commercial low-cost cross-subsidization.

Annexure C

Affordable housing has been one of the focus areas for the government over the past few years. In the Union Budget 2017–18, the government has taken steps as given below:

(i) Granted infrastructure status to affordable housing– Infrastructural status will help affordable housing developers to avail funds from different channels, like external commercial borrowings (ECB), foreign venture capital investors (FVCI), and foreign portfolio investors (FPIs).

(ii) Increased the time for project completion to affordable housing promoters from earlier 3 to 5 years.

(iii) Provided 1-year time to developers to pay tax on notional rental income on completed but unsold units.

(iv) Reduced the tenure for long-term capital gains for affordable housing from 3 to 2 years.

(v) Revised the qualifying criteria for affordable housing from the saleable area to the carpet area.

(vi) Enhanced the refinancing facility by National Housing Bank (NHB) for individual loans for the affordable housing segment;

(vii) The GST Council has reduced tax rates for affordable housing from 8 per cent to just 1 per cent. The Council has also enhanced the ceiling value of affordable housing to ? .45 lakh.

(viii) Affordable houses in terms of carpet area are defined as 90 sq. m. in nonmetropolitan cities and 60 sq. m. in metropolitan cities with a ceiling value of ? .45 lakh in both cases.

(ix) As per the RBI incentive measures, the cost of affordable residential property should be less than ? .65 lakh in metro cities and ? .50 lakh in nonmetros.

Annexure D

The multipronged strategy envisaged in the state urban housing policy includes:-

(i) Provision of minimum 20 per cent houses to EWS and LIG categories (10 per cent each) as per the norms and ceiling cost fixed by the state government through cross-subsidization in all the new housing schemes of public, private, and cooperative sectors.

(ii) Implementation of Affordable Housing-in-Partnership under the PMAY.

(iii) Insitu redevelopment of slum areas by providing incentives to the private developers in the form of TDR.

(iv) Facilitate convergence of various Central and State sponsored schemes to optimize financial resources.

(v) Regularization of illegal colonies and provision of basic infrastructure to improve the quality of life.

(vi) Adoption of low-cost building materials and cost-effective construction techniques in EWS and LIG housing schemes.

(vii)Encourage self-help housing through public housing agencies like U.P. Housing and Development Board and the Development Authorities.

(viii)Simplification of the regulatory regime to promote development of affordable housing.

(ix) Promote affordable housing through public-privatepartnerships.

Annexure E

UP had formulated Hi-tech Township and Integrated Township Policies to promote private investment in the housing sector with special emphasis on affordable housing by providing incentives in the form of land assembly, land use conversion, exemption from internal and external development charges, and granting exclusive development rights in the township license area. Six Hi-tech and 20 Integrated Townships are being developed. Progress of affordable housing under these projects is given as:

Sl. No.	Project Type	No. of Townships	Area (Acres)	No. of Affordable Houses (Completed/Under Progress)	
				EWS	LIG
1.	Hi-tech Township	06	22,010	6,025	7,846
2.	Integrated Township	20	4,828	4,657	4,367

Source: Awas Bandhu Monthly Progress Report–March, 2019

Annexure F

Policy for providing affordable housing to the EWS and LIG categories was announced in 2013 in compliance with the National Urban Housing and Habitat Policy – 2007. Salient features of the policy are:-

(i) It has been made compulsory to provide a minimum 20 per cent houses for EWS and LIG (10 per cent each) in all public and private sector new housing schemes having with an area of 10 acres and more.

(ii) In case, area of scheme is less than 10 acres, private developers may pay shelter fee at the prescribed rates in lieu of construction of EWS / LIG houses.

(iii) FAR equivalent to the total floor area of EWS and LIG houses shall be permissible to the developers as an incentive for cross-subsidization.

(iv) Income limits and ceiling cost of dwelling units for EWS / LIG shall be as per the norms / guidelines prescribed by the Government of India.

(v) Selection of beneficiaries and allotment of houses shall be carried out by a committee constituted by the State Government.

Annexure G

The UP Affordable Housing Policy was announced in 2014 to achieve as per Annexure G the following objectives:-

(i) To augment the supply of affordable housing to lower-middle and middle-income groups by providing incentives to private developers.

(ii) To provide minimum two-room accommodation with kitchen, bath, toilet, and balcony within a maximum ceiling cost of ? .30 lakh.

(iii) To control the proliferation of slums and illegal colonies through the institutional arrangement for the provision of affordable housing.

(iv) To rationalize and simplify the regulatory regime to create an enabling environment for the implementation of affordable housing projects through the private sector.

Annexure H

Various incentives to private developers in UP include:-

(i) Complete Exemption from External Development Charges.

(ii) Stamp duty exemption on the purchase of raw land as per the applicable laws.

(iii) Complete exemption from land use conversion charges from "agriculture" to "residential" land use in the master plan.

(iv) Single window project approval through Awas Bandhu, Uttar Pradesh.

(v) 2.5 FAR on total scheme area with a density of 500 dwelling units for hectare.

(vi) Reduced parking norms for affordable housing segment especially EWS and LIG housing.

(vii) Land Pooling and Developer Agreement permissible for assembly of land for affordable housing schemes.

Annexure I

Salient features of the Affordable Housing Scheme launched in the State in June 2018 are as follows:-

(i) Minimum and maximum carpet area of EWS unit shall be 22.77 sq. m. and 30 sq. m., respectively.

(ii) In addition to a minimum 35 per cent EWS units, housing for other / high groups and commercial, institutional, and community facilities can also be provided.

(iii) Developers are permissible high FAR (2.5) and density (600 dwelling units per hectare) and 10 per cent of the FAR may be used for commercial purpose. Besides, 1.0 FAR is permissible free-of-cost in the form of TDR.

(iv) There is a complete exemption from land use conversion charges for conversion to residential use.

(v) There is a 50 per cent exemption from external development fee in metropolitan cities and 75 per cent exemption in other cities of the State.

Annexure J

PMAY-AHP is being implemented by U.P. Housing and Development Board, development authorities, and private developers. The combined targets and physical progress of the scheme is:

Financial Year	Targets (Number of Houses)	Under Progress (Number of Houses)
2018–19	1,50,000	1,10,856
2019–20	2,00,000	4,354
2020–21	50,000	–

Source: Awas Bandhu Monthly Progress Report–March, 2019

Bibliography

Policy documents, Conference papers, Internet / Web sources:

Housing and Urban Planning Department, *Affordable Housing Policy*, 2014, Government of Uttar Pradesh.

Housing and Urban Planning Department, *Affordable Housing-in-Partnership under the Pradhan MantriAwasYojana (PMAY)*, 2018, Government of Uttar Pradesh.

Ministry of Housing and Urban Poverty Alleviation, *Pradhan Mantri Awas Yojana Housing for all (Urban) Scheme Guidelines*, 2016, Government of India.

Housing and Urban Planning Department, *Government of India State Urban Housing and Habitat Policy*, 2014, Government of Uttar Pradesh.

Ministry of Housing and Urban Poverty Alleviation, *National Urban Housing and Habitat Policy*, 2007, Government of India.

Ministry of Housing and Urban Affairs, *National Urban Policy Framework*, 2018, Government of India.

Yadav R., *Affordable Housing Hype or Happenin*g, Retrieved from: https://edelweissmf.com

Pranavant, Udgirkar V., Pandurangi A., *Mainstreaming Affordable Housing in India*, Retrieved from: https://www2.deloitte.com

Woetzel J. M., Ram S., Garemo N., Sankhe S., *Tackling the World's Affordable Housing Challenge*, McKinsey and company, McKinsey Global Institute, Retrieved from: https://www.mckinsey.com

Woetzel J. M., Ram S., Garemo N., Sankhe S., *A Blueprint for Addressing the Global Affordable Housing Challenge*, McKinsey Global Institute, Retrieved from: https://www.mckinsey.com

Himadri M., Nanavaty M., Chakraborty S. D., Mitra S., Limaye A., *Affordable Housing in India-An Inclusive Approach to Sheltering the Bottom of the Pyramid*, Retrieved from: http://mhfcindia.com

Tajo J., *Initiatives for Affordable Housing*, Retrieved from: https://www.indianeconomy.net

Gopalan K., Venkatraman M., *Affordable Housing: Policy and Practice in India*, Retrieved from: https://www.sciencedirect.com

Nitin Ramesh Gokarn

The author is an I.A.S. officer of the 1990 batch, Uttar Pradesh cadre and was posted as Principal Secretary, Housing and Urban Planning Department, Government of Uttar Pradesh at the time of writing this policy paper.

Policy Framework on Program and Project Management

Alkesh Kumar Sharma

Abstract

The Infrastructure sector is one of the key drivers in the Indian economy. The sector is responsible for propelling India's overall development and enjoys priority focus from Government for initiating policies that would ensure time-bound creation of world class infrastructure in the country.

India is among the most favoured investment destinations of the world. With the introduction of favourable policy initiatives like "Make in India", flexible FDI norms and technological advancement, the Indian economy is expected to grow at an even faster rate. As of April 2018, The International Monetary Fund (IMF) predicted an accelerated Gross Domestic Product (GDP) growth rate from 6.6 per cent in 2017 to 7.2 per cent in the current fiscal year. According to multilateral funding agency estimates, India's medium-term growth prospects are favourable, with growth expected to rise to about 8 per cent due to implementation of key reforms, loosening of supply-side bottlenecks, and appropriate fiscal and monetary policies.

Common issues facing most projects, particularly government-sponsored projects, are time delays and cost overruns. Any industrial activity in India requires multiple clearances from the time that the project is conceived to commissioning of the project. Implementation status of most of the projects points out the gaps in the application of project management practices. Therefore, learning and utilizing project management experience is crucial for India to continue on its high-growth trajectory in the coming years.

While organizations are realizing the need for structured project management, many are looking at short-term programs to enhance the skill sets of their existing project teams.

Traditional project management practices need refurbishment with modern tools and techniques and need to be acclimatized to an atmosphere of agility, disruptive thinking, diversity of experiences, age, genders and geography, real-time communication, real-

time data management, social media and internet of things, and above all skilled workforce. Thus, there is a need for an enabling policy framework to mainstream the field of Programme/Project Management in the country for more effective project delivery. The policy framework should consider global best standards on Project/Program management, and prescribe procedures and guidelines for effective project execution of governments/public sector and public–private partnership (PPP) projects. An enabling institutional framework should be set up through the policy framework to assist in developing and running project management courses in the senior school level curriculum, which would help in developing and preparing an industry-ready workforce.

Project Management – Current Scenario

The Government of India (GoI) has set ambitious growth plans and committed massive investment of about INR 5.97 lakh crore[1] in the infrastructure sector in the current year. Further, it is estimated that approximately INR 304 lakh crore[2] of investment is required in the Indian infrastructure sector till 2040 in order to sustain the country's development.

Likewise, various critical infrastructure mega programs like Power for All, Bharatmala (an estimated cost of INR 5.35 lakh crore for Phase 1), Sagarmala (a total outlay of INR 8 lakh crore), Smart Cities mission (a total investment of INR 203,172 crore), Industrial Corridors (INR 6 lakh crore),Housing for All, Swachh Bharat Mission, Atal Mission for Rejuvenation and Urban Transformation (AMRUT), etc.,have been launched with an objective to build world-class infrastructure in the country. However, the track record of completing projects on time is abysmal. There are multiple challenges attributed including regulatory clearances, land acquisition, Resettlement and Rehabilitation, etc.

A recent report of the Ministry of Statistics and Programme Implementation (MoSPI) released in December 2018 has reviewed 1424 central infrastructure sector projects worth INR 150 crore and above and has observed that more than 25 per cent of central sector projects were delayed beyond their scheduled date of completion, and there has been a significant cost overrun of over INR 3.17 lakh crore in these projects.

[1]Union budget 2018-19 Report
[2]Economic Survey 2017-18, Ministry of Finance, Govt. of India

The Government has set up various mechanisms to tide over such obstacles. However, one aspect which needs attention is the successful adoption of globally accepted Project and Program Management (PPM) practices. The country is in the transformation phase and with such large-scale initiatives planned, there is a growing demand for structured project and program management practices in order to implement and manage these programs. When implemented successfully, PPM can bring in synergies, integration, and a common language to all complex program initiatives of the GoI.

PPM best practices need to be maximized when resources are limited so that they effectively respond to changing project requirements. Delayed projects also mean cost escalation and delay in the benefits of the projects to society. Moreover, India will need 70 lakh[3] skilled project managers in the next 10 years in order to avoid delays and escalation of budgets in projects in key industries like Roads, Railways, IT, and manufacturing. The conventional approach to project delivery in India has been highlighted at "Annexure-A."

Issues and Challenges in the Project Implementation Model in India

Key Issues

A number of issues have been encountered with the current methods of project delivery across different sectors. Some of the key challenges faced during project delivery include uncertainties in the land acquisition and regulatory approvals, lack of comprehensive upfront planning and risk management, and most importantly, low maturity of project management processes to adequately plan for such factors. To counter this, significant front-end efforts should be invested in pre-project activities in order to reduce uncertainties / risk factors during execution and enhance the reliability on project budget and schedule.

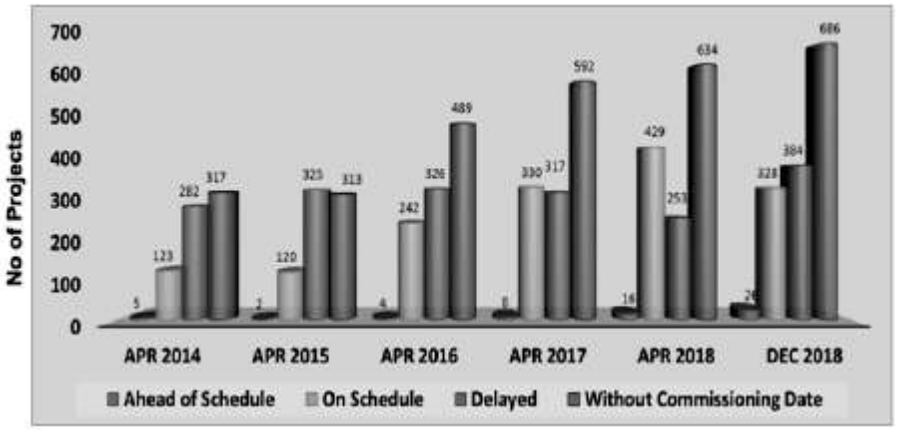
Other issues which hamper timely completion of projects include, but are not limited to, non-availability of raw materials, unavailability of skilled workers (masons, carpenters, etc.), lack of water and power supply, an incomplete supply of drawings, and frequent changes in design. Due to the local issues and lack of proper project planning and controls, the effective project delivery

[3]Project Management Institute (PMI) report - "Project Management Job Growth and Talent Gap 2017-20–27"

schedule gets delayed creating an overall impact on the economy.

One of the major issues faced in implementation of urban infrastructure projects includes the challenge of lack of comprehensive planning and management by Urban Local Bodies (ULBs), as well as lack of capacity in Local Self-Government Institutions.

Trends in Projects over the Last Five Years:



MOPSI – Project Implementation Overview –December 2018

The latest MOSPI Flash Report December 2018, containing information on the status of 1424 Central Sector Infrastructure Projects costing Rs. 150 crore and above, brings to light the number of projects delays and cost overrun amount, and the same is alarming

In short, poor project management costs the Government in many ways, including:

- Additional expenditure burden due to increased costs, which crowds out funding for more deserving projects,
- Creating a culture of acceptance of delays and avoidable costs, which causes more cases to occur,
- Economic burden due to delayed return in investments,
- Increased cost of procurement due to monetization of higher risks perceived by contractors such as delay and scope creep associated with public funded projects.

Challenges

The major challenge faced during project implementation is that insufficient

attention, time and expertise is devoted during the project planning stage which leads to huge time and cost overruns. It is very much required to carry out effective initial research before a project is implemented, including site investigation and risk analysis. This will reduce the likelihood of time and cost overruns occurring later on. Land acquisition and the necessary regulatory clearances should also be processed before the project is implemented or else these tasks will consume the project timelines and hamper the delivery outcomes.

The quality of project management team overseeing the projects is also essential to regulate. The project managers must be approved by the project implementing agency, which will also evaluate the project manager and find them capable based on the skills necessary to deliver the project. Communication between the implementing agency and the contractor must increase in frequency, through weekly meetings between the two parties where key issues and/or delays are addressed. A healthy relationship between the agency and the contractor is beneficial, which can be achieved through training and orientation of the staff before the project begins. The timely completion of projects must be incentivized to encourage the establishment of a culture in which effective project delivery occurs.

For instance, in case of the Government of the United Kingdom, the Infrastructure and Projects Authority (IPA) which is the Govt. of the UK's center of expertise for infrastructure and major projects places emphasis on the overall project delivery system, which includes the project as a whole, as well as the people and processes that work together to create the best environment for successful completion. The IPA prioritizes the effective delivery of projects through the establishment of five core teams (Finance and International, Operations, Project Profession and Standards, Strategy and Policy, and Infrastructure Delivery) that address each aspect of the implementation of a large project. Overall, the introduction of a regulatory body to monitor project progress encourages efficiency and minimizes the risk of time and cost overruns. Additionally, many of the regulatory bodies are also in charge of planning and monitoring day-to-day tasks during the construction of a project, which is essential to ensure that all aspects of the project are addressed appropriately.

(The cases of best practices across these countries have been compiled at "Annexure-B.")

Project Review/Monitoring Frameworks in India

Govt. of India has introduced online monitoring systems for the review / monitoring all the large-scale infrastructure projects in the country. These platforms include:

- Online Computerised Monitoring System (OCMS) of MOSPI
- eSuvidha-Project Management System (ePMS) administered by Project Monitoring Group (PMG)
- Programme Implementation Wing (Prime Minister's Office, GOI): Pro-Active Governance and Timely Implementation - PRAGATI

In addition, many states have set up infrastructure departments, paving the way for speedy project implementation. MOSPI, PMO / PMG, and PRAGATI platform have different activities of project management and monitoring. The tools adopted are more of Management Information System (MIS) / escalation management. It is important that the Project Management Information System (PMIS) be used by the implementing agencies and in turn integrated with OCMS to provide near real-time information related to the project. More importantly, for effective tracking and monitoring of key public projects, there should be a single cell established at the national level.

The Project/Program Management Approach

Owing to advancing technologies and a more global approach, various private and government organizations have adopted the ambitious approach of achieving effective project delivery through holistic project management techniques. Effective project management techniques are those that include values, such as transparency and accountability, efficiency and the effective use of resources, improved implementation of policy, and the maintenance of public confidence. The private sector has responded to the increased demand for project management through the establishment of International Project Management Association (IPMA), which is an International Project Management Training and Education Association with members from over 60 countries. IPMA promotes the project management profession, while establishing standard guidelines for project management known as the IPMA

Competence Baseline (ICB). The Project Management guidelines have brought about definite positive results in the project delivery systems in some of the leading developed and developing nations. The Project Management tools for successful delivery of projects have been briefed in "Annexure-C."

Program Management

In the case of Industrial Corridor Projects, where Greenfield Smart Cities are being created and thus, mega infrastructure projects are being implemented simultaneously, the concept of holistic project management called "Program Management" has been introduced.

Program Management is a disciplined, systematic orchestration of human resources, time, money, and information to plan, design, construct, and deliver a collection of projects in a coordinated way, in order to obtain benefits for the owner not available if these projects were managed separately. Program Management uses well defined and proven business, project delivery processes, and tools to achieve the overall mission objectives within specified time and budget constraints.

Program Management is typically applied when the identified mission involves a significant expenditure of resources, involves the integration of disparate activities (e.g., a total of 9 different disciplines have to be integrated during city building), requires achievement of extraordinary objectives and has demanding performance on schedule, budget, quality, or service.

The benefits of Program Management and the lessons learnt have been summarized at "Annexure-D."

Focus on adoption of Program Management practices is more critical in mega projects, where the level and importance of stakeholder engagement is more complex and it requires a much higher level of skill and capability. A case study of one such mega complex project involving multiple infrastructure projects within and various stakeholders-Shendra Industrial Area, a Greenfield Industrial Smart City Project under Delhi Mumbai Industrial Corridor Project (DMIC) Project is discussed in "Annexure-E."

Recommended Policy Framework

Introduction of a new Policy framework to mainstream Programme / Project

Management and make it mandatory for all projects to follow the principles of advanced Project Management.

- Managing projects in India is challenging in view of the complexities in managing stakeholders that cut across various states and central government and numerous infrastructure and regulatory frameworks. It is recommended to develop a National Project Management Policy Framework considering the specific issues and requirements of the nation as whole – such as contracts in public / private / state sector, infrastructure, health, safety and environmental issues, CSR requirements, etc.
- To review and monitor the status of implementation of major public-sector / private / PPP projects undertaken in the country across all sectors, a high-level committee authoritative body comprises heads of the top Infrastructure Ministries like Urban and Housing, Roads and Highways, Environment, Steel, Power, Railways, etc., may be formed.
- The aim is to create a centralized mechanism for monitoring of the large-scale projects (Central / State) in the country at an apex level through an apex body and which will also target the integration of existing monitoring mechanisms like PRAGATI / OCMS, etc.
- The apex body may be assisted by a team of experts in infrastructure, project finance, delivery, and legal sectors with expertise in project and programme management. The professional project management team will work with different Government Ministries / Departments including members from MOSPI and PMG and other stakeholders to monitor these projects on real-time basis for on-time delivery.
- It is proposed to allocate sufficient funding for Project Management support to implement this policy framework.
- The projects may be analyzed based on size and prioritized based on the national importance, amount of investment, impact on society at large, etc.
- As is the case of Chartered Accountants and Company Secretaries, it is proposed that a separate autonomous body may be set up for developing

project management as a profession suitable for Indian scenario. It is suggested that a National Institute of Chartered Project Professionals (NICPP) may be established which would become the nodal agency for overseeing the growth of project management profession and to create competent project professionals in the country. The role and functions of NICPP is detailed out in "Annexure-F."

ANNEXURES

Annexure A

Approach to Projects Delivery in India

Project delivery method is defined as a process by which the components of design and construction, including the roles and responsibilities, a sequence of activities, cost of materials and equipment, and labor are combined to deliver a project. Conventionally, infrastructure projects have been split up into multiple separate work packages. A work package is a group of related tasks within a project, which can also be defined as sub-projects within a larger project.

Project delivery systems are defined by the official involvement of participants / contractors, level of integration, and contractual relationships between project parties. Some of the project delivery systems widely used in the conventional Indian approach are:

- Construction Management at Risk: (Guaranteed Maximum Price/Open Book Contract)
    - A delivery method that entails a commitment by the construction manager to deliver the project within a guaranteed maximum price.
- Design-Build
    - The owner manages only one contract with a single point of responsibility.
    - The designer and the contractor work together, from the beginning as a team to provide unified project recommendations to fit the owner's schedule and budget.
- Design-Bid-Build
    - The owner selects and enters into a contract with a design professional / architect.
    - The architect fully creates the design and provides "bid documents" that are made available to general contractors for competitive bids.
    - The contractor so appointed then builds the project.
- Engineer-Procure-Construct (EPC)
    - The Engineer and Construction contractor will carry out the detailed

engineering design of the project, procure all the equipment and raw materials required and then, will deliver a functioning facility or asset to their client.

- Engineer-Procure-Construction Management (EPCM)
  - The EPCM contractor provides engineering, procurement, construction, and management services, but the employer directly employs construction contractors to build the project. The EPCM contractor usually manages the construction contractors for the employer and is more like a professional consultant than a contractor, providing design and construction advice (rather than building the project itself).

Annexure B

Case Studies on Effective Project Management Practices (PMP)

The Kingdom of Saudi Arabia: (Saudi Vision 2030)

Without a clearly outlined Project Management Guideline, the Kingdom of Saudi Arabia faced many issues in achieving the objectives set out in its National Development Strategy known as Saudi Vision 2030. Saudi Vision 2030 has a number of programs targeting the Financial Sector, Quality of Life, Privatization, Public Investment, and Fiscal Balance. To achieve such an ambitious goal without a clear set of Project Management Guidelines for each program to follow was not feasible. Additionally, without a clear set of guidelines standardizing the quality and intended timeline of a project, contracts were awarded on a lowest-price basis, which meant that at times the most effective contractor was not hired. The long-term impact of this means that the quality of projects is compromised. To combat this, the Kingdom established a new National Project Management Office (NPMO) which envisaged to outline a standard approach to managing projects in an effective manner.

The new NPMO then created a standardized organizational model, which government entities in the Kingdom would implement and follow. Each entity would set up its own Entity Project Management Office (EPMO). Each EPMO will be established and run by a Management Consultant, and each office will develop a strategic planning procedure to outline five-year infrastructure plans. These five-year strategic plans are then sent to the NPMO, which uses this information to consolidate a National Integrated Infrastructure Plan.

The NPMO will provide mandatory guidelines for all procedures in the project, which will be implemented by each EPMO. The effectiveness of this new strategy is then evaluated by the NPMO. The outcomes of establishing a set of guidelines means that the risk of unnecessary investments and additional costs is significantly reduced. Additionally, the initial planning stage of a project will become notably more effective, where factors such as location, accessibility of services and other important considerations will occur before the engineering phase begins.

Another issue, which was faced during the implementation of projects before the NPMO was set up, was the lack of effective knowledge transfer during the commissioning phase. To combat this issue, the NPMO will provide training to the entity the project is being handed over to, to encourage self-sufficiency and long-term sustainability. Furthermore, management consultants brought into work in the EPMOs will be required to work with new graduates and existing Ministry Staff as part of their training. The company managing the programme will then be held accountable for assigning individuals to roles that they are best suited for based on their performance, along with providing them with an individual career development plan. These plans are submitted to the NPMO to ensure that effective knowledge transfer is occurring at every level.

The NPMO Program of activities intends to deliver the following objectives:

1. The alignment of national standards and methodologies through a universal policy,
2. The enablement of EPMOs to provide training and guidance to improve their capabilities,
3. Support provided to the EPMOs through resources to execute their alignment requirements.
4. The evaluation of the effectiveness of each EPMO in terms of how their execution compares to national standards and the monitoring of their critical project performance.

As of May 22, 2018, the IMF Staff that visited Saudi Arabia to issue a preliminary report concluded the following:

(1) Growth is expected to increase this year as the reforms implemented take hold,

(2) Good progress is being made in implementing the reform program to increase nonoil-based revenue, in which one of the primary challenges remains in sustaining the undertaking of the reforms.

Project Management Guidelines and Training in China

In 1991, the Chinese Government introduced the Project Management Research Committee, which provided education and training in Project Management. This was mandatory for projects to be delivered effectively in

China's rapidly expanding industrial sector. During the latter half of 2001, the International Project Management Professional (IPMP) certification was introduced into China, which allowed for envisaged projects to become more complex, and for the areas of application of such projects to increase.

Project Management Research Committee (PMRC): The main objectives of the PMRC are to promote the Project Management Professionalism (PMP) certification, and to facilitate the dissemination and sharing of professional information on both a domestic and international basis.

Membership of the committee encompasses both the individual and the bodies involved in project management, both academically and practically across various sectors. PMRC is a member of the IPMA since 1996.

The PMRC has been authorized to provide various forms of education and to set up a number of institutions to encourage education and training in project management. The committee has been authorized to operate the IPMP in China. Additionally, PMRC has localized the International Competence Baselines (ICB) in China, which encourages accountability and higher quality in project delivery for projects in China. China's success in introducing the IPMP is evident as more than 50 Authorized IPMP certification agents in 16 different industrial sectors are operating in China from 2004.

Annexure C

Project Management Tools for Success

The issues faced during project delivery can be resolved with management principles as under:

(1) Investment in Planning: Investing more during the planning and design stage will reduce the time and cost incurred, as it reduces the number of unforeseen setbacks that may occur and lowers the probability of design errors.

(2) Prioritizing delivering a project on time: Adhering to the timeline defined for a project should be a priority. Essential resources should be delivered based on the importance of the project to aid with this objective.

(3) Accountability: The contractor should be held accountable for the quality of the services they provide irrespective of the quantum and magnitude.

(4) Rewarding Superior Performance: Delivering a high-quality project should be incentivized.

(5) Education in Project Management: Human resources at both levels including the contractor and client should be adequately skilled and certified professional in projects.

(6) Efficiency: Communication is essential to ensure that effective and timely decisions are made regarding a project.

(7) Effective Governance: The successful implementation of projects needs effective horizontal and vertical coordination between various institutions that are involved in the project.

(8) Capacity Building: It is essential to educate the involved agencies in sector specific technical expertise, as well as training in how to manage projects.

Annexure D

Benefits of a Program Management Approach

The rigorous application of the proven processes and tools of Program Management have allowed Owners to exercise a greater level of control over complex and inter-related sets of projects and activities that span many years. This control allows the coordinated management of risks and change as the delivery details are implemented. It also results in a "no surprises" delivery as project objectives are effectively and efficiently achieved.

Typical benefits of Program Management include the following:

Reduced Costs

Coordinated management of the many diverse activities required to achieve program objectives has been demonstrated to reduce the “hard” costs of construction and also the “soft” costs of planning, engineering, and administration.

- Hard costs are reduced by a variety of methods. Coordinated planning and prioritization of all program elements result in the selection of the most appropriate approaches to achieve program objectives. For example, in case of development of Dholera Special Investment Region (DSIR) under the DMIC in India, the Program Managers team were able to eliminate a complete treatment plant in the year 2030 by adopting a holistic approach to water management. The real savings is estimated at INR 767 Cr. Construction costs are also reduced through lower bid prices that result from coordinated contract phasing, selection of appropriate delivery approaches for each program element, and economies of scale resulting from design and with a unified, dedicated staff, applying proven material standardization. In DSIR, for the 10 contracts issued, the actual bids are on an average 7 per cent less than estimates. Hard costs are also reduced through lower change order costs resulting from rigorously applying proven risk management and change management techniques across the full spectrum of program activities. With 50 per cent of the INR 2800 Cr construction completed, the variation orders are less than 0.5 per cent against an industry standard of 2 per cent –3 per cent.

- Avoiding duplication of efforts that result from fragmented delivery approaches reduces soft costs. Implementing the program mission processes and tools has been demonstrated to improve performance outcomes while reducing the soft costs of program delivery by 10% or more. For example, in the case of city-level projects, programmatic policies and standards including BIM and GIS have saved engineering costs by reducing the duplication, each firm has to undertake if managed separately.
- Owners, who are not familiar with Program Management often ask, "How much is this going to cost me?" A more appropriate question would be to ask "how much is this going to save me?" Program Management is an "investment" which results in cost savings and lowers risks; it is therefore not a "cost,"

Improved Schedule Performance

Improved schedule performance does not always mean getting it done quicker. If quickness is the objective due to legal requirements, immediate growth pressures, or business opportunities, Program Management has been demonstrated to deliver quick results.

If the program is driven by a set of extended regulatory milestones, the control offered by Program Management can be applied to achieve milestones on schedule, but not earlier than needed, thus spreading out cash flow demands. If the program is in response to projected (but not immediate) requirements for service expansion, Program Management controls can be used to balance cash flow, matching payments out to revenue received, thereby maximizing the effective return on the investment.

Improved Quality

Quality management is the prime focus of a Program Management delivery approach. Benchmark quality management systems, whether they be "TQM," "6-Sigma," or others, all rely on the rigorous application of standardized systems by well-trained staff. Quality management applies quality principles in the following way:

- “Quality” is defined based on overall program mission and objectives, and the quality definition for each program and project activity is further

defined to ensure that each activity supports the quality goal of the mission.

- The quality program is developed and uniformly applied from the first steps of task identification through the final commissioning of the last program element. Since the approach is coordinated across all program activities, lessons learned are institutionalized, and the benefits accrue to all later activities.
- An overarching quality program allows the assignment of experienced quality management practitioners to implement a comprehensive quality system. In addition, the resources of a program team often provide access to subject matter experts that might not be available in a fragmented approach to project execution.

The Program Management delivery approach is ideally suited to develop a quality-based organization, committed to excellence in all aspects of implementation.

Emphasis on Risk Management

Another benefit of the program management approach is the alignment of the program and its supported objectives to organizational strategy. This involves having a risk management strategy that ensures effective management of any risk that can cause the program to be out of alignment with the organizational strategy. Such a risk management strategy includes defining program risk thresholds, performing initial program risk assessment, and developing a high-level program risk response strategy, as well as determining how risks will be communicated to strategic levels of the organization.

Focus on Benefits Management

Program Benefits Management includes processes for monitoring the program's ability to deliver against these benefits and outcomes. Its purpose is to focus program stakeholders (program sponsors, program managers, project managers, program team, program steering committee, and others) on the outcomes and benefits to be provided by the various activities conducted during the program's duration.

Ensuring Stakeholder Management

Stakeholder Management identifies and analyses stakeholder needs and

manages expectations and communications to foster stakeholder support. A stakeholder is an individual, group, or organization that may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project, program, or portfolio.

Stakeholders may be internal or external to the program and may have a positive or negative impact on the outcome of the program. Program and project managers need to be aware of the stakeholders' impact and level of influence to understand and address the changing environments of programs and projects. Stakeholders should be identified, analyzed, categorized, and monitored. Balancing stakeholder interests is important, considering their potential impact on program benefits realization or the inherent conflicting nature of their interests.

Change Management

Projects are intended to deliver specific results and attempt to constrain change to maintain cost, schedule, and scope requirements. Programs, on the other hand, leverage change in a way that protects or enhances the realization of the desired benefits. So, programs embrace and deliver change. Furthermore, while a project will lock down the design, the program will elaborate designs as the program is executed and more is learned along the way.

Role of a Program Manager

The program manager maintains responsibility for the leadership, conduct, and performance of a program and for building a program team that is capable of achieving program objectives and delivering anticipated program benefits.

A program manager (to preferably be a management / consultancy firm, can also be an individual depending on the size of the project(s)) will be responsible for:

(i) Managing multiple projects / programs at a macrolevel; (ii) To be assisted by several project managers (preferably a firm but can also be an individual depending on the size of the project); and (iii) Be responsible for managing individual projects at the microlevel.

Program manager and project managers are to be appointed by the concerned Authority and related expense also to be borne by the Authority.

Program managers maintain continuous alignment of program scope with strategic business objectives and make recommendations to modify the program to enhance effectiveness toward the business result or strategic intent.

A primary role of a program manager is to monitor the outputs and outcomes of a program's component activities and ensure that the program adapts appropriately to them in order to meet the organization’s strategic objectives.

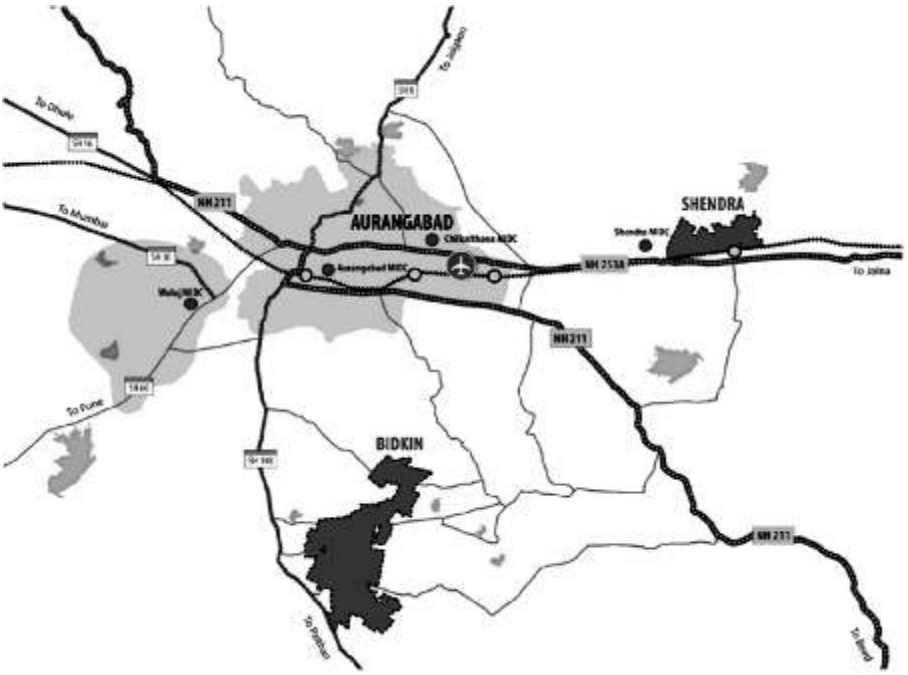
Annexure E

Shendra Industrial Area–Greenfield Industrial Smart City Project –A Case Study

Under the Delhi Mumbai Industrial Corridor Project, "Greenfield Industrial Smart Cities" matching global standards have been conceived to be developed, and currently four such cities are being implemented. These cities are the outcome of various infrastructure projects across different sectors like creation of trunk infrastructure, expressways, airports, logistics hubs, etc. The nature of these mega projects is quite complex in terms of managing a variety of stakeholders, contractors, construction activities, and day-to-day scheduling and planning, etc. The projects require a high level of resource efficiency, man-power, skills, and greater coordination among all concerned. To ensure day-to-day monitoring and resource planning, etc., for effective project delivery so as to avoid inordinate time and cost overruns, Programme Management Consultants (PMCs) have been engaged. The Programme Managers work in an integrated manner entwining all the projects and subprojects envisaged in the whole programme. These PMCs are now acting as an extended arm of the SPVs created to manage these cities. Apart from providing technical capacity to manage and monitor the day-to-day complex activities in these mega projects, the PMCs bring in best of world-class technologies and standards in the development strategy of the industrial cities.

The PMCs act as an in-house core technical teams in the SPVs to effectively plan and monitor all required activities in the delivery of the project right from conceiving the project to implementation and final allotment and monitoring. The PMCs constitute a team of technical experts ranging from engineers, schedulers, planners, architects, etc., headed by a Project Manager. The technical team also is equipped with Project Managers in different sectors for effective management of separate complex projects, e.g., EPC contract for construction of roads, services and utilities, Water Treatment Plant (WTP), Sewerage Treatment Plant (STP), etc.

Owing to the highly complex nature of such projects, the "Hybrid Model" of Project Management is usually followed wherein the traditional approach is formalized through a technologically driven and more agile management practice.



Total Area	Target Employment	Target Population
84 sq.km	0.75 Million	0.5 Million

Total area in Phase-1	Total Approved Project Cost for Shendra Bidkin IA -
40.0 sq.km	7947.45 INR crore

Shendra Industrial Area – Project at a Glance

The Shendra Bidkin Industrial Area(SBIA) is located in the south-east of the city of Aurangabad with connectivity from SH-148 (Paithan Road), SH-178 (Jalna Road), and National Highway (NH) 211. The delineated land spreads over 25 villages in Aurangabad and Paithan tehsils.

Project Components:

- Roads and Utility Services;
- Rail Over Bridges (ROBs);
- Sewage Treatment Plant (STP), Common Effluent Treatment Plant (CETP), and Solid Waste Management (SWM);
- District Administrative Building (DAB) for SBIA; and
- Area Landscaping for Phase-I of SBIA.

In the case of development and implementation of SIA, Aurangabad in Maharashtra under DMIC Project, the Programme Managers have been able to achieve timely delivery of city infrastructure works under the contractual period without cost overruns. The PMC has set an exemplary case ensuring the best standards and practices which can be set as benchmark for future projects. The allotment of land has already started in Shendra Industrial Area, where 45 plots have been allotted to different industries. Some of the salient Project Management Practices followed are as given below: -

- The key stakeholders of the project were identified early and the vision and end goal that were mutually established followed by the vision implementation plan. This was made binding on all. A 100-day implementation plan was developed which set the way forward.
- Identified key staff from the PMC team and held workshops to explain the vision and goal. Then individual assignments were given to all the concerned.
- Majority of projects fail due to lack of project planning and not aligning the schedule and budget with vision. The team in Shendra–Bidkin Industrial Area, spent 3 months in planning and developing an implementation schedule. The whole planning and preliminary design worktook almost 11 months resulting in the implementation to be completed within 24 months which normally would have taken 40 months to complete. The result was that the project was completed within the budget and with no additional change orders.
- The critical path was determined early during the planning stage, and measures were taken which gave the float for utilities and allowed the contractor to work on multiple fronts
- Document control system, i.e., MIS was implemented from day 1 for all the projects and tracking was done live.
- Chattering sessions (Workshops) were held with the contractors for design and implementation so that both teams know each other's expectations and how to work together as a one team.
- Usage of advanced software's like GIS and BIM eliminated the need to rework on utility connections at the allotment stage.
- Safety factors: From the day the contractor came onboard safety was

emphasized and the monitoring and implementation started. Lot of educational materials were provided to the workers on safety and all the meetings started with a safety note. Incentives were given for best safe performance to the workers/contractors.The Motto of "Beyond Zero" was made as a slogan for the project.

A brief rationale on the required role of PMC has been elaborated below:

Why a Program Management Consultant (PMC) is required in complex infrastructure projects?

(a) Skilled Resources: During the implementation of a project, highly skilled staffing is required for effective project delivery. Since the employment period is short-term, the SPVs cannot attract the necessary talent required. However, PMCs hire employees that work on additional projects once one project is complete, allowing them to attract and supply the required talent for a particular project.

(b) Subject Matter Experts: EPC contracts that are managed by PMCs have a design time ranging from 4-to 6 months. During this time, experts from numerous fields are required to provide their expertise in reviewing the design before it is sent to the contractor. For this to occur with minimal delays, a large number of readily available Subject Matter Experts (SMEs) are required. PMCs readily provide SMEs as they have staff working in numerous locations on short-term projects, as well as more effective IT systems which improves coordination and the sharing of required information.

(c) Technology Driven Approach: Project Management requires a large amount of IT support and up-to-date technological systems already in place. PMCs keep their IT systems regularly updated, and as a result they are at par with the requirements of EPC contractors.

(d) International Experience: PMCs have been regularly implementing similar projects internationally and have a central database on effective and non-effective project management methodologies, which will encourage a more effective delivery of a project.

(e) Health, Safety, and Environmental Norms: PMCs have a

standardized policy protecting the health and safety of workers, which they implement on-site during projects. The effectiveness of the policy is demonstrated in the employees working in the industrial nodes for more than 6–10 million hours without any workplace injury till date.

(f) Quality Control and Management: Quality control of the materials used for the construction of the project is implemented through inspections conducted by the PMCs of the factories producing these materials on their sites.

Annexure F

Proposed Roles and Functions of NICPP

As India is a vast country with complex governance systems in managing complex environments, the NICPP may be the nodal agency to develop course curriculum, syllabus, and various qualifications for developing a complete cadre of project professionals at different levels. The NICPP would be apprising and assisting the apex body on Project Management in all matters concerning the overall project management scenario in the country. The NICPP will also assist to frame policies on Project Management Framework to be standardized across the country.

- NICPP may assume the leadership role in creating massive awareness of the imperatives of the project management profession and also act as a custodian of the best practices in various sectors of industry and governments both national and international.
- NICPP will act as the nationally registered body that will formalize the field of project management to mainstream graduate level and advanced level courses.
- NICPP will act as the think tank for Project Management and act as the central repository of knowledge for all major public sector / private projects under various sectors for review and monitoring. The main scope will be as following:
  - (i) Preparation of policy framework for Project Management
  - (ii) Project development and planning including - Project structuring and financing monitoring and controls
  - (iii) Reporting of projects progress as per the requirement of the Apex Committee (Dashboard reporting for top authority and detail reports for respective functions)
  - (iv) Identifying and developing project management methodologies, best practices, and standards
  - (v) Developing and managing project policies, procedures, and templates and other shared documentation
  - (vi) Managing shared resources across the projects

(vii)Coaching, mentoring, training, and oversight

(viii)Coordination communications across projects / stakeholders

(ix) Monitor issues and facilitate for removal of bottlenecks

(x) Institutionalize the field of Project Management in the country

(xi) Conduct appropriate courses and award degree, etc., on Project Management as autonomous body

- NICPP will also develop nationalized standards, procedures, guidelines for project execution of public sector, and PPP projects. These procedures and standards should be made part of all future contracts. Simultaneously, a separate Project Management delivery team can be assigned to audit the delivery issues with mega projects and recommend "fixes" to existing projects. This will ensure the knowledge transfer in the laggard public sector / PPP projects. This will enhance the project management capabilities of public sector / PPP projects.
- Once the NICPP is established, state level / regional level chapters may be established. A state level chapter would be a "must" for all projects. These state level chapters will report to central NICPP and follow the scope of work as defined from time to time by the NICPP.
- NICPP may be created under appropriate Ministry.
- NICPP will become the nodal agency in designing various course modules which could suit engineering colleges as well as management schools across the country. NICPP will be involved in designing simple but effective program content varying from 1 / 2 a day to 3 days which can be also be used in other fields such as administration, health, agriculture, and research.
- NICPP will be the nodal agency for publishing Best Practices as well and will have adequate resources of its own to supervise implementation on the ground.

Alkesh Kumar Sharma

The author is an I.A.S. officer of 1990 batch, Kerala cadre and was posted as Chief Executive Officer and Managing Director (CEO & MD), Delhi-Mumbai Industrial Corridor Development Corporation, Department of Promotion of Industry and Internal Trade at the time of writing this article.

Dealing with Excess Procurement of Food Grains in MSP Purchase in Chhattisgarh

Amitabh Jain

Abstract

Chhattisgarh, often referred to as the rice bowl of India, has been procuring paddy for quite some time with production incentives provided over and above the minimum support price (MSP).A good monsoon coupled with further enhanced effective support prices have resulted in procurement of paddy in excess of the central pool and Public Distribution System (PDS) requirements.

With the Food Corporation of India (FCI) already brimming with foodgrain stocks, the prescriptions of the Union Government's procurement policy provisions vis-a-vis state government priorities pos e challenges to streamlined disposal of procured foodgrains.

This paper seeks to examine some of the available alternatives to address the possible logistics and financial burden on the government arising out of excess procurement. The alternatives comprise controlling the quantum of procurement, open market disposal, non-usage of excess foodgrains, moving from targeted PDS to Universal PDS, and the option of direct transfer of incentives.

The alternatives are evaluated for their practicability, timely outcomes, acceptability, and financial implications and recommendations are furnished.

Problem Description

This policy note seeks to address the issues arising out of excess procurement of paddy in Chhattisgarh under the support-price operations.

Chhattisgarh Government undertakes decentralized procurement of paddy[1] at MSP every Kharif season. The State Govt. also gives production incentive to the farmers over and above the MSP. This foodgrain, after milling, is supplied to the FCI under the central pool and to the State Civil Supplies Corporation for distribution under PDS.

[1] http://www.khadya.cg.nic.in/Documents/KMS_2018-19_custom_nirdesh%20_2187.pdf

The MSP for paddy for 2018–19 is Rs. 1750 per qtl for the common variety of rice and Rs. 1770 per qtl for Grade A rice. With the State production incentive for the year 2017–18, the procurement price in Chhattisgarh was Rs. 2050–2070 per qtl.

For the year 2018-19, the newly formed State Govt. increased the production incentive to farmers in such a way that the procurement price, including incentive, became Rs. 2500 per qtl. Coupled with a bumper crop, this resulted in procurement of 80.36 lakh tons of paddy. The rice requirement in the central pool and state PDS will be able to consume only 68.12 lakh metric tonne (MT) of paddy; resulting in an excess stock of 12.24 lakh tonnes of paddy.

Since the procurement is carried out through working capital arranged from bank loans and state subsidies, the surplus stock poses huge financial and logistics problem for the state.

Review of the Current Policy

Chhattisgarh has enacted the Food Security Act[2] 2012, which mandates the state to provide foodgrain and other nutritional supplements to specified vulnerable groups at specified concessional rates. For rice, the scheduled rate is Rs. 1 per kg for up to 35 kg per family per month.

As per a report by the committee constituted by the Union Agriculture Ministry,[3] for doubling farmers' income, the annual agricultural income of Chhattisgarh farmer is only Rs. 64,000 as against the all-India average of Rs. 96,703 during 2015–16. It is also estimated by the same committee that the net income from paddy farming in Chhattisgarh has declined during 2009–14 as compared to 2004–09. As such, the state government, through its budget, has been providing an incentive amount to farmers who sell paddy at MSP. The decision of the government to enhance the effective procurement price to Rs. 2500 per qtl in 2018–19 as compared to about Rs. 2100 in the past year resulted in about 14 per cent increase in procurement this year.

The Decentralized Procurement Policy[4] of the Union Govt., operationalized with the State through an MoU, provides that if the state government gives any

[2] http://www.khadya.cg.nic.in/Documents/18-2013-Adhiniyam.pdf
[3] http://farmer.gov.in/imagedefault/DFI/DFI%20Volume%202.pdf
[4] https://dfpd.gov.in/proc_policy.htm

bonus above the MSP, then the excess procurement of foodgrain will be outside the central pool, meaning thereby that the financial and logistics liability will be borne by the state.

Further, since the FCI is already carrying sufficient stocks of raw rice, it has decided to procure only parboiled rice from the state procurement. This aggravates the issue as close to three-fourths of the states' milling capacity is of raw rice and production of parboiled rice takes a longer time and the consequent enhancement of carrying costs.

The policy environment detailed above, alongwith bumper a crop in 2018–19 has resulted in excess procurement of 12.24 lakh MT of paddy, for which the state has to find out ways to resolve the financial and logistical problems.

Policy Alternatives and Evaluation

We now proceed to visualize and evaluate some of the policy alternatives to address the issue at hand. These include exercising control on quantity of procurement, open market sale of excess stocks, utilizing excess stock for non-food usage, enhancing the quantity of distribution under PDS, and modifying the physical procurement system to become an income transfer system.

Controlling the Quantity of Procurement

While the procured quantity is greatly affected by the monsoon conditions in Chhattisgarh, there are a few other checks in the procurement system.[5] Farmers have to register themselves in advance with the government giving their identity and land details, the policy provides for an area ceiling on the quantity acceptable under procurement. There are prescribed start and end dates of operations and there are quality parameters for the foodgrains tendered to be adhered to.

However, as detailed in the opening section, support price procurement is an affirmative action by the government in order to ensure food security, support quality of life for farmers, addressing rural distress owing to vagaries of the monsoon, and boosting the rural economy through enhanced money circulation. Such procurement operations, being in place for more than 15 years, have become a way of life for farmers. With

[5] http://www.khadya.cg.nic.in/Documents/KMS_2018-19_Dhaan_Nirdess_2146.pdf

better inputs and knowledge about improved techniques, the productivity is also increasing. As such, further control on quantity to be procured will have little acceptability at the political level and with the farmers.

Open Market Sale of Excess Procurement Quantity

This option entails looking for markets for paddy / rice through outright sale. With FCI stocks overflowing, most of the rice-consuming states produce sufficient quantities and a sizeable quantity of rice is being made available at concessional rates through PDS. Developing countries therefore make themselves available as export destinations for the common variety of rice. There appears to be very limited scope of a sale offer being found attractive. The exercise also involves a complicated process of tendering, which is prone to complaints and allegations. Yet, this process may be taken up on a pilot basis as a reasonable price achieved in this may substantially reduce the potential losses of the state.

Non-food Use of Foodgrains

This policy option entails usage of excess foodgrain for non-food purposes like biofuel. The National Policy[6] on biofuel development provides that the National Biofuel Coordination Committee can approve use of surplus quantity of foodgrain for use in bioethanol production.

The policy already provides for ethanol blending of petrol and biodiesel blending of diesel. Chhattisgarh has limited production of molasses and as such ethanol production from other biomass seems to be a viable possibility. The petroleum company depots in the state provide a reasonable assured market for the produce. The establishment of such industries in the state is likely to enhance non-farm employment opportunities and diversification of the industrial base. However, success of this option involves assessment of return on equity of such enterprise and also locational and environmental concerns of such units. Further, this option has a substantial gestation period and also needs assurance of availability of designated quantity of foodgrains every year. Conversion

[6] http://petroleum.nic.in/sites/default/files/biofuelpolicy2018_1.pdf

of rice / paddy to ethanol may invite adverse reaction from cultural and food security flag bearers. In the overall analysis, this option is worth giving a try in the longer run.

Enhancing the Utilization under PDS

At present, Chhattisgarh has a robust PDS fulfilling the mandate of food and nutrition security provided by the State Food Security Act. Around 14.65 lakh Antyodaya cards provide 35 kg rice a month to the card holders. Around 42.68 lakh priority cards are provided 7 kg rice per unit a month with provisions for disabled people, destitute people and also Annapurna cards. However, there are close to 7 lakh families which do not get foodgrains at concessional rates. These families can be considered to be included in the concessional rate PDS and provided rice at rates which are more than the Targeted Public Distribution System (TPDS) concessional rate (Rs. 1 per kg). There are fair chances that the excess quantity of procured foodgrains can be utilized by moving from a normal PDS to Universal PDS. The option has to carefully design the supply rate for balancing the attractiveness of the offer for relatively less poor families vis–a-vis minimizing the losses that occur in the procurement system. Currently, the economic cost of rice produced under the scheme is close to Rs. 29.50 per kg. A Universal PDS supply rate of Rs. 10–20 per kg could be examined for the non-poor segment of the population. With a robust PDS already in place, this option is easily implementable.

Direct Income Support Instead of Procurement

It is often said that the entire procurement system is fraught with leakages, management inefficiencies, and is highly capital incentive. The option to explore is whether a direct income support to paddy producers will address the issue more efficiently. A pilot project of such system was used recently in Madhya Pradesh in the name of Bhavanter Scheme, wherein the government reimbursed the difference of MSP and market price, directly to the farmer. A refined version is Ryatubandhu Scheme in Telangana and Kisaan Samman of the union government. However, the concerns in such schemes are the calculations of the level of income support for a particular crop, leaving the farmer to the vagaries of the

market and the purchaser and also possible difficulties in assessing of the actual produce per farmer. Moreover, physical procurement will still be required for FCI buffer stocks and PDS requirements. As such, this option needs development and testing before adoption.

Recommendation of Policy Alternative

A feasible policy alternative in the present case should address the following facets of the problem. It must address the problem immediately, as paddy has been procured and is occupying storage space already. It should be cost effective, i.e., it should tend towards realizing the maximum possible price vis-a-vis the economic cost of making rice. It should require minimum additional physical and management infrastructure. For being politically acceptable it should be aligned with the stated priorities of the government and be as people friendly as possible.

The current government has stated in its manifesto that it will increase the entitlement of concessional foodgrains to 35 kg per card per month. Rural economic distress and farmers' low income have been historical realities in the state. There is already a well-oiled infrastructure in place for procurement and distribution of rice through PDS. As such, upon evaluation on all of these measures, the option of moving from targeted PDS to Universal PDS stands out as the preferred policy option and hence is recommended.

There are, however, issues of additional subsidy burden to be borne by the state. The state government will have to tighten its resource spend further to reduce non-essential expenditure. There will also be some adverse effect on infrastructure and capital works in the short run, as funds would need to be prioritized for food subsidies. Therefore, planning for the future needs to be given serious thought. The options of non-food usage, open market sale, and direct transfer of production incentives to the farmers should be considered. These options are currently unchartered waters for the State and need to be treaded carefully by an inter-disciplinary team of suitable experts.

Conclusion

Chhattisgarh has been procuring paddy for quite some time with production incentives provided over and above the MSP. Procurement operations have now been streamlined. However, this has been taking up a sizeable share of

state resources. The issue with NPAs provisioning by lending banks has further tended to increase the cost of capital borrowed for the operations. The new government in Chhattisgarh has increased the effective procurement benefits to farmers. Coupled with a good monsoon this has brought to the fore the issue of excess foodgrains. A policy mix involving a distributive approach in the short run and examination of non-food usage and direct transfer of incentives in the long run is recommended to address the issue.

Amitabh Jain

The author is an I.A.S. officer of 1989 batch, Chhattisgarh cadre and was posted as Additional Chief Secretary Finance, Government of Chhattisgarh at the time of writing this article.

Sustainable Management of Groundwater Resources in Uttar Pradesh

Anita Singh

Abstract

Water is a finite natural resource which is critical to the survival of all living beings and key to all economic activity and development. The per capita availability of water in India is fast decreasing due to increase in population, economic growth and rapid urbanization causing its over-use, depletion, pollution, waste and scarcity. Over time, groundwater has become an important source of drinking water and food security for millions of people. It provides 80 per cent of water for domestic use, and about 65 per cent of irrigated area in the country is dependent on groundwater extraction.

In the national context, the overall economic development and expansion of irrigated agriculture has led to an exponential growth in the number of groundwater drawal structures and more than 21.7 million irrigation (MI) structures were reported all over the country irrigating more than 50 per cent of the irrigated area countrywide (As reported in the 5th MI census by the Ministry of Water Resources (MoWR), Government of India). The Indo-Gangetic Plain, north-western, central, and western parts of India account for most intensive groundwater-based irrigation. And among these regions, western India and the Indo-Gangetic Plain have more than 90 per cent of the area irrigated using groundwater. With 230 billion cubic meters of groundwater drawn out each year for irrigating agricultural lands in India, domestic use and urbanization, many parts of the country are experiencing rapid depletion of groundwater (Prasad, 2018).

Water resources in India, whether surface or groundwater, are predominantly dependent on the monsoon. India receives an annual rainfall of 4000 BCM (billion cubic meters) every year but most of it goes unutilized because of dearth of storage procedure, lack of adequate infrastructure, inappropriate water management, which leads to only 18 per cent –20 per cent of the water being actually used (Duggal, 2019). The key to restoring and managing groundwater depletion is maximizing rainfall/freshwater storage, increasing groundwater recharge during the monsoons

and utilizing available freshwater prudently.

This policy paper focuses on identifying strategies and initiatives necessary to improve sustainable management of groundwater resources with specific mention of initiatives in the state of Uttar Pradesh. Many of these strategies may be replicable in other states as the problems regarding groundwater resource management may be similar in those states. The depletion of groundwater has such extensive implications that finding a single solution to address this problem is insufficient. Not only does it require a multi-pronged strategy in various sectors like industry, agriculture, and infrastructure, among others, but also a different approach for rural and urban areas. This paper has attempted to identify various strategies to achieve the goal of sustainable management of groundwater resources.

Background of the Problem

Problem Description

The total volume of fresh groundwater stored on earth is believed to be in the region of 8–10 million cubic km. Based on recent estimates at the country level, the world's aggregated groundwater extraction as per 2010 is estimated to be approximately 1000 cubic km per year, of which about 67per cent is used for irrigation, 22per cent for domestic purposes, and 11per cent for industry (IGRAC, 2010; Margat, 2008; Siebert *et al.*, 2010; AQUASTAT, n.d.; EUROSTAT, n.d.). Two-thirds of this is abstracted in Asia, with India, China, Pakistan, Iran, and Bangladesh as the major consumers.

Top ten groundwater abstracting countries (as per 2010)

COUNTRY	ABSTRACTION (km^3/year)
1. India	251
2. China	112
3. USA	112
4. Pakistan	64
5. Iran	60
6. Bangladesh	35
7. Mexico	29
8. Saudi Arabia	23
9. Indonesia	14
10. Italy	14

In the national scenario, the overall economic development, urbanization, and expansion of irrigated agricultural area, along with a growing population has led to a great dependence on groundwater resources. India is the largest user of groundwater in the world. It uses an estimated 230 cubic km of groundwater per year, which is a quarter of the global total, ahead of China and the US. If current trends continue, in 20 years, about 60per cent of all India's aquifers will be in a critical condition. This will have serious implications for the sustainability of agriculture, long-term food security, livelihoods, and economic growth (World Bank, 2012).

India was not the highest extractor of groundwater in the 1960s and 1970s; the Green Revolution changed that. At the time of independence, the share of groundwater in agriculture was 35per cent; today it is 70per cent (Kulkarni, 2018). If we study different sectoral water demands versus available utilizable water and project this data to get future water scenario, the figure is very alarming. Projected figures of water demand in the year 2025 shall come closer to total water availability, whereas in the year 2050, water demand shall exceed the total available utilizable water.

Particulars	Water Demand in BCM		
Year	2010	2025	2050
Water Demand from All Sectors	710	843	1180
Irrigation	557	611	807
Drinking Water	43	62	111
Industry	37	67	81
Energy	19	33	70
Others	54	70	111
Availability of Utilizable Water	1137	1137	1137
Excess / Short Fall	427	294	-43

Source: Ministry of Water Resources

Groundwater Assessment Report 2013 indicates that out of 6584 blocks all over the country, 30per cent of the blocks are water stressed. The present

scenario of groundwater resources and their management has given rise to several concerns, important among them are:

i. Large parts of the country have become water stressed. There is a rapid increase in demand for water due to population growth, urbanization, and industrialization.

ii. There is a wide variation, temporal and spatial, in availability of water, which may worsen, due to a combination of factors–climate change causing deepening of the water crisis.

iii. Characteristics of catchment areas of streams, rivers, and recharge zones of aquifers are changing as a consequence of land use and land cover changes, affecting water resource availability.

iv. Groundwater resources are also plagued by pollution caused by industrial effluents, pesticides, and chemical fertilizers which leach into the groundwater and rivers and contaminate the water which is extracted for drinking purposes as well as irrigation.

The World Bank, in its year 2006 report *(India's Water Economy: Bracing for a Turbulent Future)* warned of a serious crisis in the country in the next two decades "due to inadequate water supplies and poor management of Groundwater Resource." The report states "Unless Water Management practices are changed and changed soon….India will face a severe water crisis within the next two decades and will have neither the cash to build new infrastructure nor the adequate water required for its growing economy and rising population."

In Context of Uttar Pradesh

The state of Uttar Pradesh, which lies in the fertile Indo-Gangetic plain, has high natural soil fertility, abundant rainfall, and surface and groundwater resources. Five major rivers-the Ganga, Yamuna, Gomti, Ghagra, and Ramganga flow through the state. The state comprises two major geomorphic units, Ganga Plains and Bundelkhand Plateau. The Ganga Plain covers nearly 85per cent of the area and is underlain by a thick pile of unconsolidated alluvial sediments which constitute a very rich reservoir of groundwater. In Bundelkhand's rocky terrain, groundwater movement is controlled by fractures, joints, faults, and it occurs in localized pockets within weathered

mantle. The average annual rainfall in Bundelkhand is around 750 mm but it occurs in sudden bursts and most of the rain water flows away and is not absorbed by the soil. The precipitation is erratic; a deluge may be followed by long stretches of no rain (Bundelkhandinfo.org.in, 2019). In the Gangetic Plain, the average annual rainfall in around 947 mm of which 85per cent occurs during the monsoons.

Since the 1980s, with the introduction of new agricultural strategy, there has been an increasing trend in the use of tube wells in the state. About 38 lakh private minor irrigation tubewells are presently located in the state, which is the largest number reported in the country (5th MI census by MoWR). There has been an exponential growth in the use and draft of groundwater in the state, primarily for irrigation and drinking water, especially during the last four decades. This has resulted in indiscriminate exploitation of the limited resource, both in rural and urban segments, causing progressive lowering of water levels.

The state of Uttar Pradesh is the largest user of groundwater resources with a gross withdrawal of 5.28 million hectare meter (mham) (Groundwater Assessment Report, 2013). Region-wise, the maximum withdrawal

Groundwater Resource Availability in U.P. and Assessment for Future							
YEAR	1975	1990	2000	2009	2013	2025	2050
Total Ground water Recharge (mhm)	7.05	6.41	8.08	6.85	7.16	7.00	7.00
Total Ground water Draft (mhm)	2.63	2.64	4.22	4.94	5.28	6.55	9.20
Total Ground water Availability (mhm)	4.42	3.77	3.86	1.91	1.88	0.45	-2.20

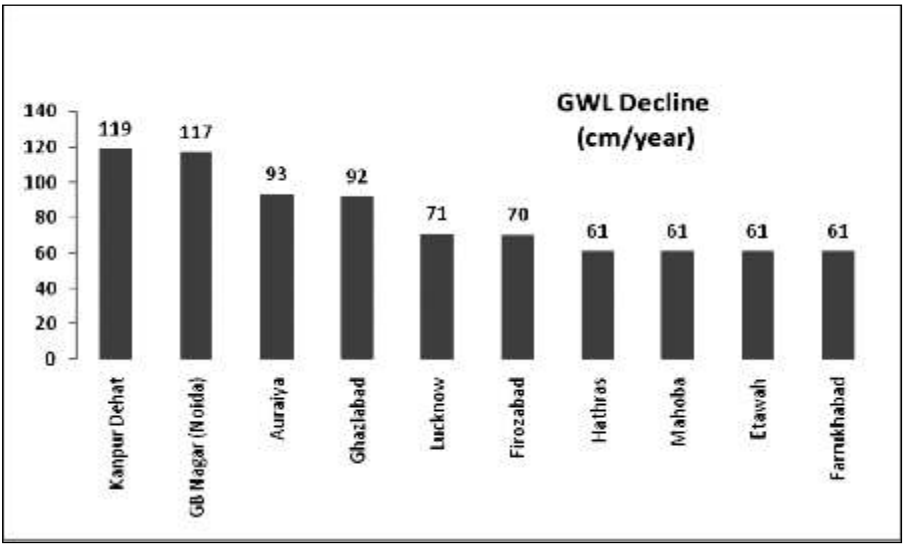
Source: Ministry of Housing and Urban Poverty Alleviation, 2011

(groundwater draft) is from the western region covering 30 districts, i.e., 2.15 mham. Bundelkhand region has minimum withdrawal of groundwater, i.e., 0.23 mham. Again, very similar to the national scenario, if the groundwater extraction continues on the same rate, in the year 2025, groundwater extraction will be almost 94per cent of the total recharge and in the year 2050 the groundwater extraction shall exceed the groundwater recharge. The groundwater draft of year 2025 and 2050 are future projections of draft, based upon decadal growth rate of population (20.09per cent, as per 2011 census) as well as trends of previous assessment year. Recharge for 2025 and 2050 is assumed unchanged.

The impact of groundwater draft is visible in the state where number of over-exploited and critical blocks has significantly increased from 22 in the year 2000 to 172 in the year 2013. The latest assessment based on relevant data up to 31st March 2017 has been carried out jointly by State Groundwater Department and Central Groundwater Board Northern Region. This assessment report is yet to be approved by the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India.

The over-exploited and critical blocks are primarily located in 43 districts of the state, the majority being in Western UP, which is a major contributor to the food basket of the state. Out of the 172 blocks, 113 are over-exploited, where the groundwater withdrawal is more than the recharge. These blocks, along with the 59 critical blocks, can be termed as highly stressed, where annual replenishment of dynamic groundwater resource has either exhausted or is near exhaustion due to over-exploitation (Groundwater Assessment Report, 2013).

The groundwater level data obtained from different hydrograph stations in urban areas of the state reveal an alarming situation. In 22 prominent cities, the groundwater level is declining at a rate of 0.5 meters to 1 meter per year. This is based on the draft Groundwater Assessment Report 2017 sent to Ministry of Water Resources. Declining groundwater trend of 10 most stressed urban areas is given below.



As per the recommendation of revised Groundwater Estimation Committee Report 2015, separate assessment has been done for urban areas which have a population of more than 10 lakhs. All the 10 cities as reported above are severely stressed. Groundwater extraction in these cities has increased manifold since the 1980s. Lucknow, for example, relied on 35 tube wells for supply of water for domestic use in 1980s which has now increased to 644 tube wells because of the rising population and expansion of the city.

Groundwater quality is another area of concern for the state of Uttar Pradesh, as contamination in groundwater with high concentration of fluoride, iron, arsenic, chromium, and manganese have been reported from various areas. This has posed potential health risks for the population of the affected areas. Groundwater arsenic contamination was first reported in the year 2003 in 25 villages in Ballia district. 20 districts aligned along the linear track along the course of the river Ganga are partially affected by high concentration of arsenic in groundwater (Ministry of Water Resources, River Development and Ganga Rejuvenation, 2015). Groundwater contamination is gradually assuming alarming proportions and even surface water is contaminated because of industrial waste and city sewage.

Policy Review

Current Policy/Framework

At present, there is no Act or Regulation pertaining to the management and regulation of groundwater resources in the state of Uttar Pradesh. The "Uttar Pradesh Groundwater (Management and Regulation) Bill 2019" is under consideration and will become applicable once approved by the State Assembly. It is based on the Model Act circulated by the Central Government.

The "UP State Water Policy 1999" was formulated with the broad objective to ensure preservation of scarce water resources and to optimize the utilization of the available resources and also to ensure self-sustainability in water resource development.

The "National Water Policy 2012" highlighted the need for water to be managed as a common pool community resource held by the state, under public trust doctrine to achieve food security, support livelihood, and to ensure equitable and sustainable development for all. Its main features are:

- Available water should be allocated in a manner to promote its conservation and efficient use.
- Planning, development, and management of water resources need to be governed by common integrated perspective.
- Principles of equity and social justice must guide use and allocation of water.
- The impact of climate change on water resources' availability must be factored into water management related decisions.
- Water quality and quantity are interlinked and need to be managed in an integrated manner.
- All the elements of the water cycle are interdependent and the basic hydrological unit is the river basin which should be considered as the basic hydrological unit for planning.

"Policy for Groundwater Management, Rainwater Harvesting, and Groundwater Recharge" in Uttar Pradesh was released in February 2013 with the overall objective to ensure sustainable management of groundwater resources and to implement rainwater harvesting and groundwater recharge in an integrated manner. The Government of UP made it mandatory to

construct rainwater harvesting structures in government buildings and all houses constructed in the areas regulated by various development authorities and municipal corporations in the state. The Government of UP has also banned the construction of new tube wells under various government schemes including the energization of private tube wells in the over-exploited and critical blocks of the state with the objective to check groundwater depletion.

The state government launched the "Bhujal Sanrakshan Mission" in the year 2016 with the objective of ensuring that all government departments engaged in water conservation activities should conjoin their efforts to deal with the problem of depletion of groundwater resources in over-exploited and critical blocks.

The state government also launched the "Varsha Jal SanchayanEvam Bhujal Recharge Yojana" in 2018 which is being funded by the state government budget. This focuses primarily on rejuvenating existing ponds and lakes, of more than 1 hectare in area in over-exploited and critical blocks identified under the Bhujal Sanrakshan Mission, to increase their water retaining capacity and thereby improving groundwater recharge.

The proposed "Groundwater (Management and Regulation) Bill" addresses key issues like need for a strong regulatory framework for management of this resource, its extraction, use, and conservation. It provides for registration of all users, notification of Groundwater Regulatory Zones in critical areas, preparation and implementation of water security plans in these zones. It also provides for fixing of groundwater abstraction limits for commercial, industrial, infrastructural, and bulk users along with a fee on groundwater extraction.

There is a lack of adequate research and study about aquifers and their mapping. Rivers and streams are conjoined with the groundwater in the aquifer. The groundwater stored in rock formations continues to supply water through banks and beds of rivers and streams. Once in the river, groundwater becomes surface water. In some cases, particularly in dry areas, rivers may lose water that soaks through the river bed to reach groundwater (Stone, 2001). The "National Project on Aquifer Management (NAQUIM)" is an initiative of the Ministry of Water Resources, Government of India, for mapping and

managing the entire aquifer systems in the country. The Central Groundwater Board is undertaking a pilot study of 6 areas in different hydrogeological terrains. The pilot study integrates multiple disciplines and scientific approaches, including remote sensing, hydrogeology, geophysics, hydrochemistry, drilling, groundwater modeling, and management approaches (Ministry of Water Resources, 2019). In Uttar Pradesh, the mandate under NAQUIM is to cover the entire state by the year 2025. Under the "Uttar Pradesh Water Sector Restructuring Project Phase II, Fatehpur" district's seven water-stressed blocks' Aquifer Management Plan and Conjunctive Water Use Plan are being prepared. There is a great need for further work and study in the area of aquifer mapping.

Limitations of Current Policy/Framework

There is a lack of any policy to address the issue of groundwater contamination in the State of Uttar Pradesh. There is no budgetary allocation for arsenic related issues though water quality issues are addressed in a limited manner. Groundwater arsenic contamination was first reported in the year 2003 in Ballia district. Subsequently 20 districts have been found to have elevated arsenic in groundwater in certain areas. All these districts are along the course of the river Ganga. A lot of work is needed to be done in the area of water contamination and arsenic mitigation in the state because it poses great human and animal health risk.

The policy initiatives regarding rainwater harvesting in cities under different development authorities have not produced any results. This is because even though rainwater harvesting structures have been made mandatory, there is no penalty imposed if they are not constructed. The proposed Groundwater (Management and Regulation) Bill does provide for stricter action and penalty for noncompliance. Once it is passed by the State Assembly and implemented, there can be scope for improvement in this area.

A review of the Groundwater (Management and Regulation) Bill passed by various states in the country reveals that domestic and agricultural use of groundwater has been almost kept out of the purview of the Act and only commercial, industrial, and bulk users of groundwater effectively fall within the regulatory scope of the Act. The case is similar in Uttar Pradesh, where registration of all users has been made mandatory but domestic users and

agricultural use has been kept free from abstraction limits, fee and penalties. This is a decision which springs from political concerns regarding bringing the farmers and domestic users under a regulatory regime which imposes a fee for abstraction of groundwater.

Many of the policy initiatives have failed to make an impact on the ground because of noninvolvement and nonawareness of the public. Public participation in the management and regulation of such a valuable, priceless natural resource is extremely important. A review of all the policy initiatives taken so far reveals that they have highlighted the problem but offered few actionable solutions.

Thus, the policy initiatives have been insufficient to address the magnitude of the problem felt on the ground. The latest policy,"Varsha Jal Sanchayan evam Bhujal Recharge Yojana" is perhaps the only scheme which directly has an effect on the groundwater recharge. The key issue and concern here is improving the groundwater recharge thereby raising the groundwater level and ensuring its quality for the life of all living beings.

The present policy scenario at the state and national level has done much to focus and highlight the problems and issues concerning the depletion of groundwater resources and their contamination but have not come up with actionable solutions. The common citizen is yet to be sensitized to the growing problem and wholehearted efforts are yet to be made to bring about a change on the ground. There is a felt need to now focus on actionable solutions in the agricultural, industrial, commercial, and housing sectors to mitigate the depletion and contamination of groundwater. Policies, which focus on rainwater storage and groundwater recharge, are most needed at this juncture.

The Varsha Jal Sanchayan and Bhujal Recharge Yojana 2018 is one such scheme which focuses on this issue and has a direct bearing on groundwater recharge. Ponds and lakes of more than 1 hectare in size have been rejuvenated by digging upto 3 meters in depth with the help of machines, and their management has been entrusted to the Pani Panchayats which consist of female members only. Most of all these ponds were dried up and existed only on paper. Some of them were encroached upon, but these encroachments were removed with the help of local administration. In the year 2018–19, a budget of Rs23.80 cr was provided for this scheme which was increased to Rs47.60 cr in

the financial year 2019–20. A total number of 116 ponds and lakes will be rejuvenated in the financial year 2019–20 in Uttar Pradesh under this scheme. 282 ponds will be rejuvenated in the Bundelkhand region under the Bundelkhand Package.

This new policy has many widespread repercussions:

- It has led to awareness on the ground and among the people in whose villages these ponds are being rejuvenated. The Pani Panchayats have also mobilized the womenfolk in the villages and led to increase awareness about rainwater storage and use.
- It has provided water for groundwater recharge and with time will improve the groundwater table.
- Drinking water for livestock and domestic use for a large number of people.
- The policy also envisages plantation of trees alongside the ponds to encourage green cover.

The above-mentioned policy is not sufficient to deal with the larger issue of groundwater depletion and contamination. A policy framework built around this issue in each and every sector, agricultural, industrial, and commercial and housing will have to be undertaken to bring about a sustainable management of groundwater resources. It is clear that unless this is done the rising population pressure, industrialization, expansion of cities, sewage, and industrial sludge will make water, especially groundwater, availability scarce, and would lead to enormous problems.

Global Scenario in Groundwater Management

The sustainability of crucial natural resources, such as groundwater, is a critical issue and different countries have responded to this in different ways depending upon the environment, economy, and impact of climate change.

Singapore: With a total land area of 718 sq. km., Singapore has limited natural water resources. In the past, Singapore was primarily dependent on water imported from Malaysia and rainwater as the major sources of water supply. Water resources management in Singapore is under the purview of the Ministry of Environment and Water Resources (MEWR), tasked to ensure a clean, sustainable environment, and water supply for

Singapore. The heavy reliance on imported water prompted the Singapore government to plan for achieving self-sufficiency of water supply in the long run (Legislative Council Secretariat, 2016).

(a) Supply Side Management: Over the past decade, efforts were made to (a) expand the catchment areas to collect rainwater; and (b) diversify the sources of water supply through investment in water reclamation and seawater desalination projects. The principles underlying the above water supply management strategies are to: (a) capture every drop of rain that falls on Singapore; (b) collect every drop of used water; and (c) recycle every drop of water more than once. In Singapore, rainwater is collected through a comprehensive collection network before it is channelled to the17 reservoirs for storage. The completion of two new reservoirs in 2011 has increased the catchment areas to cover two-thirds of Singapore's land area. Regarding the development of alternative sources of water supply, the first NEWater and desalination plants commenced operation in 2003 and 2005, respectively. At present, there are four NEWater plants and two desalination plants operating in Singapore, meeting up to 30per cent and 25per cent of Singapore's total water demand(Legislative Council Secretariat, 2016).

(b) Demand Side Management: To encourage water conservation among users, one of the strategies adopted is to *set the water tariff at a rate that recovers the full production and supply costs*. The government has also implemented a mandatory Water Efficiency Labelling Scheme (WELS) since 2009 for water fittings and appliances, which include water taps and mixers, urinal equipment, flushing cisterns, and washing machines. The scheme is to encourage suppliers to introduce more water efficient products into the market. To complement WELS, the government has further required all new premises and existing premises undergoing renovation to install water fittings that are labeled under WELS. With effect from June 2015, heavy nondomestic customers with water consumption of 60,000 cubic meter or more in a year are required to install private water meters for measuring and monitoring consumption and submit

their annual water efficiency management plan to the government (Legislative Council Secretariat, 2016).

Israel: The basis for policies and water administration in Israel is the 1959 Water Law. According to this law, all water belongs to the state. This includes waste water, sewerage, and run-off that could be used commercially as well as water on a land owner's property.

(a) Supply Side Management: Desalination and recycling waste water is the main supply side management in Israel. Government works with the private sector to finance desalination projects by appointing private companies to construct and operate the desalination plants. Mekorot is a government-owned company in Israel and provides approximately 80per cent of Israel's drinking water and meets 70per cent of the total annual water demand in Israel. Mekorot owns 34 desalination plants which provide approximately 40 million cubic meter per year of treated brackish water and also treats approximately 35per cent of Israel's waste water.

(b) Demand Side Management: One of the main methods for managing demand in the agricultural and domestic sectors is the fixed water quota. Efforts have been made to encourage the use of effluent and brackish water in the agricultural sector. Demand management in the domestic sector is done through blocked tariff sector and automated meter reading systems (AMR). Areas with AMR systems have seen a 15per cent reduction in water use since the meters' installation.

Since Israel has limited water and arable land, it has developed innovative agricultural methods and technologies. The large-scale adoption of low volume drip irrigation systems has increased irrigation efficiency from 64per cent to 90per cent. Moreover, "by combining the use of treated waste water and drip irrigation, agricultural output has increased twelve-fold without increasing water consumption"(Fanack.com, 2016; Wikipedia, 2019).

3.3 United States of America: Groundwater governance and management practices vary considerably across the United States. In the USA, water management is largely decentralized, with each state maintaining significant authority and autonomy when addressing groundwater

regulation and governance. In the United States, several artificial recharge projects are in operation, like the El Paso, Texas; Long Island, New York; and Orlando, Florida (National Research Council, 1994).

The El Paso, Texas, project is the first injection project in the United States, where the sole intent of the project is to augment the potable water supply aquifer using reclaimed municipal wastewater. It is a relatively new project and will provide important data as it builds an operational history.

In Long Island, New York, storm water/rainfall runoff is recharged into infiltration basins to replenish the groundwater withdrawn for use by Long Island residents (National Research Council, 1994).

Analysis and Assessment of the Policy Environment

Stakeholder Analysis

Water is the basic necessity for life and for every economic activity. Groundwater stakeholders are those who have an important interest in the resources of a specified aquifer. This may be because they use groundwater or because they practice activities that could cause or prevent groundwater pollution, or because they are concerned with groundwater resource, and environmental management (Garduno, Steenbergen, and Foster, 2010). The potential range of stakeholders is large and every user of groundwater in agriculture, industry, domestic use, has a stake. The government and municipal authorities, who provide for public supply of drinking water and domestic use and make policies for its use, are also important stakeholders. A sectorwise categorization of other stakeholders is given below:

Sector	Water Use	Polluting Processes	Other Categories
Rural	Domestic use Subsistence agriculture Commercial irrigation Livestock rearing	Household waste disposal Intensive cropping/pesticides Wastewater irrigation Farmyard drainage	Drilling contractors Surface irrigation providers Drainage and flood management
Urban	Domestic water supply Private supply	Wastewater disposal/sewage Municipal landfills	authorities Land-use planning authorities

Industry and Mining	Self-supplied companies	Drainage / wastewater discharge Solid waste disposal Chemical / oil storage facilities	Mining operators Watershed management Educational institutions
Infrastructure	Construction activities	Wastewater discharge Solid waste disposal	Hospitals and nursing homes
Tourism	Hotels and campsites	Wastewater discharge Solid waste disposal	Professional associations
Environment	River / wetland ecosystems Coastal lagoons	Encroachments Solid waste disposal	Journalists / mass media Government

SWOT Analysis

Strengths: If alternative strategies / policies for groundwater resource management on the demand and supply side are put in place and successfully implemented, it would go a long way in increasing the infiltration level of groundwater recharge, its sustained usage and extraction, and reduce the dangers of contamination of this natural resource.

Weaknesses: The alternative strategies / policies may fail because of lack of political and government will, lack of community participation and awareness, difficulty in implementation on the ground level. There is a serious lack of studies available on aquifer mapping, lack of budgetary support for groundwater resource management and its quality.

Opportunities: If management strategies / policies are focused on the demand and supply side of groundwater and its judicious usage, there will be an opportunity for sustainable management of this natural resource.

Threats: Groundwater resource use and contamination may be influenced by powerful lobbyists in industry and government. Farmers may not easily accept changes in irrigation techniques and agricultural practices. Domestic use and agriculture may not come under stricter regulatory mechanisms because of political concerns.

Policy Alternatives, Evaluation, and Recommendations

For sustainable management of groundwater resources, an action-oriented approach to key issues and concerns is needed. Because of the magnitude of the problem, a multipronged strategy has to be envisaged to address issues in various sectors. Some issues like declining levels of groundwater in critical and over-exploited areas, future water demands in severely stressed urban areas, and recharge plans based on micro watershed approach will have to be addressed immediately. On the other hand, some issues like lateral and vertical delineation of poor groundwater quality areas, population control, expansion of cities, regulation in usage of groundwater in agriculture, etc., will have to be addressed in a good span of time, viz.,5–10 years.

Redesigning the Minor Irrigation Schemes

At present, the Minor Irrigation Department is implementing three schemes which involve extraction of groundwater for irrigation purposes. These three schemes are as follows:

- Free Boring, where drilling for extraction of groundwater is done up to a depth of 30 meters for small and marginal farmers. They are provided with subsidy in the following manner:

Category	Subsidy in boring	Subsidy for pump set
Small farmer	Rs.5,000	25per cent (Rs.4,500)
Marginal farmer	Rs.7,000	33per cent (Rs.6,000)
SC / ST	Rs.10,000	50per cent (Rs.9,000)

- Medium Boring, where drilling for extraction of groundwater is done between 30 and 60 meters. Here, the farmers are given a subsidy of 50per cent or Rs.75,000, whichever is less, for boring, and a subsidy of Rs.10,000 for delivery system, and Rs.68,000 for energization of pump sets-a total of Rs.1,53,000 as subsidy.
- Deep Boring, where drilling is done between 60 and 100 meters. The farmers are given Rs.1 lakh as subsidy for boring, Rs.10,000 for delivery system, and Rs.68,000 for energization-a total of Rs.1,78,000 as subsidy.

The above Minor Irrigation schemes need to be redesigned with the purpose of ensuring that as soon as a boring is sunk, the extracted groundwater will be used judiciously by the farmer. These schemes need to have an in-built component of sprinkler / drip irrigation method use for at least 30per cent of the beneficiaries in safe blocks and 75per cent in critical and over-exploited blocks.

At present, boring is being done by the Minor Irrigation Department and sprinkler sets / drip irrigation is being provided by Agriculture Department and Horticulture Department. Currently, through the Agriculture Department, small and marginal farmers receive a 90per cent subsidy on sprinkler sets (50per cent from Central Government and 40per cent from State Government); large farmers receive a subsidy of 80per cent (Central Government : 50per cent and State Government: 30per cent).

In the field, there is a great necessity to change the irrigation methods adopted by the farmers. Hence, Minor Irrigation schemes should be redesigned to include sprinkler / drip irrigation component to deal with the problem of over-exploitation of groundwater at its very source. The cost of sprinkler / drip irrigation systems will increase the total cost of the scheme as well as the subsidy provided to the farmer, but the long-term benefits far outweigh the costs. Providing a proper irrigation method at the very point of groundwater extraction will go a long way in ensuring conservation of this natural resource.

Strengthening Existing Schemes

Strengthening existing schemes which have a great impact on the ground and which have given positive outcomes due to community participation, and which have improved availability of water and its recharge are to be implemented with more budgetary support. In the context of Uttar Pradesh, the following schemes have yielded good results.

- The Varsha Jal Sanchayan Evam Bhujal Recharge Yojana 2018: With budgetary support of Rs23,80 cr in 2018, 65 ponds / lakes of more than 1 hectare in area were rejuvenated. Their water holding capacity was increased along with infiltration rate resulting in groundwater recharge. In 2019, 116 ponds / lakes between 1 and 4 hectares in area have been identified for rejuvenation. All these ponds are located in

critical and over-exploited blocks of Uttar Pradesh.

- The Khet-Talaab Yojana: Being implemented by the Agriculture Department in Uttar Pradesh under the Pradhan Mantri Krishi Sichai Yojana has been successful. Farmers are encouraged to build their own ponds in their fields to collect rainwater and then use it for irrigation. Small and marginal farmers are provided 90per cent subsidy for establishing sprinkler irrigation system connected to these ponds and other farmers are provided 80per cent subsidy. The farmer also receives a subsidy of Rs.52,500 for digging a pond of dimensions 20m x 22m x 3m depth. A total of 14,942 farmers have benefitted from this scheme.
- Building Check Dams for Rainwater Harvesting: This is an ongoing scheme and small check dams are built on seasonal nalaas or small streams where the rainwater run off accumulates and is used for irrigation and domestic use. The total number of such check dams built till date are 5,348. These check dams also help in groundwater recharge depending upon their storage capacity and period of water retention.

Policy Initiatives for Urban Areas

Urban areas facing serious decline in groundwater levels due to high abstraction need different policies. Growth of cities is taking place without any consideration of water availability. A few initiatives can help in improving groundwater availability as well as reduce the pollution of water.

- Further expansion of cities by bringing more and more villages under the development authorities should be curtailed and brought to an immediate stop in critical and over-exploited blocks. In water stressed cities, areas around the city should be notified where no construction activity can take place for a specified period till the groundwater levels become normal. Further sinking of tube-wells for groundwater extraction is to be banned till the levels are normalized.
- Rainwater harvesting is mandatory in structures or houses above 300sq. m. but not implemented. It should be made punishable and

municipal authorities should be given the responsibility of monitoring it and collecting fines.

- Rainwater harvesting by rejuvenation of ponds and building rainwater storage reservoirs in appropriate places in and around the cities, in nearby villages would also help in reducing water stress and increasing groundwater recharge.
- Increasing budgetary support for sewage treatment plants and waste disposal of cities. Private entrepreneurs can be encouraged to step in this area.
- There is a lot of leakage in supply of water in cities. To check the water distribution losses, Jal Nigam and Jal Sansthan or appropriate body should develop "Leakage-Monitoring / Detection System,"
- In a systematic manner, drinking water supply schemes should be made dependent on surface water stored in reservoirs in stressed urban areas.
- Periodic groundwater auditing for stressed urban areas should be conducted and accordingly water budget for the cities can be planned.
- Most of the rainfall run-offs in urban areas enters the sewage system and goes waste. Roads should be designed to ensure that the run-off enters and infiltrates the soil adjoining the roads.

Agriculture

Specific strategies / policy are needed in this sector. It is clear that one of the main factors limiting future food production for the growing population will be water. Effective initiatives need to be taken for managing the abstraction of groundwater by farmers owning private tube-wells. In fact, agriculture sector needs a complete reform in irrigation water use.

- Micro irrigation (Drip / Sprinkler) is a potential area for controlling groundwater drawls in agriculture sector.
- Low-water crops should be notified for sowing as per groundwater resource availability in over-exploited and critical blocks.
- Farmers should be given incentives for adopting water efficient methods. These incentives could be different for small and marginal

farmers and others. Farmers having large-sized agricultural holdings have more capital available for investment in adopting water efficient methods, hence they should be also given incentives and encouraged because use of such methods over larger areas would greatly reduce the groundwater abstraction.

- Electricity subsidy for agriculture should be re-examined because free electricity leads to overuse of tube wells and unnecessary groundwater drawl.

5.5 Industry

- Groundwater abstraction limits should be fixed by the State in technical consultation with Groundwater Department (depending upon the hydrogeological conditions and resource potential of the area concerned) for all the existing commercial, industrial, infrastructural, or bulk users of groundwater while granting registration in notified as well as non-notified areas.
- WELS for water fittings and appliances to encourage suppliers to introduce more water efficient products into the market.
- Pollution due to industrial effluents leading to groundwater contamination should be severely penalized by law. It should be made mandatory for all such industries to invest in water treatment and effluent treatment plants.
- Corporate Social Responsibility (CSR) has been defined by the United Nations Industrial Development Organisation (UNIDO) as "a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders in a way in which companies achieve a balance of economic, environmental, and social imperatives." CSR in India has been made mandatory by the Ministry of Corporate Affairs which notified Section 135 and Schedule 7 of the Companies Act 2013 as well as the provisions of the Companies (Corporate Social Responsibility Policy) Rules, 2014. "Building of water treatment and effluent treatment plants should be considered for tax benefits under CSR because investing and incurring expenditure on these has huge social and environmental benefits."

Conclusion

The redesigning, strengthening, and implementation of the above strategies / policies would result in achieving an environment in which groundwater availability and its quality would be ensured for the common people. It would result in more efficient use of water, better conservation practices, and improvement in groundwater levels in water-stressed cities and critical areas. Community participation and awareness should be in-built in every strategy to ensure success.

Bibliography

AQUASTAT.n.d. On-line Database on FAO. Available at: http://www.fao.org/nr/water/aquastat/data/query/index.html [Accessed 28 August 2011].

Bundelkhandinfo.org.in. (2019). *BundelkhandInfo.org.in: Free Online Encyclopaedia on Bundelkhand from a Development Perspective*. [online] Available at: http://www.bundelkhandinfo.org.in/general/climate/rainfall.html [Accessed 9 June 2019].

Duggal, V. (2019). *Groundwater Depletion: Causes, Consequences and Solutions*. [online] IndiaCelebrating.com. Available at: https://www.indiacelebrating.com/environmental-issues/groundwater-depletion-causes-consequences-and-solutions/ [Accessed 31 May 2019].

Editor (2016). *Deduction of CSR Expenses under income Tax Act, 1961*. [online] TaxGuru. Available at: https://taxguru.in/company-law/deduction-of-csr-expenses-under-income-tax-act-1961.html [Accessed 8 June 2019].

EUROSTAT. n.d. *On-line Database of the European Commission. Available at: European Commission, EUROSTAT*. http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/ (Accessed 28 August 2011.)

Fanack Water. (2016). *Water Management in Israel - Fanack Water*. [online] Available at: http://water.fanack.com/israel/water-management/ [Accessed 9 June 2019].

Garduno, H., Steenbergen, F., and Foster, S. (2010). *Stakeholder Participation in Groundwater Management (Enabling and Nurturing Engagement)*.

Gun, J. (2012). *Groundwater and Global Change*. Paris: UNESCO, p.7.

IGRAC (International Groundwater Resources Assessment Centre). 2009. *Transboundary Aquifers of the World. Map at Scale 1: 50 M*. Delft, the Netherlands, IGRAC.

Kulkarni, H. (2018). *India Must Treat Groundwater as a Common Resource, Not Private Property*. [online] Quartz India. Available at: https://qz.com/india/1298108/india-must-treat-groundwater-as-a-common-resource-not-private-property/ [Accessed 1 June 2019].

Legislative Council Secretariat (2016). *Overview of Water Resources Management in Singapore*. [online] Legislative Council Secretariat, pp.1–3. Available at: https://www.legco.gov.hk/research-publications/english/1516fsc19-overview-of-water-resources-management-in-singapore-20160226-e.pdf [Accessed 7 June 2019].

12. Margat, J. 2008. *Les Eaux Souterraines Dans Le Monde.* Orléans/Paris, BGRM/UNESCO.

Ministry of Water Resources, River Development and Ganga Rejuvenation (2015). *Report of the Interministerial Group for Arsenic Mitigation*. Ministry of Water Resources, River Development and Ganga Rejuvenation, p.11.

Ministry of Water Resources (2019). A*quifer Mapping - Home : Funded by World Bank*. [online] Aquiferindia.org. Available at: http://www.aquiferindia.org/ [Accessed 8 June 2019].

National Research Council (1994). *Ground Water Recharge Using Waters of Impaired Quality*. Washington, D.C.: National Academy Press, p.212.

Prasad, R. (2018). Groundwater Depletion Alarming in Northwest, Central India. *The Hindu*. [online] Available at: https://www.thehindu.com/sci-tech/groundwater-depletion-alarming-in-northwest-central-india/article25463716.ece [Accessed 31 May 2019].

Siebert, S., Burke, J., Faures, J., Frenken, K., Hoogeveen, J., Döll, P., and Portmann, T. 2010. *Groundwater Use for Irrigation – A Global Inventory*. *Hydrology and Earth System Sciences,* Vol. 14, pp. 1863–80.

Stone, A. (2001). Groundwater, River and Lakes are Connected. *National Driller*. [online] Available at: https://www.nationaldriller.com/articles/85721-groundwater-river-and-lakes-are-connected [Accessed 9 June 2019].

Wikipedia (2019). *Water supply and sanitation in Israel*. [online] En.wikipedia.org. Available at: https://en.wikipedia.org/wiki/Water_supply_and_sanitation_in_Israel [Accessed 9 June 2019].

World Bank (2006). *India's Water Economy: Bracing for a Turbulent Future*. New Delhi: Oxford University Press.

World Bank (2012). *India Groundwater: a Valuable but Diminishing Resource*. [online] World Bank. Available at: http://www.worldbank.org/en/news/feature/2012/03/06/india-groundwater-critical-diminishing [Accessed 1 June 2019].

Anita Singh

The author is an I.A.S. officer of 1990 batch, Uttar Pradesh cadre and was posted as Principal Secretary, Minor Irrigation and Ground Water, Government of Uttar Pradesh at the time of writing this article.

Crèche as a Strategy for Addressing the Specific Nutrition and Care Needs of Children under three years in Vulnerable Areas

Anu Garg

Abstract

Recent survey data from National Family Health Survey (NFHS) indicates that inspite of significant progress with child nutrition indicators, malnutrition in children continues to be high. It is well known that the interventions during the first two to three years of a child's life have the maximum potential to reduce malnutrition and to promote optimum cognitive development. It is also well proven that if proper nutrition and care is not provided to children in these years, the damage may be irreversible.

Integrated Child Development Services (ICDS) provides Hot Cooked Meals (HCM), preschool education, and other services for three to sixyears old children directly in the Anganwadi Centers (AWCs). For children below 3 years, Take Home Ration (THR) is provided to mothers with counselling for Early Childhood Development (ECD) through home visits or sessions like Village Health Sanitation and Nutrition Day (VHSND). In vulnerable areas with less health-seeking behavior, consumption of the entire THR by the child alone may be questionable. Where the mothers in vulnerable areas go to work and children are left with older siblings or grandparents, "care" of such children, including stimulation and provision of services like Iron–Folic Acid (IFA) supplementation, Vitamin A supplementation is a huge concern. "The problem is therefore how to address the nutritional and care needs of children under 3years in these vulnerable areas."

This paper analyses the current policy provisions with respect to nutrition and care for children under 3 years of age. An analysis of the ICDS, National Crèche Scheme, and POSHAN Abhiyaan has been presented in the paper to highlight the gaps in service provisioning for this critical mass of children, especially in vulnerable areas.

An attempt has been made to identify a few policy alternatives to strengthen the focus on children under 3 years of age. The policy alternatives suggested include spot feeding/HCMinstead of THR for this category as well; strengthening home visits of Anganwadi Workers (AWWs)for ensuring consumption of THR by child and

parenting tips for early stimulation; and establishment of community-based crèches in select nutritionally vulnerable areas.

The paper recommendsbringing in a policy focus to mainstream crèches in vulnerableareas to strengthen under-3 years nutrition, stimulation, and provision of various services to them. The crèches are proposed only in vulnerable pockets and not universally; catering to under-3 years children only. The implementation is proposed through the district administration with Self Help Groups(SHGs)/NGOs as implementing partners in setting up need-based crèches. Statesmay set up a Crèche Resource Center to support capacity building and monitoring. However, community participation, robust monitoring, and continuous handholding would be key to the success of this intervention.

1. Problem Description

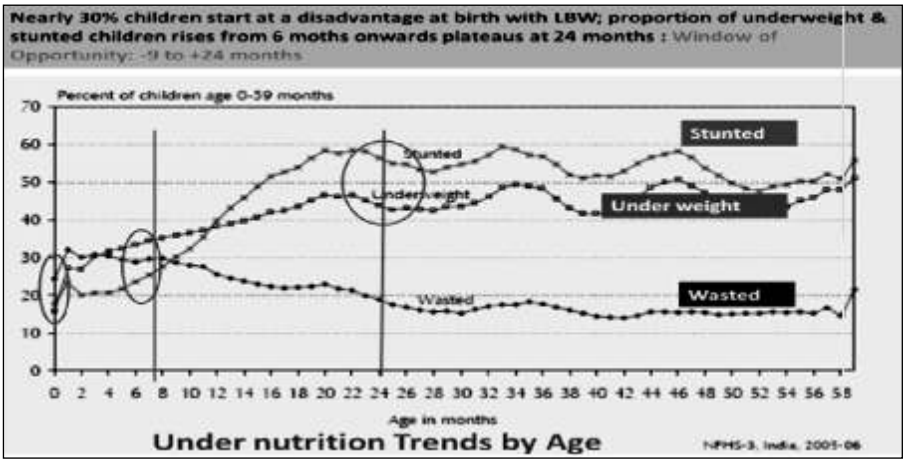
1.1. CDS provides HCM, preschool education, and other services for three to 6 years old directly in the AWCs. For children below 3 years, THR is provided to mothers with counselling for ECD through home visits or sessions like VHSND. In vulnerable areas with less health-seeking behavior, consumption of the entire THR by the child alone may be questionable. Where the mothers in vulnerable areas go to work and children are left with older siblings or grandparents, "care" of such children, including stimulation and provision of services like IFA supplementation, Vitamin A supplementation is a huge concern.

The problem is therefore how to address the nutritional and care needs of children under 3 years in these vulnerable areas.

1.2. According to the latest available data from the NFHS (4; 2015–16)[1]; 38 per cent of children under 5 years of age are stunted, 35 per cent are underweight, and 21 per cent are wasted.

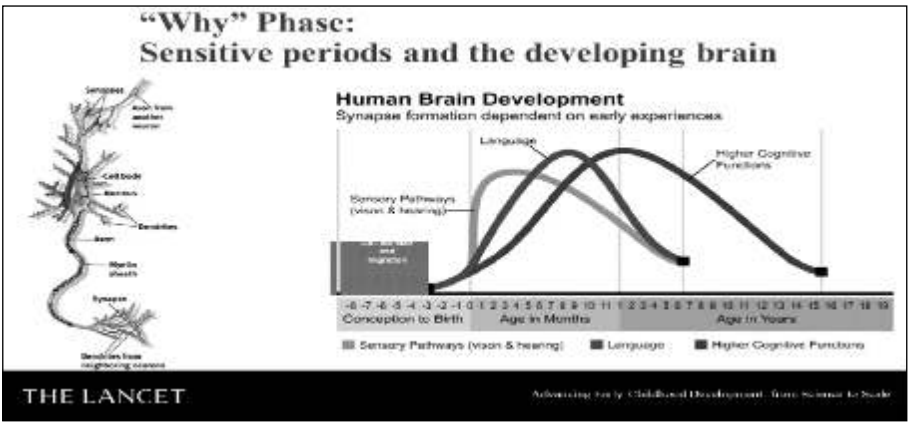
Analysis of the NFHS-3[2] figures show that malnutrition peaks within the early years of life (Graph1). There is robust evidence that interventions, during pregnancy and the first 1000 days are critical for arresting malnutrition and ensuring optimum physical / cognitive development of children (Lancet Series on Maternal and Child Nutrition, 2008).[3]

[1] National Family Health Survey (NFHS-4; 2015–16)
[2] National Family Health Survey (NFHS-3; 2005–06)
[3] Lancet Series on Maternal and Child Nutrition, 2008



1.3. ICDS, Pradhan Mantri Matru Vandana Yojana (PMMVY) / Mamata, Infant and Yong Child Feeding (IYCF), Mother Child Protection (MCP) Card, and the recent POSHAN Abhiyaan aim to provide health and nutrition among women and children. The major challenge is to effectively reach children under 3 years of age due to lack of regular contact points / platforms and effective institutional mechanisms for delivering key health and nutrition interventions to these children especially in states having vulnerable areas. Restructured ICDS provided for limited outreach to children under 3 years by piloting crèches in 5 per cent AWCs.

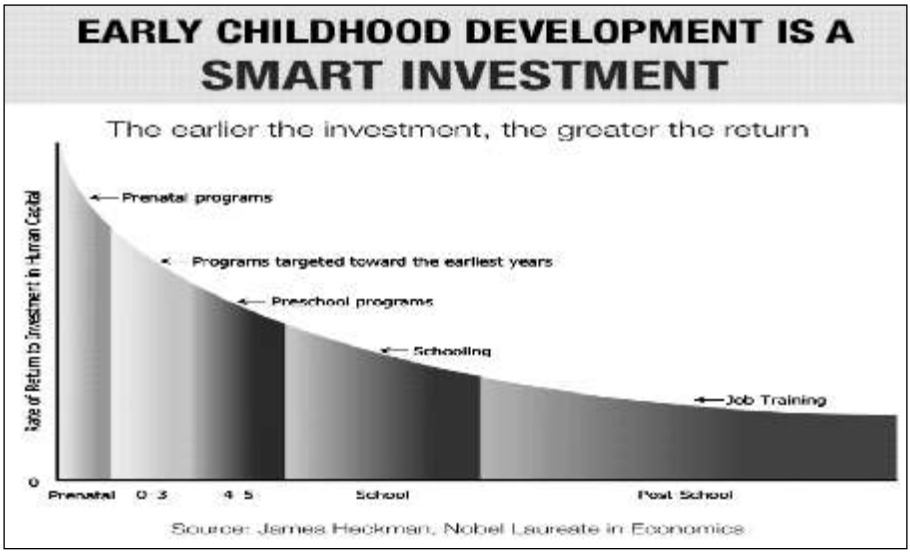
1.4. The UNICEF conceptual framework for causes of malnutrition highlights three vital factors affecting malnutrition, namely "care, nutrition, and health." However, the component of care has not been adequately explored (Graph 2).



Graph 2: Early Childhood Development

1.5. When the mother goes out for work, especially in vulnerable population, the child is often left in custody of the older sibling. The overall percentage of children involved in child care is around 5.9 per cent across all occupational categories.[4]

1.6. Graph 3 shows that the highest rate of economic returns comes from the earliest investments in children.



Graph 3: James Heckman's Curve

2. Review of Current Policy

2.1. Presently the major policies/schemes looking into nutrition, early stimulation aspects of children under 3 years of age are:

1. Integrated Child Development Services
2. National Crèche Scheme
3. POSHAN Abhiyaan

2.2. Table 1 below analyses the provisions, strengths, and limitations of these programs/policies with respect to nutritional and ECD needs of children under the age of 3 years.

[4] 2013, World Bank Study

Table 1: Comparison of Existing Programs/Policies

Current Policy/ Program	Integrated Child Development Services	National Crèche Scheme	POSHAN Abhiyaan
Provisions and objectives	1. Take home ration (SNP) 2. Home visits 3. Growth monitoring and promotion	1. Daycare facilities for children 2.Supplementary nutrition 3. Early stimulation 4. One crèche worker and one crèche helper	1. Common access software 2. Incremental learning approach 3. Community-based events
Major strengths including impact	1.Universal system to cover nutrition needs of under three children through provision of THR	1.First program to provision daycare facility for children 2.Potential to free-up women's time for economic engagement	1.Focus on the nutrition during the first 1000 days 2.Clear identification of the critical age-group and the nutrition interventions to be strengthened
Major limitations	1. General lack of focus on children under 3; they attend AWC only on monthly basis. 2. Regular growth monitoring / tracking of growth faltering a challenge. 3. THR adds to family pool, not necessarily consumed by the child. 4. Stimulation and "care" of children under-3 a challenge specially if working mothers	1. Independent program covering all children below 6 years with no linkages to the existing ICDS program. 2. Statedistrict level ICDS officials not involved in program implementation / review. 3. No or little community ownership 4. No proper training mechanism / impracti-cally low remuneration for crèche workers 5. No prioritized focus on vulnerable geographies 6. Insufficient and delayed funding 7. No provision of rent for crèches / remunera-tion for workers impractical 8. 10 per cent financial contribution from NGOs may be impractical.	1. The existing platform of Anganwadi centre is very weak for strengthening the nutrition of under-3 children 2. Does not talk about creation of an alternative platform for delivery of services to under-3 children.

2.3. The Rajiv Gandhi National Crèche Scheme (RGNCS) for children of working mothers could not serve the purpose because of issues in implementation through agencies such as Central / State Social Welfare Board and no State involvement.

3. Policy Alternatives and Evaluation

The major objective of policy alternatives being proposed is to identify / create a platform to deliver key nutrition, health, and care services to children under-3 years of age. The objective would be cover nutritionally vulnerable villages / hamlets in backward / aspirational districts to ensure that the intervention is need-based and focused. Universality is not being advocated to retain focus.

3.1. Spot feeding of HCM to children in the age group of 6 months to 3 years at existing AWCs on daily basis

This would require that children under 3 be provided HCM under the SNP either by the existing Anganwadi workers or through the Self-Help Groups.

Strengths

a. Provision of appropriate complementary feeding with respect to dietary diversity and meal frequency.
b. Improved coverage of other nutrition interventions like IFA supplementation, Vitamin A, deworming, regular growth monitoring.

Challenges

a. Expanding the service delivery at AWCs would mean increased workload on the AWW / supervisory officials. Infrastructure at AWCs would need augmentation.
b. Though this might be able to cater to the nutritional needs, it would be extremely difficult to integrate ECD into it.
c. The stimulation needs of 6 months-3 year olds vis-a-vis 3–6 year olds are different, better not clubbed together; injuries to smaller children could happen.

3.2. Strengthening the home visit component of ICDS

Under the current system, AWW is mandated to conduct home visits to the houses under her area, prioritizing the households which either have malnourished children or at-risk pregnant women.

Implementing it would require a renewed focus on the planning and conducting home visits and a micro plan under the guidance of supervisory cadre officials, such as Supervisor / CDPO.

Strengths

a. Prompt referral in case of growth faltering or developmental delays.
b. Strengthened delivery of ECD services through home-based early stimulation / parenting tips to ensure THR is consumed by child and s / he is stimulated adequately.

Challenges

a. Anganwadi workers are already overloaded with a lot of responsibilities and tasks; would need counselling skills.
b. The fact that households are mostly scattered makes it challenging to undertake home visits.
c. If mother is working, home visit may not serve the purpose.

3.3. Establishment of community-based crèches in nutritionally vulnerable, hard to reach areas/villages focusing on the needs of the under-3 children for nutrition, early childhood development and other convergent services

The alternative at Section 3.3 above is the recommended policy intervention and discussed in detail in Section 4.

4. Recommendation of a Policy Alternative

4.1. The quantitative evidence from published impact evaluation studies make a strong case in favor of community-based crèches as a strategy to tackle high rates of underweight and wasting among children under 3 years of age.

4.1.1. A review of two impact evaluation studies by Prasad et al.(2018) demonstrates that around 76 per cent of children with Severe Acute Malnutrition (SAM) showed improvement over a period of 4–6 months, with 37 per centchildren moving to normal anthropometric status in a crèche program in children under 3 years.

4.1.2. In Odisha, community-based crèches were initiated in the year 2017 to cover the most vulnerable areas of the state. Two such operational pilots with around 210 community-based crèches are currently being implemented. The crèche villages are identified through comprehensive vulnerability mapping taking into consideration geographical remoteness, malnutrition burden, and

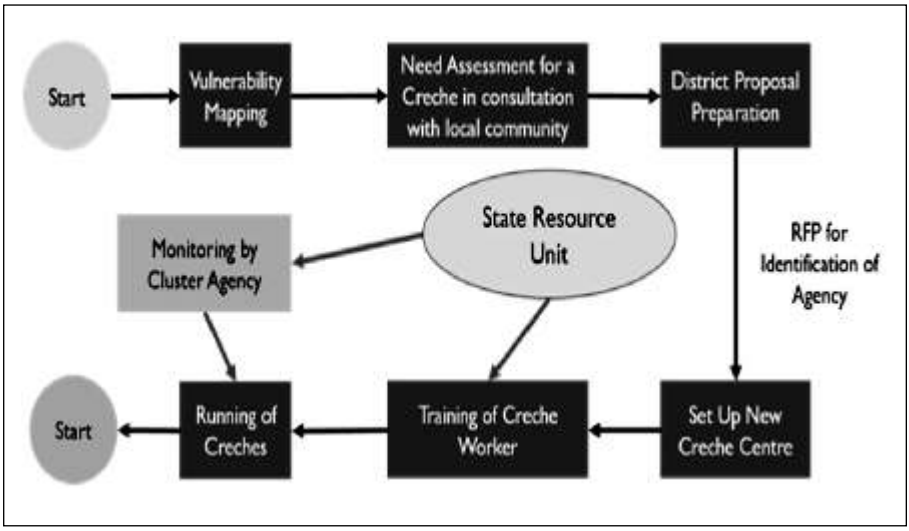
community demand. Each of these crèches has programmatic linkages with the current ICDS and health system and is also supported by a technical resource partner to ensure continuous capacity building and quality service delivery. Early findings have shown greater community ownership and provision of nutritious food has been perceived as biggest advantage of crèche.

4.1.3. Experience from the Phulwari program from Chhattisgarh showed positive results. The recent evaluation of Action Against Malnutrition (AAM) from Odisha, Jharkhand, and Chhattisgarh has shown that the program area intervened with crèche significantly reduced wasting by 27 per cent, stunting by 27 per cent, and underweight by 40 per cent.[6]

4.2. Recommended Policy

The policy proposal is to set up need-based crèches in the community following vulnerability and needs assessment. The agency will be identified by the district administration through a transparent process of Request for Proposal (RFP). State to set up a technical center for training, guidelines, hand holding, etc., shown schematically in Figure 1.

Figure 1: Proposed Model for Eestablishment of Community Based Crèches



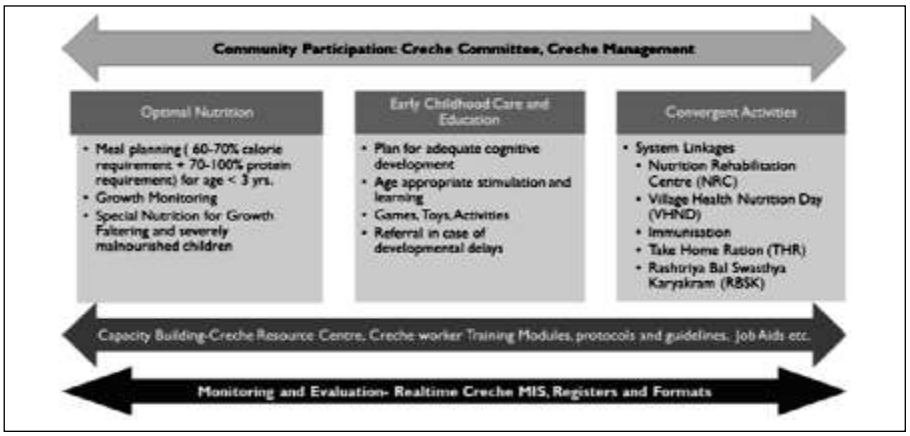
[6] Prasad, V, 2018, Outcomes of Children with Severe Acute Malnutrition in a Tribal Day-care Setting,

4. 3. The model may solve the problem better vis-a-viscrèches under National Crèche Scheme and also vis-a-vis ICDS by,

a. Focusing only on the critical under-3 age group.
b. Community ownership and demand to be the central criteria for establishing crèches, magnitude of malnutrition, and women workforce participation to also guide the selection of crèche sites.
c. Community-based monitoring through the existing Mothers Committees or Crèche Committees.
d. State Crèche Resource Centre to provide technical / programmatic support to implementing partners. Continuous capacity building of the crèche workers and program management personnel.
e. Strengthened complementary feeding with respect to dietary diversity and meal frequency.
f. Age-appropriate activities for early stimulation and tracking of developmental milestones.
g. Robust MIS tracking the growth of each and every child. Timely referral in case of malnourishment.
h. Meticulous linkages with the ICDS system for identification of underweight children, monitoring, supportive supervision, referral, and follow-up of the malnourished children.

4.4. The crèches meet our objectives by providing spot feeding, early stimulation, and convergent health services and platform for interaction with parents as given in Figure 2 below:

Figure 2: Activities under the Proposed Crèche Model



4.5. Combating malnutrition being an avowed objective of government, politically it would be acceptable. The crèches are proposed to be implemented under the State Government / district administration; therefore, it is administratively feasible too. However, it would require robust monitoring mechanism; a sound mechanism / tracking system and capacity building of NGO / CBOs implementing it.

5. Conclusion

In vulnerable areas, community-based crèches may be the mechanism for ensuring adequate nutrition, optimum early childhood development, and other services to children below 3 years of age. However, robust monitoring effective capacity building and continuous hand holding will be the key to success.

References

Bhutta ZA, Ahmed T, Black RE, et al, for the Maternal and Child Undernutrition Group. What works? Interventions for maternal and child undernutrition and survival. Lancet 2008.

Forum for Creches and Child Care Services and Centre for Women's Development Studies (April 2011). Assessment for Crèches and Child Care Services.

http: / / www.worldbank.org / en / news / feature / 2017 / 03 / 30 / well-designed-early-childhood-development-programs-can-pay-big-dividends (accessed on 8th June). 2019.

International Institute for Population Sciences (2007): National Family Health Survey (NFHS-3), 2005-06: India. Mumbai, India, International Institute for Population Sciences.

International Institute for Population Sciences (2016): National Family Health Survey (NFHS-4), 2015-16: *India.* Mumbai, India, International Institute for Population Sciences.

Ministry of Women and Child Development (2013): National Early Childhood Care and Education (ECCE) Policy.

Ministry of Women and Child Development ICDS Mission(2013): A Broad Framework for Implementation.

Ministry of Women and Child Development (2017): National Crèche Scheme.

Ministry of Women and Child Development (2018): Administrative Guidelines of National Nutrition Mission (POSHAN Abhiyaan).

Prasad, V, 2018, Outcomes of Children with Severe Acute Malnutrition in a Tribal Day-care Setting, *Indian Paediatrics*, Vol. 55.

Prasad, V, 2015, Potentials, Experiences and Outcomes of a Comprehensive Community Based Programme to Address Malnutrition in Tribal India, *International Journal of Child Health and Nutrition*.

Anu Garg

The author is an I.A.S. officer of 1991 batch, Odisha cadre and was posted as Principal Secretary, Women and Child Development, Labour and ESI, Government of Odisha at the time of writing this article.

NYAY or ANYAY: Why Make it a Hobson's Choice between Income and Welfare Schemes?

Arunish Chawla

Abstract

Universal basic income has been an idea debated for a long time. In the run-up to recent elections, it acquired new dimensions not seen in the Indian polity hitherto. This paper analyses this policy debate and concludes that both income and welfare schemes are complementary and can achieve similar microeconomic effects. The paper also concludes that a basic income scheme can be a powerful tool for poverty alleviation and can be feasibly implemented in India by rationalizing and redeploying the existing budgetary resources.

Introduction

India has debated universal basic income for several years. The recently concluded election took this debate to new heights. In the run-up to elections, a State Government announced the Krushak Assistance for Livelihood and Income Augmentation (KALIA) scheme, while the Central Government announced Pradhan Mantri Kisan Samman Nidhi (PM-KISAN). The major opposition party reacted by announcing an even larger scheme called Nyuntam Aay Yojana (NYAY) during the election campaign. We need to carefully examine the policy choices in this regard. This paper is dedicated to the same.

Basic Income

Universal Basic Income as in Europe, or Basic Income Guarantee as in the United States and Canada, is an idea that has been around for a long time. The idea of a state-run basic income dates back to the early 16th century, when *Sir Thomas More's Utopia* depicted a society in which every person receives a guaranteed income. Two centuries later, English radical *Thomas Spence* and American revolutionary *Thomas Paine* both declared their support for a welfare system that guaranteed all citizens a certain income.

International Experience

In the 1960s and 1970s, the United States and Canada conducted several experiments with negative income taxation, a welfare system related to the concept of basic income scheme. US President Richard Nixon even proposed a negative income tax in a bill to the Congress, but Congress eventually only approved a guaranteed minimum income for the elderly and the disabled, not for all citizens. Permanent Fund of Alaska was setup in 1976 as a dividend-based income transfer funded out of the oil revenues.

From the 1980s and onward, the debate in Europe took off more broadly and since then it has expanded to many countries around the world. A few countries have implemented large-scale welfare systems that have some similarities to basic income, such as the *Bolsa Família* in Brazil and *Oportunidades* in Mexico.

From 2010 onward, basic income again became an active topic in many countries. Several countries are planning or have conducted local or regional experiments with basic income or related welfare systems. Experiments conducted in Canada, Finland, India, and Kenya have received international attention. The *Give-Directly* experiment in Nairobi, Kenya is the biggest and longest basic income pilot experiment as of date. The Finnish Government began a two-year pilot scheme in January 2017 which involved 2,000 subjects. In April 2018, it rejected a request for funds to extend and expand the program. The first and only national referendum about basic income was held in Switzerland in 2016. The result was a rejection of the basic income proposal by a vote of 76.9 per cent–23.1 per cent.

Basic income is currently being discussed from a variety of perspectives, including in the context of the Fourth Industrial Revolution. The debates about basic income and automation are closely linked, for example, Mark Zuckerberg and Elon Musk have recently argued that the increase in automation will create a need for universal basic income. In March 2017,President Barack Obama warned US Congress about the looming threat of job losses, based on reports that as much as 50 per cent of jobs could be replaced by robots by 2030.

There are four basic features of a basic income scheme:

- Unconditional: A basic income must be paid unconditionally. It may vary with age, but with no other conditions attached, so everyone of the same age would receive the same basic income, whatever their gender, employment status, family structure, etc.
- Automatic: Basic income would be automatically paid weekly or monthly into a bank account, cash, or otherwise.
- Not Means Tested: Basic income would not be means tested, that is whether someone's earnings increase, decrease, or stay the same, but their basic income will not change.
- A Right: Every legal resident or citizen would receive a basic income, subject to fulfilling this status, as a legal right.

An unconditional income that is sufficient to meet a person's basic needs (say around the poverty line) is called a “full basic income,” while if it is less than that amount, it is called “partial basic income.”

Basic Income Schemes in India

Rayathu Bandhu, Kalia, and PM-Kisan are the three quasi-basic income schemes that are being implemented in India. While they do not satisfy all the essential criteria, they involve direct and unconditional cash transfer to farmers.

Under the *Rayathu Bandhu Scheme*, the Government of Telegana is providing 58.33 lakh farmers, Rs 4,000 per acre per season to support farm investment, twice a year, for rabi and kharif seasons.

Under the Kalia Scheme recently implemented in Odisha, all farming families either big or small, are being provided Rs 10,000 per year [Rs 5,000 each for the kharif and rabi seasons for five cropping seasons between 2018–19 and 2021–22].

PM-KISANis a Central Sector scheme with 100 per cent funding from the Government of India which became operational from 1.12.2018 onward. Under the scheme an income support of Rs.6,000 per year, in three equal instalments, is being provided to small and marginal farmer families having combined land holding / ownership upto 2 hectares.

Micro-foundations

Before proceeding further, it is important to understand the microeconomic foundations of both income transfer and welfare schemes. Assume a household with a utility function and a standard budget constraint operating below the poverty line (Figure1). A typical basic income scheme shifts the budget constraint outwards towards the poverty line and eliminates this distress. It can also shift further outwards depending on the quantum of income transfer, which is likely to distort labour supply (the common criticism of universal income schemes). At the micro-economic level, several traditional welfare schemes have the same impact as the income transfer schemes as they also relax the budget constraint and shift it outwards, even beyond the poverty line. Several welfare schemes are infact "implicit" income transfer schemes; suitable reforms and improved delivery can infact achieve an impact similar to the basic income schemes.

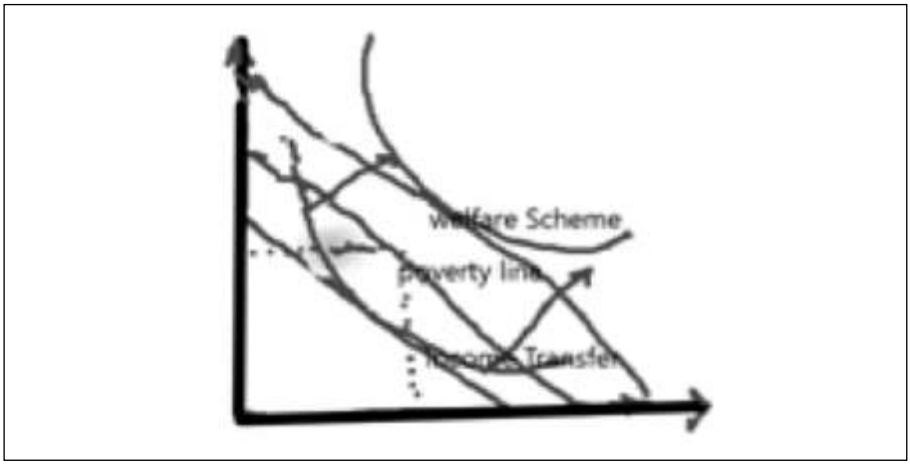


Figure-1: Poverty Line, Income Transfer, and Welfare Schemes.

Below, I highlight four government welfare schemes that have similar impact to basic income schemes given the micro-dynamics at the household level.

NREGA 2.0: Mahatma Gandhi NREGA may be seen as an implicit income transfer scheme to the extent wages paid are above the rural equilibrium wage that would prevail in its absence. Its self-selecting nature takes care of the potential distortions. It needs to be fine tuned after incorporating learning experiences and evaluation feedbacks. An improved NREGA (version 2.0)

should not impose any wage-material ratio at any level. The central funds may be exclusively used to pay wage income to the labourers, while materials expenditure may be met flexibly from any other source: regional, local, departmental, finance commission transfers, etc. Alternatively, material component may be made a separate sub-scheme under NREGA. While wages may be paid through on-line direct transfers, assets may be mapped geo-spatially.

Food Security 2.0: Time has also come to think of a better food security architecture (version 2.0). From the point of view of the micro-foundations discussed above, the incidence of food subsidy can be separated into three parts: (i) buffer cost, (ii) operational costs, and (iii) implicit income transfer.

When bifurcated in this manner, the computed operational costs can be used to operate the FCI like a large price stabilization fund. For this decentralization of powers would be necessary so that field units can both procure and sell in a timely manner to stabilize the market for both farmers and consumers. The buffer cost would anyway need to be paid to the FCI from the budget as it is a public good in the form of national food security. Using the "choice" provisions enshrined in the food security law, the imputed income transfer can easily be converted to a basic income transfer that will help close the poverty gap and lift the poorest out of absolute poverty.

Education and Health Mission: The national health and education missions also operate like implicit income transfer schemes. They relax the household budgets constraints by substituting essential items of consumption expenditure. The focus should now shift to improving quality of services and creating quasi-markets. They are both non-distortionary and complementary to any basic income transfer scheme.

Social Security Schemes: National Social Assistance Program and unconditional pension schemes of the central and state governments also act like income transfer schemes. Merged all together and rationalized, they can help redeploy resources to meet the cost of a basic income transfer scheme.

Poverty Gap Analysis

The poverty gap is the average shortfall of the total population below the povertyline. This measurement is used to reflect the intensity of poverty as also the total income transfer that would be needed to lift everybody out of

extreme poverty. The poverty line here is the widely accepted international standard for extreme poverty, the *absolute poverty line*.

India does not measure income poverty but has evolved an elaborate methodology to measure consumption poverty through large-sample surveys conducted by the National Sample Survey Organisation (NSSO) quinquennially (once every five years). The most recent such survey was conducted in 2017-18 whose results are awaited. I, therefore, use the results of the 2011-12 NSSO survey to compute the poverty gap with reference to the Tendulkar Poverty Line, which at purchasing power parity is very close to the international poverty line. The results of this analysis are summarized in Table1. At 2011-12 prices this amounts to Rs. 55,744 crore. Using the headline consumer price inflation for April 2019, this amounts to Rs 78,654 crore at the current level.

This is by no means a small amount, but not unmanageable. It amounts to almost 0.4 per cent of India's current Gross Domestic Products (GDP) and is not very different from the amount projected by the Central Government for the PM-KISAN. Pilot experiments suggest that it should be possible to redeploy fertilizer subsidy as a cash transfer scheme for the farmers. The implicit income transfer in the Food Security Scheme, dovetailed with the on-going social security schemes, and a revamped NREGA, can be used to achieve a fair and just basic income scheme for the entire country within the existing budgetary resources. What *Thomas Moore*, the original propounder of the basic income idea, though was "utopia" can now become a "reality" and that this could actually be budget neutral!

The Targeting Problem

One problem remains….How to target the basic income scheme to the actual needy? The DBT and the Aadhaar platform can be used for efficient cash transfers, but they do not, by themselves, solve the beneficiary identification problem. We do not measure income poverty and in a country where 90 per cent of employment lies in the informal sector this is impossible. We need a fresh application of mind, a fresh attempt to understand the structural differences between our rural and urban economies, and a fresh attempt to identify the socio-economic markers that could help us prepare a more fair and just beneficiary list. Dovetailing this with the already developed cash transfer

platform will give us a basic income scheme that works and is effective in eliminating poverty in a sustained manner. This should be the topic of another policy paper and some applied research by a dedicated expert group constituted to resolve the targeting problem in a time bound manner.

Conclusion

While the title of this paper appears catchy, the conclusion may not always be so. This is the reality of policy making in our times. While the compulsions of democratic politics force the political class to continuously search for slogans, the civil servants must do the unglamorous job of cleaning-up the process of policy making. The debate around universal basic scheme offers one such opportunity. There is no Hobson's choice between the income and welfare schemes. They both need to be reformed along the lines suggested above to achieve a basic living standard and quality of life for every citizen. In particular, NREGA 2.0, Education and Health Missions, Food Security Mission, and Social Security Pension Schemes cannot wait for reforms any longer. At the same time, an Expert Committee needs to be constituted to work out improved methodology for identification of targeted beneficiaries. Only then the aim of justice social, economic, and political can be achieved as enshrined in the Preamble of the Indian Constitution!

References

Universal Basic Income-A Conversation with and within the Mahatma; Economic Survey, 2016-17, Ministry of Finance, Government of India.

Saxena, N. C. (2009), *"Report of the expert group to advise the Ministry of Rural Development on the methodology for conducting the below poverty line (BPL) census for 11th five-year plan"*, Ministry of Rural Development, Government of India, New Delhi.

Mundle, Sudipto, and Satadru Sikdar (2017), *"A Note on Budget Subsidies in India and 14 major states"*, NIPFP.

Himanshu and Abhijit Sen (2013), *"In-kind food transfers—I: impact on poverty"*, Economic & Political Weekly Volume 48 Issue No. 45-46.

Dreze, Jean (2016), *"Decoding the Universal Basic Income"*, NDTV, (http://www.ndtv.com/ opinion/decoding-universal-basic-income-for-india-1649293?pfrom=home-lateststories).

Banerjee, Abhijit (2016), *"The Best Way to Welfare"*, Indian Express (http://indianexpress. com/article/opinion/columns/swiss-voted-against-the-idea-of-a-universal-basic-income-butthe-debate-continues-2859528/).

Tognini, Giacomo. *"Universal Basic Income, 5 Experiments From Around The World"*. www.worldcrunch.com. World Crunch. Retrieved 10 June 2017.Dolan, Ed (27 January 2014).

"A Universal Basic Income: Conservative, Progressive, and Libertarian Perspectives". Econo-Monitor. Retrieved 29 September 2014.

"A universal basic income experiment in Alaska shows employment didn't drop - Quartz". qz.com. Retrieved 20 November 2018.

Bryce Covert, *"What Money Can Buy: The promise of a universal basic income - and its limitations"*, The Nation, vol. 307, no. 6 (10/17 September 2018), p. 33.

Table 1: How Much Cash Transfer is Needed to Eliminate the Poverty Gap (Tendulkar Poverty Lines 2011–12).

Rural					
Decile Class	Average MPCE (Rs.0.00) (xi)	Poverty Line (p)	Population (Ni)	| p-xi |	Ni* | pi-xi |
00 per cent–10 per cent	616.00		8,33,46,345	258.50	24,00,37,47,302
10 per cent–20 per cent	777.50		8,33,46,345	97.00	10,54,33,12,617
20 per cent–30 per cent	904.00	874.50	4,16,73,172	29.50	1,22,93,58,586
30 per cent–40 per cent	1019.00				
40 per cent–50 per cent	1136.50				
50 per cent–60 per cent	1269.50				
60 per cent–70 per cent	1431.50				

70 per cent–80 per cent	1657.50				
80 per cent–90 per cent	2044.50				
90 per cent–100 per cent	2886.00				
Total		20,83,65,862			35,776
Total Cash Transfer per month (Rs crore)				3,578	
Total Cash Transfer per year (Rs crore)				42,932	

Rural					
Decile Class	Average MPCE (Rs.0.00) (xi)	Poverty Line (p)	Popula-tion (Ni)	| p-xi |	Ni* | pi-xi |
00 per cent -10 per cent	771.00		3,77,10,613	196.25	9,57,84,95,575
10 per cent–20 per cent	1025.50	967.25	1,88,55,306	58.25	1,09,83,21,589
20 per cent–30 per cent	1254.50				
30 per cent–40 per cent	1484.50				
40 per cent–50 per cent	1734.00				
50 per cent–60 per cent	2028.00				
60 per cent–70 per cent	2393.00				
70 per cent–80 per cent	2915.50				
80 per cent–90 per cent	3873.50				

90 per cent–100 per cent	6282.00				
Total			5,65,65,919		1,068
Total Cash Transfer per month (Rs crore)				1,068	
Total Cash Transfer per year (Rs crore)				12,812	
Total Cash Transfer per year R+U (Rs crore)				55,744	

Arunish Chawla

The author is an I.A.S. officer of 1992 batch, Bihar cadre and was posted as Additional Secretary, Minister Economic, Ministry of External Affairs at the time of writing this article.

The Political Economy of Development in a Small Urban Body

Karn Satyarthi

Abstract

My objective through this article is to analyse the political economy of decision-making in small Urban Local Governments (ULG). The Rajmahal Nagar Panchayat (RNP) acts as a microcosm through which we analyse problems faced by areas that are in transition between a predominantly rural to an urban economy. I analyse the main problems faced by small ULGs through some illustrative examples of dysfunctional projects in RNP. I have also calculated some standard measures like dependency ratio, decentralisation ratio and revenue autonomy ratio to drive home the poor fiscal health that RNP is in. I further focus on municipal finances of RNP and try to underline the problems with financing small cities with predominantly small-scale economic activity. I also study the problems of insufficient citizen participation, land reform and absence of systemic decision making. Through this article, I place some suggestions on methods to get municipal finances back on track through conditional cash transfer type of mechanism for devolution of untied funds. I also take the liberty to suggest some reforms in municipal administration that state governments could undertake. The conclusion contains suggestions on capacity building of elected representatives and tenancy reform in municipal areas.

Section 3(a)(1) of the 74th Constitutional Amendment Act 1992 provides for the establishment of "Nagar Panchayats for areas in transition from a rural area to urban area." Article 243Q added to the constitution by this very amendment act empowers the state government to declare transitional zones as Nagar Panchayats. In this article,I shall focus on the politico-economic environment of one such Nagar Panchayat in the state of Jharkhand. The RNP developed from an erstwhile Notified Area Committee, a very small but historically significant transitional zone.

Rajmahal Nagar Panchayat is divided into 14 urban wards and has a little over 5,500 households with a population of over 23,000 according to the 2011 census. The council comprises 14 ward commissioners, a vice chairman and a chairman, all three directly

elected. The Jharkhand Municipal Act 2011 does not specify any specific executive powers to the chairman and for all practical purposes executive powers are exercised by the executive officer appointed by the State Government. The council sits once a month and deliberates on important policy issues and is the final decision-making authority on all matters delegated to the Urban Local Governments (ULG) by the Jharkhand Municipal Act, 2011.The Urban Development Department is overall in charge of municipal administration in the state. In theory, at least 13 of the 18 items listed in the 12th Schedule of the Constitution have been delegated to RNP but in practice RNP is constrained severely by lack of resources. Even when resources are available for implementing works that are in the domain of an urban local body RNP has to work under strict guidelines from authorities that dispatch the grants in aid, namely State and the Central Government. In practice, therefore, RNP is primarily responsible on most subjects to the State Government and not to the electorate that directly elect the council.

The revenue receipts of the RNP can be broadly divided into two parts First, revenue form own or internal sources, this consists mainly of the property tax, water user charge, trade license fee, entry tax, rent generated from municipal properties and minor auctions. Second, grants received from the government and grants received through of the 14th Finance Commission (FFC or 14th FC), the state government releases timely grants to RNP mainly under 3 heads viz., (1) Civic amenities, (2) Roads and Road Safety, and (3) Sanitation, these grants, however, are of a gap-filling nature and by themselves are not enough to undertake projects of a sufficiently large-scale or to create any fixed capital assets. Poor state of RNP's fiscal health can be gauged by very dependency ratio (share of grants out of total expenditure) that it is running. We can use two metrics to judge the imbalance between RNP's internal resources and grants received, the dependency ratio and the decentralisation ratio.

Table 1: Annual Dependency Ratio of RNP

Year	Dependency Ratio
2012–13	1.09
2013–14	0.38
2014–15	3.22
2015–16	4.77
2016–17	0.92
2017–18	0.73
2018–19	0.43

Source: RNP's Annual Financial Statements

RNP's dependency ratio is very high and unsustainable. A very high dependency ration in the present case is also combined with an extremely poor Decentralisation ratio of 0.06. Decentralisation ratio is defined as ULG's per capita revenue receipts divided by the state's per capita revenue receipt. Another metric that points in the same direction as dependency and decentralisation ratio is the revenue autonomy ratio.

Table 2: Annual Revenue Autonomy Ratio of RNP

Year	Revenue Autonomy Ratio
2012–13	0.04
2013–14	0.19
2014–15	0.04
2015–16	0.01
2016–17	0.08
2017–18	0.10
2018–19	0.30

Source: RNP's Annual Financial Statements

Table 2 makes it amply evident the RNP does very badly in revenue autonomy too along with other indicators of fiscal health. One of the major sources of capital grants received by RNP is from the Finance Commission. The 14th Finance Commission is considered to be a breakthrough in the area of devolving funds to Urban and Rural Local Governments; however, the funds devolved through the 14throute are also not untied in case of ULGs. Grants under the Fourteenth Finance Commission (14th FC) are tied to specific projects that are decided by the States High Level Monitoring Committee (HLMC). This limits the ULG's discretion in using the earmarked funds to suit local needs as it is very difficult to evolve or divert resource usage.

Apart from the sources already mentioned, RNP gets funds for implementation of government schemes like Pradhan Mantri Awaas Yojana (Urban), Swachha Bharat Abhiyan (Urban), and National Urban Livelihoods Mission. A majority of these funds, however, are very tightly regulated in terms of use and do not offer any flexibility to RNP. In addition to these schemes the state government through various executive agencies executes projects within the territorial limit of the RNP without any active involvement

of RNP, these include projects relating to the National Mission for Clean Ganga (NMCG).

Some Structural Problems with Internal Revenue

Property tax is considered to be the biggest source of internal revenue for most of the large Municipal Corporations. For RNP, however, property tax constitutes only 6.04per cent of the total receipts for the year 2018–19 up from 4.54per cent for the year 2017–18. This is despite the fact that RNP collected more than 100per cent of its private property tax demand in both the years. Even after collecting more than 100per cent of its target the overall achievement in terms of property tax collection for the year 2018–19 fell short by more than 40per cent. This is because a large portion of the demand is property tax from government properties and government buildings find it difficult to service their holding tax, they also typically run up huge dues because of legacy issues. Another problem with relying on property tax heavily is the low rental value prevalent in the area. RNP has not transformed completely into a lively urban zone and hence the values of trade license fee as well are not high enough to sustain infrastructure growth. Property tax as a fraction of the total own source / internal revenue for RNP over the last 5 years is as follows:

Table 3: Status of Property Taxes

Year	Total Property Tax Collection (in INR)	per cent of Total Internal Revenue	YoY Growth (per cent terms)
2014–15	1,16,250	3.99	–
2015–16	1,96,800	13.66	69.29
2016–17	7,01,445	14.49	256.43
2017–18	1,930,288	44.83	175.19
2018–19	1,490,618	20.26	- 22.78

Source: RNP's Annual Financial Statements

Property tax collection in RNP follows an interesting trend, up until the year 2014–15 property tax collection was very poor, that was when the state government imposed some reforms on revenue administration of RNP, we see marked improvement in property tax collection after that. Collection however

peaked in the year 2017–18, this is because most arrears in private demand had already been collected and government dues were not being paid, 2018–19 therefore saw a dip in collection.

It is clear from Table 3 that property tax as a fraction of total revenue is not buoyant enough and too erratic to finance any meaningful capital expenditure.

The discussion on property tax was important pursuant to my reflections on the fiscal health of RNP. This, however, is not the only major structural problem faced by RNP. In the seven months that I have observed RNP, some other issues came up. I suspect these are not unique to this ULG. They are:

1. Poor capacity of elected representatives leading to erratic decision-making
2. Top-down approach in deciding priorities
3. Lack of specific innovation for reviving municipal finance for small ULGs
4. Inadequate participation from citizens

I shall now take up individual cases of three different projects that have been held up for long and through their local problems try to paint a picture of larger constraints faced by small urban bodies.

1. The Curious Case of One Wedding Hall

A *vivaah bhavan* or a wedding hall for some reason is always in demand with councillors of RNP. When the HLMC invited projects to be executed through funds devolved by the 14th FC, RNP sent a proposal for two wedding halls in two of its 14 wards. This was in addition to the two that already exist. Almost four years after both the projects were sanctioned none of them has hit the ground in terms of running as of yet. The lack of progress on these two projects means not only that crucial 14th FC funds are locked in and cannot be diverted to some other more productive or more feasible use but also that there is a huge opportunity cost in terms of revenue foregone because both of them would have commanded service charges. They also showcase the malaise that lies deep within. I shall now attempt to answer a few questions that are relevant to why these projects amounting to more than Rs. 3 crore have been held up for the past four years:

1. Why four wedding halls so close to each other were taken up?

   My interactions with the councillors reveal that there was a huge demand for such spaces for celebrations / meetings in the RNP and that therefore all of them made demands for their respective wards and two new ones were given approval. This was done without taking into account the fact that the existing two halls do not run at full capacity. What was also discounted was that one additional space would have been sufficient for the entire RNP. The councillors here could not think outside of the silos of their respective wards.

2. Why could the projects not take off despite availability of adequate finance?

   The first of the two wedding halls could not take off because of a very simple reason - the council had not earmarked adequate space for the project. During my interaction, counsellors claimed that there was space in ward number one which had traditionally been used for setting up temporary marriage *pandals* and they thought that this space would be sufficient for constructing the permanent structure, the catch however which no one thought of then was that the space was private and while the owner would have no problem in temporary utilisation of it, no landholder in his right mind would ever allow permanent construction on her land parcel without the state acquiring the land. The cost of land was not taken into account and the project could never take off. The money earmarked lies unutilised with the RNP since diversion to a more suitable use is not allowed.

   The constraint that the second wedding hall faced was of a more serious nature. The detailed project report had not taken into account the unusually undulating nature of the land identified and thus there was a miscalculation in the estimated cost. RNP sent the Detailed Project Report (DPR) to technical authorities for revision but the DPR is still awaiting administrative sanction. In the last four years the schedule of rates has been revised many times and if one were to take the time value of money into account, the RNP today commands significantly lower amount of financial resources than originally envisaged.

3. What could have been done to undo the damage?

   As soon as it came to light that the projects in their current avatar were not feasible, RNP should have sent a proposal to the HLMC requesting cancellation of the approval and should have identified alternative projects that were more feasible.

The case of the numerous wedding halls underscores some crucial issues that most of the small urban bodies face. First, the capacity of the council is not developed to an extent where we can reconcile the demands of individual wards with that of the NP as a whole. Second, councillors are not trained enough in terms of administrative and documentary requirements of project approval and management.

2. The Tragic Case of the Market Complex

RNP has a small but vibrant daily market and tremendous space for growth in small retail. Considering demand for growth in small businesses, the RNP decided in the year 2010 to build a market complex with 70 permanent shops. The model for raising funds was also a very good one. Candidates interested in starting and running small businesses were invited and a group of 70 was constituted throughdrawn of lots. The cost of the market complex was to be borne partially by the RNP but a major chunk of the fixed cost was to be contributed by the prospective owners of the shops. This market complex thus promised to be a good source of regular revenue and economic activity for RNP. The project seemed to be a perfect fit for the RNP, only it wasnot. Today this establishment is a bunch of 70 dilapidated brick structures without a hint of meaningful economic activity. The market complex failed to take off because no sooner was it visualised that it ran into legal troubles. The land on which the market complex was being built had been used traditionally for hosting informal street vendors. What the council as well as the executive authority of the RNP failed to take into account was that the land legally belonged to the Sub-Divisional hospital. The Sub-Divisional hospital had in its possession a huge parcel of Kaiser-i-Hind land at the time of over country's independence and by statute all Kaiser-i-Hind land would remain in rightful possession of the institution that held it at the time of India's independence. RNP could not convince the Hon'ble High Court of Jharkhand that the land was no longer of any use to the hospital and that the hospital that had been

situated within 300 metres of the envisaged market complex had now moved more than 500 metres away from it. At the heart of this debacle as it were is a deeper issue. Article 243W of the Constitution of India directs us to the Twelfth Schedule. This is to guide us on the powers to be delegated to urban local self-governments. Items 1 and 2 on the Twelfth Schedule are urban planning and regulation of land use. The 74th Amendment envisaged all ULGs to have control over the regulation of land use. The Jharkhand Municipal Act 2011, although not completely silent on the issue, is not very clear as to what the powers of an ULG are when it comes to changing land-use pattern or regulating it. Section 46 of the Act says,

"(1) A Municipal Corporation or a Class `A' Municipal Council may, from time to time, constitute Subject Committees consisting of elected councillors to deal with the following matters, namely:

(d) urban environment management and land use control;"

Further Section 70 of the Act says, "

Municipal Functions:

(1) Every municipality shall provide on its own or arrange to provide through any agency the following functions and services:

(A) Core Functions

(i) Urban planning including town planning,

(ii) Regulation of land-use including protection of public land from encroachment and construction of buildings,"

Neither Section 46 nor Section 70 lay down any detailed method on how land-use pattern can be regulated by the municipal body. RNP does have a master plan that was commissioned by the state government but it has no clear-cut pathway to implementing the zonal arrangement or town planning. Another crucial bottleneck to freeing up the factor market for land in the RNP is the Santhal Pargana Tenancy (SPT) (Supplementary Provisions) Act, 1949 (SPT Act). Section 20 of the SPT Act says, "No transfer by a Raiyat of his right in his holding or any portion thereof, by sale, gift mortgage, will, lease or any other contract or agreement express or implied shall be valid unless the right to transfer has been recorded in the record of rights and then only to the extent to which such right is so recorded.'' The SPT Act is the sole tenancy act in the

region where RNP is situated. The SPT Act is a very prohibitive law in the sense that it renders a vast majority of land in the region non-transferable by any means other than acquisition. It sets an infinite price floor on land thus demolishing the factor market altogether. It has been argued by this author before that the Act needs urgent reform at least in urban / municipal areas but reforms have not been forthcoming.

3. The Partial Success of a Bus Terminal

I have thus far talked about two projects of different natures that highlight some of the systemic problems with the decision-making in RNP. In this section, I shall talk about a project that has promise of some nascent success after years of being on the back-burner. Rajmahal is not a very well-connected municipal area. The nearest airport is Durgapur which is in another state (West Bengal) and is at least 6 hours away. The state capital is 8 hours away by road or is reached through an overnight train journey. Considering the problems with connectivity, an interstate bus terminal was considered to be of great value to the area. A project for an interstate bus terminal was approved by the HLMC in 2014 at an estimated cost of Rs. 3 crore. The tender for the project has been floated now in 2019. The value of money lost over the last five years has huge consequence as the funds were not gainfully deployed anywhere else during the last five years.

Now, what took it so long for the project to take off? At the centre of this lethargy were issues related to land. Land initially identified for the project was a parcel that had been fallow since decades and which belonged to the agriculture department. The district-level functionaries of the department had no objection to a diversion of land use but the state could not be convinced of this new use for the land even though it had not been used for anything for the past few decades. Councillors were clueless as to what actions to take and gradually everyone lost interest. Through the concerted efforts of RNP in the last few months, the state agriculture department finally handed over 5 acres of land for building the inter-state bus terminal with the rider that RNP has shall not control the future use of this land and the parcel will have to be used as a bus terminal for eternity. The problem that RNP faces now is that because of erosion in the original project estimate (time value) it has resources to build a terminal over only 2 acres of the land. It has some resources to build a vending

zone or an indoor stadium (both of which have been long standing citizen demands) but it cannot use 3 acres of fallow land adjacent to the bus terminal because the agriculture department has transferred it to RNP on the condition that it will not be used for any purpose other than the bus terminal. Land has been a vexed issue for RNP. Some other asymmetries relating to land use include no control over land records and no clear cut powers to remove encroachment on public land.

A as of now RNP has no land records or municipal record of rights, it does not have any powers over land-use change or mutation and for all practical purposes, it has to rely on the Anchal office (Tehsil in many north Indian states) for information relating to land.

Land encroachment on municipal property is not the problem faced by RNP. Its power to remove encroachments is limited by convention as well as statute.

Section 606 of the Jharkhand Municipal Act 2011 says,

"Encroachment on streets-

(1) No person shall cause any encroachment or obstruction on any municipal property such as a street or footpath or park without specific permission of an officer of the municipality duly authorized to grant such permission. Any person causing such encroachment or obstruction on any municipal property as aforesaid shall, on conviction, be punishable with fine which may extend to five thousand rupees.

(2) The Municipal Commissioner or the Executive Officer shall have power to remove any encroachment and obstruction on the municipal

property if it is not authorized, or if it is objectionable or obstructs traffic."

Thus,in theory, this gives the executive authority powers to remove encroachment, in practice however no rules / bye laws have been framed for giving life-blood to this section. Removal of encroachment in all of Jharkhand is still governed by the Bihar (now Jharkhand) Public Land Encroachment Act 1956 (BPLE). The BPLE gives powers of encroachment removal to the Circle Officer (equivalent to Tehsildar of Indian states), Sub-Divisional Magistrate and Collector. In practice, therefore, the ULG depends on the good offices of the CO and the SDM for removal of encroachment over municipal land.

Some Proposals for RNP and Lessons for Other Similarly Placed Small ULGs

The road ahead for transitional zones is a precarious one since they are caught between a society, polity and economy, that is, predominantly rural and

processes and statutes that are meant to govern urban societies. Complete reliance on internal resources or support of innovative financing techniques like muni bonds is not an option for RNP. Our argument in the next few paragraphs is for RNP (and similarly placed ULGs) to adopt a mix of techniques and policies, borrowing both from its rural origins as well as urban future.

1. Organisation of Weekly Ward Sabhas

   The Gram Sabha as a tool for enforcing accountability has worked wonders for Gram Panchayats. Evidences form states like Madhya Pradesh and Andhra Pradesh suggest that wherever the Gram Sabha is effectively organised, it acts as a check over arbitrary decision making and corruption. In large urban spaces such a tool is usually not employed because of two factors – (a) Population density is high and often many people live in a very small territorial expanse making it difficult to ensure effective participation across population. In larger cities, the institution of Resident Welfare Associations (RWAs) is used as a substitute for the Gram Sabha. (b) By definition urban life is less community-centric than rural life and the effectiveness of such a Sabha would be countermanded by lack of empathy for community needs in a highly urbanised society. Small ULGs like RNP, however, can utilise the institution of Ward Sabha to good use for acting as a barometer for performance of RNP as well as arriving at an ordered list of priorities for the particular ward. This list of demands, after these have been collected from all wards, can then be used to create an overall plan for the ULG including reconciliation of internal conflicts. Had we done a Ward Sabha in ward 1 before deciding on the location of the wedding hall someone would surely have pointed out that the fallow land belongs to a private person and cannot be used for public purpose? I am of the view that Ward Sabhas can go a long way into solving the problem of insufficient public participation.

2. Need for Greater Untied Funds

   I have shown earlier in the article that revenue autonomy for RNP is in poor shape and at least for the next few decades RNP is not going to be self-sustaining. The need of the hour for small ULGs today is greater flexibility in use of resources. The report of the 14th Finance Commission states in paragraph 2.17 that:

"The presentations by the local governments were essentially in terms of insistence on untied grants. They felt constrained not only by the lack of resources, but also by the inadequate administrative infrastructure, as well as by the lack of discretion available to them in providing basic services. They argued that they are the most appropriate level of government for the provision of most of the local-level public goods. They also pointed out the constraints on them in raising local resources."

While we make our case for greater devolution of untied funds, we are also mindful of the fact that the administrative infrastructure and absorptive capability of small ULGs may not be developed enough to deploy available resources in the most productive manner (the case of the two wedding halls). In order to mitigate such circumstances, the nature of these untied resources can be made similar to conditional cash transfers. The Conditional Cash Transfer or CCT is a microeconomic tool that is used generally with household-centric programmes to nudge or incentivise household behaviour in a way that is desired. If we use the mechanism with small ULGs, we can solve the problem of insufficient utilisation of resources. Under the CCT program as envisaged here the ULG will decide the nature of a project and begin implementation. The state government will only decide on broad guidelines like the expenditure on assets and the upper-limit of a single project. Thereafter, the state government will release tranche-wise instalments for the project. The state government can impose strict audit/quality testing norms but essentially the funds will be of an untied nature. State governments must have more confidence in local elected representatives and functionaries for this system to work. A CCT system will ensure that all checks and balances that the state government wants are ensured without altering the project preference of the ULG. It will also solve the problem of funds lying unused in case projects fail to take off. This system is currently also in use with the Pradhan Mantri Awaas Yojana (Urban) albeit at the beneficiary level and has shown positive result. A CCT system will enable the state government to monitor project progress more closely. Right now the HLMC does not monitor and project's progress very closely after it has sanctioned it. A modified CCT system will be a good balance between

centralisation of monitoring with decentralisation in decision making and responsiveness of the council towards its electorate.

3. Improving RNP's Fiscal Health

The tool of CCTs will go a long way in improving the mix of capital expenditure of RNP. We must, however, also remember that most small ULGs like RNP also run huge revenue deficits. RNP has a revenue deficit of close to 100per cent for some years in the past decade. If we have to improve the fiscal health of small ULGs, we must find a way to impose a semblance of order in its financial statements. One sure way is to start collecting legacy demands in property taxes. Since most of the legacy demand belongs to the government sector, the state government must enforce all departments to pay up on property taxes. The ULG could be empowered to seal or stop services to government premises for non-payment of dues. The second solution to problems of fiscal health of small ULGs will have to be investment in assets that create future revenues. Small ULGs can invest in projects like water supply, urban transport and development of market complexes to facilitate economic activity. The third and the most simple way to enforce fiscal discipline is of course the time-tested method of balancing budgets. RNP currently has on its payroll many more employees than it can support. We must take the hard decision of trimming down our workforce to suit our needs better.

Table 4: Annual Revenue Deficit of RNP

Year	Revenue Deficit in per cent
2012–13	603.79
2013–14	236.11
2014–15	87.40
2015–16	313.45
2016–17	150
2017–18	159.58
2018–19	84.67

Source: RNP's Annual Financial Statements

It is clear from a cursory perusal of Table 4 that RNP ran a very high revenue deficit consistently throughout the last seven years. Borrowing for meeting revenue expenditure is considered to be the worst kind of borrowing. Data clearly point towards the very bad shape that RNP is in financially.

4. Capacity Building for Elected Representatives

Elected representatives in small ULGs like RNP are not seasoned politicians and often lack a broad perspective on regional development. This is not because of any special concern, but because of the simple reason that low population density and overall problems of low human development are in many ways not very conducive to informed debate. Most elected representatives of RNP are first-time members of the council. Unfortunately, most capacity building and training programs are focused on the functionaries of ULGs. We must institute a short-training program that has to be compulsorily attended by all first-time councillors. This training program must encompass basics of municipal finance, administrative processes, town planning and statutory provisions relating to urban governance. The training program for councillors should be geared towards inculcating systematic and methodical decision making.

5. Control over Land Records, Public Assets and Tenancy Reform

If we are to decentralise governance more effectively, we must give small ULGs like RNP control over land records within their territorial confines. We must also give control over all unused public assets to local governments for unlocking their potential. As an example, we can cite the case of a building constructed by the Tourism Department of the state in Rajmahal. The building was completed almost a decade back but could not be used in any manner because no suitable use and operations and management partner could be found. For a large institution like the State Government, a small building worth a crore or so rupees does not figure among its top priorities but for a small ULG like RNP, multiple uses of such a building can be found. We can use the building for running training programs for DAY-NULM and also earn handsome rent from it.

Alternatively, we can use the building as a shelter for the homeless.

The state of Jharkhand has also struggled with tenancy reform ever since it was carved out of Bihar. Reform in the existing SPT Act is considered to be a very emotive issue and is often linked with taking away tribal rights. However, for an area like RNO that has negligible tribal population and a transitional economy, the SPT creates a limiting environment for the development of a useful factor market in land. In effect, SPT brushes all transactions in land under the carpet into the black market. My suggestion through this article is to amend the act to allow for transfer of land in municipal areas.

Conclusion

Decentralisation has been a very powerful word in the lexicon of India's political economy and Urban Local Governments along with Panchayati Raj institutions are the two most effective and important instruments of meaningful political and economic decentralisation. ULGs are responsible for most immediate public services and goods for a citizen living in its territorial confines. We must empower our ULGs economically and administratively to be able to deliver on the promise of decentralisation and become engines and facilitators of economic growth. Through this article, I have tried to show that smaller ULGs are in need of great attention. The 14th FC was a landmark in terms of devolution of untied funds to state governments. We must, in the long run, evolve similar methods to devolve a greater chunk of untied resources to the institutions that are on the cutting edge of public goods delivery.

References

O'Malley, L S S: Bengal District Gazetteers (1910): Santal Parganas (Kolkata: Bengal Secretariat Book Depot)

2011 Census Data, Office of the Registrar General & Census Commissioner (2011): Census of India 2011, Viewed on 31st May 2019 (http://censusindia.gov.in/2011-Common/CensusData2011.html)

Annual Financial Statement, Rajmahal Nagar Panchayat (2012-13 to 2018-19): Annual Financial Statement, Viewed on 31st May 2019 (https://udhd.jharkhand.gov.in/ULB/Rajmahal/AFS.aspx)

Keshav, Achyut (2013); The land and Tenancy Law of the Santal Parganas

Report of the 14th Finance Commission, YV Reddy et al (2015): Report of the 14th Finance Commission, viewed on 31st May 2019 (https://www.thehinducentre.com/multimedia/archive/02321/14th_Finance_Commi_2321247a.pdf)

Jharkhand Municipal Act 2011

The Constitution (Seventy Fourth Amendment) Act, 1992.

K Mohanty, P & M Mishra, B & D Jeromi, P & Goyal, Rajan. (2008). Municipal Finance in India: An Assessment. esocialsciences.com, Working Papers.

Manor, James. "Democratic Decentralisation in Two Indian States: Past and Present." The Indian Journal of Political Science 63, no. 1 (2002): 51-71. http://www.jstor.org/stable42743574.

Karn Satyarthi

The author is an I.A.S. officer of 2016 batch, Jharkhand cadre and was posted as Sub-Divisional Magistrate Rajmahal and Executive Officer, Rajmahal Nagar Panchayat, Sahibganj, Jharkhand at the time of writing this article.

Excipient Regulation in India: A Potential Blind-Spot in National Policy

Ashwini Kumar Rai

Abstract

The Indian National Health Policy 2017 envisages the attainment of universal health and well-being for the citizens of India through a multipronged approach to healthcare through varied promotive, preventive, and curative strategies(Ministry of Health and Family Welfare, 2017). At the heart of its curative strategy lies the Indian Pharmaceutical Industry, with its ability to develop novel drugs to manage healthcare conditions. Indeed, as observed in other developed countries, drug-development has been critical in accelerating gains in the life expectancy of citizens (Krieger, 2017). Further, with an annual turnover of Rs.1,29,015 crore and an anticipated growth rate of 10 per cent, the Indian Pharmaceutical Industry contributes heavily not just to the National Gross Domestic Product but also to the global supply of drug demand (Indian Brand Equity Foundation, 2019).

Drugs: Active Ingredients vs Excipients

Broadly speaking, the Indian Pharmaceutical Industry is responsible for the production of "drugs" or entities capable of affecting the structure and function of human physiology(Ministry of Health and Family Welfare, 1940,1945). However, in practical terms, drugs are rarely singular compounds and are often made up of both active pharmaceutical ingredients (APIs) and excipients (Furrer, 2013). Indeed, according to recent estimates, APIs account for only a fifth of the industry's output and the rest include additives / excipients(Rastogi, 2019).

While APIs (such as antibiotics, anti-epileptics, etc.) are directly responsible for the chemical action of the drug, excipients (derived from the latin word "excipere" meaning 'to receive') act as carriers / vehicles for the API(Furrer, 2013). Excipients work synergistically with APIs to facilitate the manufacture of the final medicinal product, aid patient acceptance, and improve the

biopharmaceutical properties of the drug (Furrer, 2013). Table1 summarises some such commonly used excipients. However, far from being inert / non-reactive, excipients are capable of having physical and chemical interactions (both beneficial and detrimental) with APIs, thus affecting drug safety (Fathima, 2011). For instance, the replacement of the diluents calcium sulphate by lactose in the anti-epileptic drug Phenytoin in Australia resulted in severe drug-induced toxicity in patients due to an almost five-fold increase in the active drug concentration (Furrer, 2013). Further, in India, the use of diethylene glycol in Paracetamol syrup led to the death of 236 children between 1986 and 1998 (Singh, 2001).

Table 1: Common excipients used in the Pharmaceutical Industry (Haywood, 2011)

Excipient Type	Function	Examples
Binders	Binding constituents of a tablet together	Natural or synthetic polymers
Disintegrants	Aiding dispersion of medicinal product upon consumption	Starch, cellulose, or alginates
Colouring Agents	Aids patient acceptance and identification	Synthetic dye, food colouring

Regulation of Drug Development in India

Contrary to other consumer goods, drugs have enormous potential to cause harm to patients upon consumption (Rago, 2008). Given the risk of damage from the consumption of inefficient, poor quality medications, it becomes imperative for the Government to safeguard the interests of the patient (Rago, 2008). Not surprisingly then, an intricate framework of legal and administrative policies has been established by the Constitution of India (Gogtay, 2017). The regulation of drugs in India is primarily governed by the Drugs and Cosmetics Act of 1940 and Rules framed thereunder in 1945 (Government of India, 1940). The Central Drugs Standard Control Organization (CDSCO), helmed by the Drugs Controller General of India (DCGI), is the leading regulatory authority monitoring the process of drug development (Gogtay, 2017). Central to their function is the monitoring of

clinical trials, a process whereby any new medicinal formulation is subjected to systematic investigation in different phases (Gogtay, 2017). As seen in Figure1, these systematic investigations progress from initial preclinical animal-led / laboratory-oriented research to phases of human clinical trials, whereby the drug is tested on increasingly heterogeneous and generalised human populations to establish drug efficacy and safety.

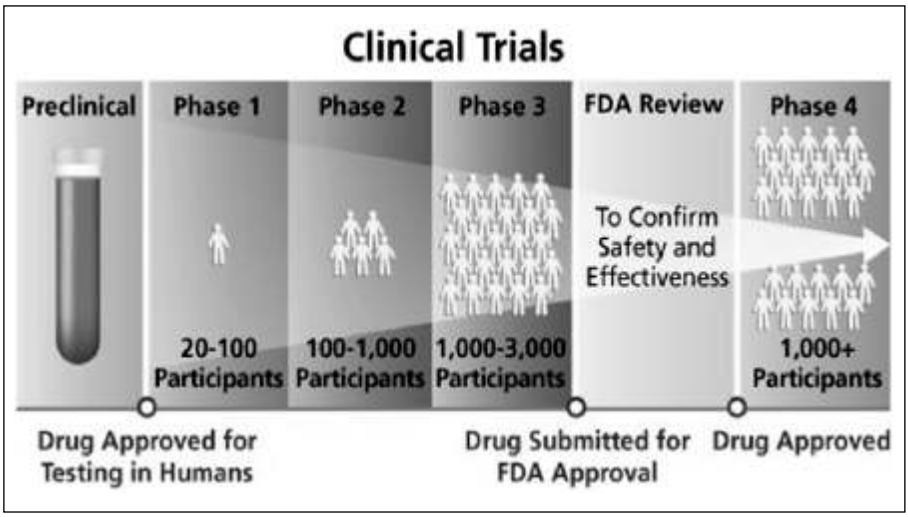


Figure 1: Phases of clinical trials in drug-development. Drug approval in India is obtained from the CDSCO, the Indian counterpart of the American Food and Drug Administration (U.S. Department of Health and Human Services)

Excipient Regulation in India

However, as previously reported in the literature, much of our administrative / legal framework is centred on the quality control of APIs with a limited focus on excipient quality (International Pharmaceutical Excipients Council of India , 2016). Currently, the only major requirement for excipients is compliance with autonomously published national or international compendia (International Pharmaceutical Excipients Council of India , 2016). These national / international compendial listings and supporting evidence from approved reference texts help establish the excipient's precedence of use and are used as sole evidence for the safety of the excipient upon human exposure, thus precluding the need for individual testing of excipients (International Pharmaceutical Excipients Council of India , 2016). While the Drugs and Cosmetics Act underlines the need to establish that medicinal

formulations are *"safe in the context of vehicles, excipients, additives and pharmaceutical aids,"* this responsibility is delegated to product manufacturers, who are expected to ensure *"rationality, safety, and quantity of excipient use in the formulation"* (Government of India, 1940). However, pharmaceutical companies with their vested interest in product sales are often not best suited to safeguard patient agenda. A relevant example of this is the ongoing legal battle between the two pharmaceutical companies, Novartis and Troikaa, both of which manufacture painkiller injections with the same active ingredient - Diclofenac (Raghavan, 2016). The conflict originated over Troikaa's claim that Novartis, in a bid to circumvent the infringement of its rival company'sintellectual property, was utilizing a novel but nephrotoxic excipient, Transcutol-P in combination with the same active ingredient (Diclofenac) (Pilla, 2018). Theinvestigation so far has resulted inthe DCGI cancelling the license for Novartis's intravenous Diclofenac injection (Pilla, 2018). While the safety of Transcutol-P remains to be conclusively proved, this case challenges the status-quo, questioning the status of excipients as passive fillers in the formulation and our complacency surrounding testing of these substances, despite excipients making up almost 90 per cent of the total drug volume (Haywood, 2011). Interestingly, side effects have also been reported in patients switching from one medication to another with the same active ingredient but differing only in terms of the excipient (as evident from the case of Furosemide tablets, whose branded version, which differed from its generic version only in the form of absence of Croscarmellose sodium as excipient, did not cause any adverse reaction while its generic version with Croscarmellose sodium as excipient, did, which further underlines the impact of excipient selection on health outcomes (Mumoli, 2011).

Future Recommendations

Given these observations, the obvious question that arises from an administrative viewpoint is in what manner the safety, efficacy, and quality of these "inert"substances in pharmaceutical formulations can be regulated. The author believes that an answer to this question lies not in the institution of a new framework but in the expansion of the realm of the currently utilised framework itself. For instance, when two or more previously approved APIs are combined to produce a fixed dose combination product, the Drugs and

Cosmetics Act (Government of India, 1940) mandates a detailed and systematic investigation (including clinical trial in certain category of cases) to ensure that the pharmacodynamic/pharmacokinetic interaction between these APIs are sufficiently investigated to have a definitive view about the safety and efficacy of the resulting fixed dose combination (Central Drugs Standard Control Organization, 2014). Expanding the realm of this policy from just API combinations to all newly formulated API and excipient combinations would help capture potentially detrimental interactions that are currently being missed due to a probable "blind spot" in our policy framework. While from an economic perspective, mandating of a detailed and systematic investigation (including clinical trials if necessary) for all new API-excipient formulations may present a financial burden, the beneficial implications of this policy change can be understood in the context of the Novartis-Troikaa case. For instance, a clinical trial exploring the effect of Diclofenac and Transcutol-P on kidney function would be especially relevant considering that Diclofenac is an established nephrotoxic drug. Any potential nephrotoxicity originating from Transcutol-P would be particularly relevant when compounded with Diclofenac. Therefore, it is vital to perform systematic investigation of every drug formulation on an individual basis with careful consideration of the impact of every element in the formulation.

Conclusion

The Pharmaceutical Industry is a booming sector in India with our national spending on medicines projected to increase by almost 9 per cent–12 per cent in the next five years, ultimately establishing India as one of the leading countries in terms of pharmaceutical investments (Indian Brand Equity Foundation, 2019). While our current policies have been formulated to ensure quality control of drugs and safeguarding of patient's interests, it appears that an integral piece of the puzzle, in the form of excipients, is currently being overlooked. While addressing this issue would require a multi-faceted approach involving all stakeholders of the Pharmaceutical Industry, in this paper, the author proposes a strategy utilizing the currently established administrative framework.

References

Central Drugs Standard Control Organization. (2014). *System of preliminary scrutiny by CDSCO at the time of receipt of application for approval of Fixed Dose Combinations.* Retrieved June 1, 2019, from Central Drugs Standard Control Organization : https://cdsco.gov.in/opencms/opencms/en/Drugs/FDC/.

Fathima, N., Mamatha, T., Qureshi, H.K., Anitha, N., Rao, J.V. (2011). Drug-excipient interaction and its importance in dosage form development. *Journal of Applied Pharmaceutical Science,* 01 (06), 66-71.

Furrer, P. (2013). *The central role of excipients in drug formulation.* Retrieved June 1, 2019, from European Pharmaceutical Review:

https://www.europeanpharmaceuticalreview.com/article/18434/the-central-role-of-excipients-in-drug-formulation-2/.

Gogtay, N.J., Ravi, R., Thatte, U.M. (2017). *Regulatory requirements for clinical trials in India: What academicians need to know.* Indian Journal of Anaesthesia, 61 (3), 192-199.

Government of India. (1940). *THE DRUGS AND COSMETICS ACT, 1940.* Retrieved June 1, 2019, from Legislative Department, Government of India: legislative.gov.in/sites/default/files/A1940-23.pdf.

Haywood, A., Glass, B.D. (2011). *Pharmaceutical excipients- where do we begin?* Australian Prescriber: An independent review, 34, 112-114.

Indian Brand Equity Foundation. (2019). *Indian Pharmaceuticals Industry Analysis.* Retrieved June 1, 2019, from Ministry of Commerce & Industry, Government of India: https://www.ibef.org/industry/indian-pharmaceuticals-industry-analysis-presentation.

International Pharmaceutical *Excipients Council of India . (2016). Excipients Regulations Perspective and Creation of IPEC India.* Excipient Fest Americas. Retrieved June 1, 2019, from International Pharmaceutical Excipients Council of India : https://www.pharmaexcipients.com/wp-content/uploads/attachments/D104-27A1_Vishakha+Metkar_IPEC_India.pdf?t=1494450205.

Krieger, J., Li, D., Papanikolaou, D. (2017). *Developing Novel Drugs.* Retrieved June 1, 2019, from Harvard Business School: https://www.hbs.edu/faculty/Publication per cent20Files/18-056_9281482e-dc75-4fc3-a9ec-81e2fc408522.pdf.

Ministry of Health and Family Welfare. (2017). *National Health Policy*: Government of India. Retrieved June 1, 2019, from Ministry of Health and Family Welfare: https://mohfw.gov.in/sites/default/files/9147562941489753121.pdf.

Ministry of Health and Family Welfare. (1940,1945). *The Drugs and Cosmetics Act and Rules.* Government of India. Retrieved June 1, 2019, from Ministry of Health and Family Welfare: https://upload.indiacode.nic.in/showfile?

actid=AC_CEN_12_13_00023_194023_1523353460112&type=rule&filename=Drugs per cent20and per cent20Cosmetics per cent20Act, per cent201940 per cent20and per cent20Rules, per cent201945.pdf.

Mumoli, N., Cei, M., Luschi, R., Carmignani, G., Camaiti, A. (2011). *Allergic reaction to Croscarmellose sodium used as excipient of a generic drug.* QJM: An International Journal of Medicine, 104 (8), 709-710.

Pilla, V. (2018). *In a battle over a Rs 250-cr product, Novartis is unwilling to yield an inch.* Retrieved June 1, 2019, from Money Control:

https://www.moneycontrol.com/news/business/companies/in-a-battle-over-a-rs-250-cr-product-novartis-is-unwilling-to-yield-an-inch-2812541.html.

Raghavan, P. (2016). *Indian pharma company may sue drug controller over safety of Novartis painkiller.* Retrieved June 1, 2019, from Economic Times: https://economictimes.indiatimes.com/industry/healthcare/biotech/pharmaceuticals/indian-pharma-company-may-sue-drug-controller-over-safety-of-novartis-painkiller/articleshow/52347842.cms?from=mdr.

Rago, L., Santoso, B. (2008). *Drug Regulation: History, Present and Future.* Retrieved June 1, 2019, from World Health Organization: https://www.who.int/medicines/technical_briefing/tbs/Drug_Regulation_History_Present_Future.pdf.

Rastogi, V. (2019). *India Briefing.* Retrieved June 1, 2019, from The Pharmaceutical Industry in India – Trends and Opportunities: https:// www.india-briefing.com/news/pharmaceutical-industry-india-trends-opportunities-18300.html/.

Singh, J., Dutta, A.K., Khare, S., Dubey, N.K., Harit, A.K., Jain, N.K., *et al.* (2001). *Diethylene glycol poisoning in Gurgaon, India,* 1998. Bulletin of the World Health Organization, 79, 88-95.

U.S. Department of Health and Human Services. (n.d.). *AIDS info.* Retrieved June 1, 2019, from U.S. Department of Health and Human Services.: https://aidsinfo.nih.gov/understanding-hiv-aids/glossary/568/phase-1-trial.

Ashwini Kumar Rai

The author is an I.A.S. officer of 1990 batch, Madhya Pradesh cadre and was posted as Principal Secretary to the Government of Madhya Pradesh at the time of writing this article.

Bypassing Middlemen in Service Delivery: A Case for Discussion

Dr. Siddharth Shiv Jaiswal

Abstract

Service delivery is one of the important roles of a civil servant. For reasons more than one, middlemen have become an integral part of service delivery across the length and breadth of this country. While someone may opine that middlemen facilitate delivery of service by lessening personal discomfort to the applicant, at the same time presence of middlemen has its own problems. Firstly, it adds to the cost of service delivery in the form of charges paid to the middleman over and above the authorised fees; secondly, it is a cause of delay; thirdly, the middleman becomes an integral part of the system and eventually starts to control the overall system; and finally, he becomes the face of the institution involved in delivery of service which jeopardises the reputation of the government institution concerned. Discussed below are a slew of measures adopted at the Office of the Sub-Divisional Magistrate (SDM), Longtharai Valley in Dhalai District of Tripura to overcome the menace of middlemen and simultaneously to improve the quality of service delivery.

Introduction

Longtharai Valley is a Subdivision in Dhalai District of Tripura. Dhalai is one of the most underdeveloped districts of India and has been categorised as Aspirational District by NITI Aayog. The Subdivision has a total population of around 2.31 lakh, out of which Scheduled Tribe (ST) population constitute 78 per cent of total population. There are many schemes sponsored by the Central and State governments for the welfare of local people, which are implemented by department concerned. There are schemes of financial assistance for medical purpose for poor ST population, boarding house stipend for tribal students belonging to poor families residing in far-flung areas, housing scheme for Primitive Tribal Groups (PTG), pre-matric and post-matric scholarship, subsidised loans under livelihood generation schemes, grant of forest *patta* under The Scheduled Tribes and Other Traditional Forest Dwellers

(Recognition of Forest Rights) Act, 2006 for livelihood purpose, etc. There are pensionary benefits for old age, widow and girl child. There is provision to allot land to landless families under the State revenue laws.[i]

To avail of the benefit under any scheme sponsored by the government, the beneficiary is required to produce documentary proof about eligibility under the scheme. For example, a local tribal applying for financial assistance for medical purpose is required to produce ST certificate, Permanent Resident of Tripura Certificate (PRTC)[ii] and proof of economic status (income certificate or ration card). The documents play a crucial role in ensuring that the government benefits reach the needy and the deprived.

Role of the Office of Sub-Divisional Magistrate (SDM)

The SDM Office plays a very crucial role in welfare of local public by issuing certificates of caste, residency, income and distance after following due process. The office also issues Survivor Certificate to the next of kin of a deceased person, which is required to be produced by the family of the deceased at the time of claiming benefits like widow pension, insurance, etc. Besides this, there are many applications for issue of new ration card, addition, deletion or any alteration in the ration card of a family that is done by the SDM Office. An applicant would not be able to avail of any of the benefits as per his/her entitlement if he/she is not in possession of certificate to prove eligibility for that particular scheme.

Reasons for the Public to Approach a Middleman

In any government office dealing with service delivery, it is not surprising to spot middlemen pursuing the public to assist them in getting service in a lesser time and with minimal discomfort to the applicant. The same has been true for Longtharai Valley Subdivision. For a myriad reasons, the term middleman has become synonymous with service delivery. First, complexity of application forms pushes many applicants (especially less literate) to approach a middleman. Presently, though the application forms are simpler compared to earlier times, yet the applicant is wary that any mistake in the form will lead to rejection of application and many trips to the office to rectify that mistake. Here, the middleman is seen as an expert in correctly filling up the application form.

Generally speaking, government office is a place which witnesses visits of people in large numbers. The second reason for which these people approach a middleman is the non-approachability of a government servant. Because of the sheer numbers, it becomes very difficult for an applicant to see the government staff who can clarify any doubt related to the application. In such a case, the middleman is seen as an entity with deep contacts in the system, who can easily approach the government staff.

Again, because of the large number of applicants, the applicant has to wait in long queues for hours before he gets an opportunity to get his application processed. The third reason why an applicant decides to approach a middleman is because he / she wants to avoid the discomfort of standing and waiting in long queues. Because it is believed that a middleman has better approach to the government staff, he can avoid long queues and thus the discomfort of waiting for long hours can be avoided.

Few government offices have started to give acknowledgement of receipt of application to the applicant. Receipt of acknowledgement gives assurance and a sense of relief to the applicant that his application has reached the right hands. It also gives the applicant an opportunity to track the status of application if the acknowledgement has any unique identifying number. However, this practice is followed by only a few offices. After hours of waiting in front of a desk, if the applicant does not receive an acknowledgement for the submitted application, it becomes difficult to track the status of application later on. Applicant's trust in the complete system dwindles and once again the middleman comes onto centre stage. Once the middleman is paid for his services, the task of keeping a track of the application is entrusted to him.

Finally, once all this is done and sufficient time has lapsed, the applicant is faced by a dilemma whether he should go to the office to collect his certificate or not. It might happen that his certificate is not ready or the staff dealing in delivery of certificate is not available at his seat or at the worst his certificate is not to be found despite being ready. In any of these conditions, he will have to return empty-handed wasting that day's time and money. Once again, the middleman comes handy to avoid any of the above situations. He collects the application on behalf of the applicant and hands it over to the concerned person.

Thus, we see that middleman proves to be a panacea to deal with all situations listed above, plus many others, which an applicant might face. From the point of view of general public, it is far more prudent to spend some extra money to offer to the middleman than to face discomfort of multiple visits to a government office and spend time and money more than what is actually required.

Dealing with the Situation

Broadly speaking, there can be two ways to deal with this situation. First, catch these middlemen and initiate legal action against them (coercive); second, to provide an alternative system of service, which is far more transparent, efficient, less time-consuming and free of cost (facilitatory). The former option is not so easy and not sustainable because it is not easy to identify touts in the first instance. More importantly, it is legally unviable as there is no explicit law to prevent such persons from entering into a public place like a government office. Besides, it is difficult to prove their involvement in such practices and finally, even if it is done after overcoming all these hurdles, there has to be an alternative system of service delivery which is better than the existing system. A system on which the general public can rely for assured service. Thus, it seems that the latter option of re-engineering the existing system to put in place a more effective system is more sustainable, easy to execute and the overall control lies in the hands of the service provider. If the stipulated objectives are achieved, the public will automatically stop going to a middleman to save money and effort.

The effectiveness of the facilitatory option is best reflected in the example of growth in mobile customer base of Reliance Jio and BSNL in the month of January 2019. While Reliance Jio added 93 lakh more mobile subscribers, the state-run telecom company BSNL added just 9.82 lakh new mobile subscribers in the month of January 2019.[iii] One of the reasons to explain 10-times growth of Reliance Jio as compared to BSNL is the omnipresence of customer care service provided by the private player. The customer care executives housed in prominently located Reliance Jio customer care centres provide accessible services starting from easy application for mobile connection to redressal of any grievance related to billing, network issues, delay in activation of service, etc.

In contemporary times where service delivery is dominated by private players, the Government departments too should emulate innovative practices of private players and provide best possible service to the public.

Business Process Re-engineering (BPR)[iv] at Office of the SDM, Longtharai Valley

The process of transition started in December 2018. After multiple meetings with all stakeholders, the transition was completed by February 2019. A series of changes was brought in to give effect to the desired outcome. First among them has been setting up of a Service Facilitation Centre (SFC) right at the entrance of the Office premises. Positioning of the SFC at the entrance has been done for a specific purpose. At this place, the SFC attracts the attention of anyone entering the SDM's office premises. Citizens Charter displaying information like services available, documents required to be submitted along with application forms, fees for application and time duration for delivery of service has been prominently displayed around the office complex. The main intention of making the SFC prominent is to attract the attention of the public coming to the office, before the touts get the opportunity to usurp their potential client even before they enter the office building.

Management of manpower is the most important and at the same time, challenging task to give shape to any such initiative. In this regard, 1 Upper Division Clerk (UDC), 4 Lower Division Clerks (LDC) and 4 Group D personnel have been given the charge of the SFC. Before handing over the charge to them, each one of them have been given a one-day training in processing of applications by the section-in-charge of the sections dealing with these certificates. The 4 LDCs fill up the applications, put the supporting documents in order, collect the statutory fees from public and thereafter send the applications for endorsement by concerned official of revenue or judicial section. The UDC maintains proper record of the applications received and certificates issued and has supervisory control over other staff. The Group D staff take applications from SFC to concerned section and after due endorsement by official concerned to the Certificate Processing Centre (CPC). One Group D is given the charge of distributing the acknowledgements and certificates to the applicant. There is one Deputy Collector and Magistrate who is overall in-charge of the complete setup to maintain co-ordination between

different sections involved in the process. To assist the staff in dealing with the transition smoothly, multiple co-ordination meetings were held to motivate the staff and to find a practical solution to the problems arising during transition. It is quite understandable that any plan to alter status quo in the way a work is done in the office will face resistance from the office staff. Overcoming this resistance is a sizable challenge. In this case, repeated consultation was held with all office staff during which time they were motivated to move out from their 'comfort zone' and adopt the new practice, which is beneficial for the public and the office in the longer run. Later on, the staff at the SFC were felicitated in front of whole office staff for their hardwork, which further emboldened their motivation and dedication towards public service.

While there is an arrangement for systematic exchange of communication between the public and office staff at SFC, at the same time there is minimum interface with the actual staff dealing with processing of the applications in respective section. Necessary instructions regarding certificate processing and delivery is affixed near the SFC. Such arrangement has been made to end rent-seeking on the part of the officialsc oncerned and to reduce the incidence of allegations of bribery against any office staff, if there are any. For the same reason, the SFC is kept under constant CCTV surveillance with visuals available in the chamber of SDM.

All efforts have been made to ensure constant exchange of information with applicant. Acknowledgements are given to the applicant at every stage of application processing. First, the staff at the SFC hands over a manual token of receipt to the applicant with a unique number indicating that the application has been received and sent to the CPC for further action. Thereafter, once the application is digitised and uploaded on the E-District platform by the staff at CPC, the applicant receives a system-generated SMS at the mobile number given in the application. Simultaneously, an acknowledgement is printed and sent to the SFC from where the applicant can collect it for future reference. Once the certificate is ready, it is sent to the SFC. Once again, the applicant receives a message that the certificate is ready and it can be collected from the SFC. One of the staff members at the SFC simultaneously calls up the applicant and informs him about the certificate being ready in the vernacular language.

This step has been adopted to cater for the portion of public which is illiterate or who doesnot comprehend the language of the sent text.

Similarly, special emphasis has been paid to grievance-redressal. There are sufficient number of staff members manning the SFC to clarify any issue in the application process and to provide redressal of grievance of public, at the same time provision has been made to escalate any peculiar issue faced by applicant to higher authorities like the DCM or the SDM where the issue is eventually resolved. This also serves the purpose of receiving feedback from public and tweaking existing arrangements accordingly.

Benefits of the Initiative

There is considerable reduction in time consumed to get a particular service when compared to previous system of service delivery. The present arrangement saves time at all levels of application processing. Earlier, the applicant had to wait in long queues to get the endorsement of the staff of the revenue or judicial section. Now, the applications are bundled together and taken to the competent authority by office staff for endorsement saving lot of time for the applicant. Earlier, after the endorsement was done, the applicant stood in front of CPC to submit the application, get his photograph clicked by the webcam at the counter and thereafter wait for the application and the supporting documents to get digitised and uploaded on the e-District portal. Longtharai Valley is a remote Subdivision of Tripura where electricity and internet connectivity is very irregular. In case of any such eventuality, the processing would stop and the applicant was required to wait till it is rectified, if at all or come again to the SDM Office next day and again go through the routine process of waiting in a long queue till his turn comes up. In a few instances, the applicant would make three to four trips to the office just to get the application properly processed. In the present system, the applicant simply submits the application at the SFC and goes back. From there, it is taken to CPC by office Group D staff. The applicant is not required to be physically present to get the photograph clicked. Rather, a photograph is attached with each application, which is scanned for the purpose of application. In the event of any technical glitch, the application is kept at the CPC and uploaded on the next day. Once it is uploaded, SMS is sent to the mobile number mentioned on

the application form. In any case, the applicant is not required to wait in a long queue or to come again to upload application.

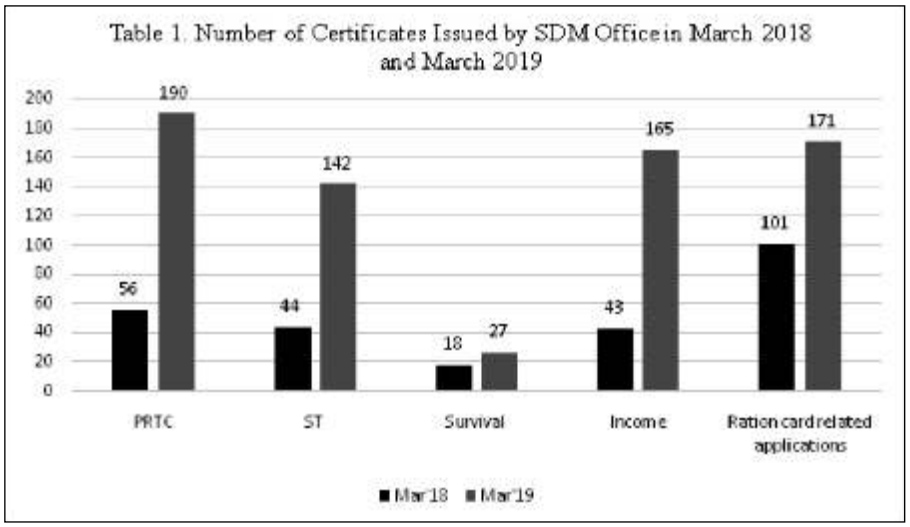
In the same manner, there has been a drastic reduction in the cost incurred by public in getting a particular service. As per available information, the middlemen used to charge Rs 1000 for a survival certificate, Rs 500 each for ST and PRTC certificate, and Rs 250 each for income and distance certificate. After setting up of the SFC, these services are being provided in a time-bound manner free of cost. Besides this, there is indirect saving of the cost incurred to commute to SDM office multiple times. As most of the applicants are farmers and daily wage earners, there is indirect saving of the day's wage as the applicant is required to come to office only twice - to submit the application and to collect the certificate.

One indirect benefit of this arrangement has been the deeper reach of welfare schemes implemented by various government departments. Taking into consideration the poor economic condition of people, the government charges a token amount of Rs 5/- for these certificates, however due to the prevailing system of higher cost for certificates because of dominance of touts in the system; many eligible families could not get their entitlements simply because they were not in possession of requisite documents. This situation has changed drastically with certificates available at very low cost. Now, even poor families can easily get their documents that will help them in getting their entitlements. The initiative will have a positive impact on the penetration of Government schemes in far-flung and remote areas of the Subdivision.

In the Indian bureaucratic system, office of the District Magistrate (DM) and SDM are the face of the government at the District and Subdivision-level, respectively. The role expected from these offices is critical for the development of the district. Any situation arising in the area ranging from law and order to disaster management has to be dealt by these two institutions. The 'Iqbal' of these institutions has played a major role in dealing effectively with all such situations in the past. *'Iqbal'* means the respect commanded by an institution or the aura surrounding it. Any erosion in *'Iqbal'* of these offices tends to put at risk the administrative machinery on which the entire governance structure is based.

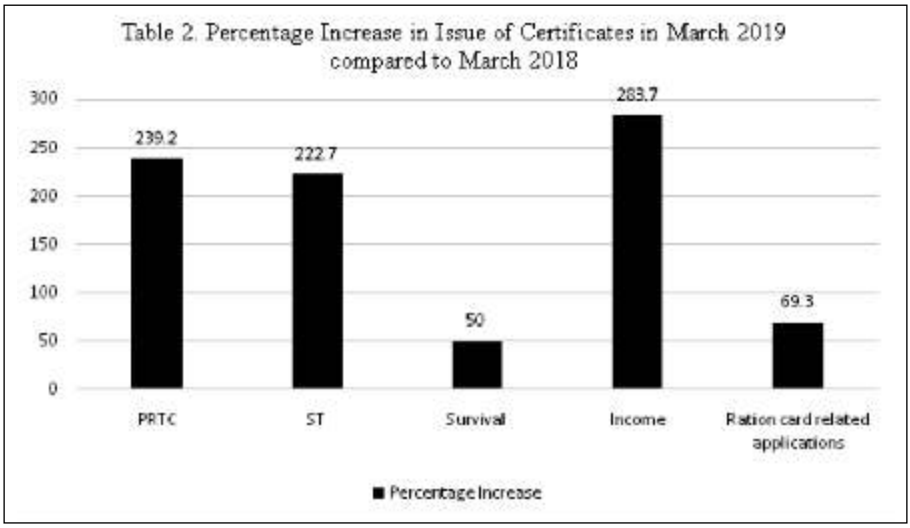
Last but not the least, this arrangement, although to a small extent, has restored the dwindling faith of public in an important public institution. Earlier, while approaching a middleman, it was presumed that some part of the money charged by the middleman ends up in the pocket of a government servant. This erodes the *'Iqbal'* of the public institution like Office of the SDM, which plays many other important roles apart from just delivery of certificates. With this initiative, the complete transaction between various stakeholders has become transparent with no 'settlement' happening under the desk. This is the most important and long-lasting benefit which has been brought by this arrangement.

After adoption of the changes envisaged under this initiative, there has been a sudden increase in the number of certificates being delivered by the SDM Office. Comparison of the number of certificates issued in the months of March 2018 and March 2019 is depicted in Table 1.



Source: e-District portal (1) and SDM Office, Longtharai Valley

The percentage increase in issue of certificates in the month of March 2019 as compared to March 2018 is shown in Table 2.



Conclusion

Facilitation of service delivery is a viable and sustainable solution to the problem of the middleman. It brings significant social and financial benefits to the local population. It also emboldens the faith of public in important government institutions. There are certain pre-conditions for successful transition to a new system of service delivery. First, an in-depth understanding of the present system of service delivery is required to analyse the bottlenecks in service delivery due to which public approaches a middleman. Thereafter, practical and sustainable ways to overcome the identified bottlenecks needs to be visualised and implemented. At the same time, office staff should be motivated and taken into confidence to allay fears associated with the transition. The transition needs to be closely supervised during the initial stages. Finally, the new arrangement needs to be made amenable to finer adjustments based on the feedback received from public and the implementing office staff.

References

[i] Section 14 of The Tripura Land Revenue and Land Reforms Act, 1960(2).

[ii] PRTC is the domicile certificate issued by the government of Tripura to permanent residents of the State.

[iii] Telecom Regulatory Authority of India telecom subscription report as on 31 January 2019(3).

[iv] Business process re-engineering is a business management strategy, pioneered in the 1990s aimed to help organisations to fundamentally rethink how they do their work in order to cut operational costs and deliver competitive customer service.

Sources cited

- https://edistrict.tripura.gov.in
- https://jami.tripura.gov.in/download/TLR_ACT.pdf
- https://main.trai.gov.in/sites/default/files/PR_No.22of2019.pdf

Dr. Siddharth Shiv Jaiswal

The author is an I.A.S. officer of 2016 batch, Tripura cadre and was posted as Sub-Divisional Magistrate, Longtharai Valley, Dhalai, Tripura at the time of writing this article.

Contextualizing River Rejuvenation in Urban India

Richa Rashmi

Abstract

Urbanization poses multifaceted challenges to urban environment management due to demographic transition, growing economic activities, industrialization, changing lifestyles, as well as introduction of new technologies. The extent to which urbanization impacts ecological balance and a river's natural life has been an area of study for quite some time and the collateral damage is a sought to be reversed through sustainable approaches of river rejuvenation around the world. The paper takes a historical look at the issues crippling river health and the urgent need to address the city planning system to embed the river within the urban fabric in the Indian context. Technology and innovative solutions are being deployed to strengthen the conservation process, while behavioral impact campaigns are being organized to mobilize public thought and action to reclaim the rivers in the cities. Policy changes and institutional frameworks are being put in place for effective river governance. More such efforts that can future-proof urban rivers are the need of the hour and it is time we acknowledged the necessity to practice the best of them to save our rivers. One such approach, as advocated in this paper, is the Urban River Management Plan to safeguard long-term sustainability and provide an assessment framework for river health that will ensure timely monitoring and management of river-related issues.

Keywords: urbanization, river rejuvenation, urban river, basin management, urban river management plan, river health assessment, river governance

Contextualizing River Rejuvenation in Urban India

Urban-Scaping Rivers

History has stood testimony to the rise of urban civilizations from riverine settlements-be it the Nile for the Egyptians, the Tigris and the Euphrates for the Mesopotamians, the Yangtze for the Chinese, or the Indus for the Indians. Today, urbanization is the inevitable trend of spatial development. The ever-

increasing urban population has saturated the urbanscapes with bewildering density, bringing the carrying capacity of Nature to its limit. Demographic pressure has translated many a natural endowment into a redundant or over-exploited resource; river basins being one such casualty. The anthropogenic factors have not only deteriorated river health but have also made recovery very challenging. Degraded river health has, in turn, affected riverine biodiversity and the inter-connected ecosystems leading, in some cases, to massive biodiversity loss.

India has 4 percent of the world's water but caters to 16 percent of the world's population (Bhat, 2014). The magnitude of urbanization in India can be gauged from the fact that in 1901, only 25 million people constituting 10.84 percent of the population (Sivaramakrishnan, 2003) lived in urban areas which increased to nearly twelve times in a 100 years. By 2011, the percentage of urbanization in India was 31.2 percent with 377 million people living in urban areas (Census of India, 2011). By 2030, 600 million Indians will be living in urban areas. The urbanization trend in India has been largely unplanned, ghettoed, and over-stretched as sprawls. This exerts extreme pressure on infrastructure capacity and resource utilization. About 48 percent of India's population is reeling under "high to extreme" water stress and about 75 percent of households do not have drinking water connections at home (NITI Aayog, 2018). About 70 percent of the water that is supplied is contaminated by biological, toxic, organic, and inorganic pollutants, which make it unsafe for human consumption. 302 stretches on 275 rivers across the country have been polluted due to discharge of both municipal and industrial wastewater over the years (KPMG, 2018).

Pollution of, not only fresh water supply but also the dumping of waste water has been a critical element in managing river water in India. In 2015, the Central Pollution Control Board reported that urban India generates 61,948 million liters of sewage on a daily basis but the installed sewage treatment capacity was of only 38 percent (www.indiaenvironmentportal.org.in). A major component of this untreated waste has been directly dumped into rivers, water bodies, and even allowed to percolate into the ground every day. The most pernicious of the pollutants are the solid wastes with a total

generation of 62 million tonnes per year from urban areas (Census of India, 2011). These wastes are dumped or find their way into the major water bodies turning them into fetid sewers.

Land is arguably the first natural resource to have been politically contested in history. The Constitution of India mandates conservation as a duty of the citizen and a responsibility of the State. In India, between 2001 and 2010, each State lost about 1 percent of its total agricultural land to urban expansion (Pandey & Seto, 2015). A study assessing land transformation and the associated degradation of the Ganga River Basin using land worth forest cover used mapping (FCLU maps for 1975 and 2010) and residual trend analysis to estimate a total loss of 5571 km^2 of forest cover and a corresponding expansion in settlement areas (5396 km^2) (Shafique, Ghosh, & Behera, 2019). As per the data from the Forest Survey of India's biennial report (December 2015), another study estimated a loss in *areal* extent of 46.13 percent of forest cover in the Gangetic plains (C. Sudhakar Reddy, 2015). Urbanization in the highly populated reaches of the Ganga basin has altered the land cover and the consequent damage in patterns land-use has impacted adversely the biodiversity, resulting in habitats getting converted, fragmented and finally lost in the process.

The 1992 Earth Summit which scripted the avant-garde *"Convention on Climate Change"* and *"Convention on Biological Diversity"* (CBD), targeting the human excess impacting the earth's natural state, categorically gave the paradigm call of sustainable development and conservation of natural resources and biodiversity. With the reiteration of this commitment in the Sustainable Development Goals (SDGs), a renewed attempt has been made by countries worldwide to address the challenges posed by urbanization. This was particularly emphasized in the "New Urban Agenda, 2016," which calls for an "urban paradigm shift" to readdress the way "we plan, finance, develop, govern, and manage cities and human settlements." Whether it's the annual ranking of water crises as one of the greatest threats to the global economy (World Economic Forum, 2017), or the SDGs (United Nations, 2016) placing water at the heart of the global development and poverty agenda, or the US$70 trillion in the aggregate portfolios of investors who now ask global businesses to disclose their water risk and impacts (CDP Worldwide, 2017), there is favorable impetus for action to conserve water.

Historical Parlance

The beginning of an industrial era encouraged migration of working population from agricultural activities to non-agricultural pursuits leading to increase in the density of demographic spatial parcels to the brim. This process, recognized as urbanization, has tremendously altered the land use and land cover patterns especially along the river basins-the origin of civilizations. Since time immemorial, rivers were considered the lifeline of a thriving population that enriched the geography, economy and culture of the region. The early settlement led to the growth of towns and cities along the continuing stretch of the river, which further allowed villages and hamlets to prosper in proximity. The dependence of agriculture and industries alike on river water increased water consumption much beyond the water replenishing capacity. The gap between the demand for water and its natural supply created a micro-climatic distress, increasing the ecosystem vulnerability and altering the hydrology as well as geomorphology of the streams.

The settlements along the river grew in a ribbon-fashion with the markets developing on the concaving inner space. With the gradual division of labor and specialization of trade, human activity became more defined and dedicated to a particular occupation leading to a change in work-home usage pattern, so much so that the time spent in the work arena was more than that at home. With increasing importance of work-related activities, the urban phenomenon gravitated towards developing an alternative city core towards the market, thus turning the back of the city to the river. This was a historic shift, reflecting the growing importance of the economy over the environment in the times to come. The waste generated by the city increased and became more heterogeneous with advancement in technological innovations, and the city-space became more and more frugal for the burgeoning population. With the competing use of land and its relative scarcity being a limiting factor, the city looked at the river as its backyard for discarding waste while relying on the water velocity to wash away the grime. It was not thought that the river is a connecting stretch and solutions upstream would turn into problems downstream.

River water got saturated with noxious junk affecting not only its biogeochemistry, morphometry and water quality but also the very life that thrived in and on it. The inherent pollution of river water turned it into a hotbed of diseases, leading to an increased incidence of water-borne and carcinogenic diseases. Aquatic life suffered severely, endangered by the ecological cycle failing to naturally revive river health and this, in turn, intensified issues of bio-magnification and bio-accumulation. The death knell was driven by the proliferation of dams and levees, developed to fulfil the demand of alternative energy sources. These not only fragmented the river, disconnecting them from their productive flood plains but also severed the routes used by migratory fish and other aquatic. This also resulted in the river changing its course, drying certain regions and flooding in others. The exposed riverbed fell prey to encroachment and was permanently lost to the need and greed for land. The natural drainage pattern was lost somewhere in the city roads and the fragile upland was eroded to make way for more building activity. The increased impervious surface further reduced the ground water recharge potential and the surface run-off, in the absence of natural drainage, aggravated water-logging and choking of lowlands resulting in flash floods and urban floods even in megacities.

Another connected phenomenon was the loss of river land forms and surrounding flora that contained erosion losses in rivers. The buffer between the settlements and the river allowed for natural flow in peak and lean seasons alike, allowing seasonal agricultural practices to flourish. The trees along the banks have now been cut down to make way for urban catchments and the stream corridors have narrowed into channels lined with concreate to increase floodwater channeling or have been buried in underground culverts so that the valuable floor area can be used for a structure. This has increased the heat-island effect in cities, relatively warming up the micro-zone and affecting the ensuing air quality. The entire water cycle has been affected and the regional balance of air-water quality has been severely impaired. The loss of habitat for riverine as well as dependent organisms coupled with the loss of flora has affected species biodiversity in the region. As a result, the fragile ecosystem balance that formed the mainstay of civilization stands upset today.

Chemical Cause and Effect: The discharge of municipal wastes into the river pollutes the water quality. Industrial discharge often loads the river with metal and organic contaminants altering the river's biogeochemistry and causing the Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) to increase. This in turn decreases the dissolved oxygen level affecting the survival of aquatic organisms. The pollution upstream especially results in poor water quality rendering the water unfit for human consumption. Almost two-thirds of the diseases in India are caused by the type of water that people drink; one-third of fatalities are attributable to waterborne diseases (River Ganga, 2012). A vivid example of this was the cyanide spill in the River Tisza (a tributary of the Danube) from a mine in Romania in January 2000. The highly toxic chemical swept downstream through Hungary, devastating aquatic life along the course of the river and contaminating the drinking water of hundreds of thousands of people (World Wide Fund For Nature, 2019).

Artificial ways to enhance species biodiversity by introduction of alien and exotic species has resulted in biotic homogenization and in some extreme cases, complete destruction of the ecological habitat as in the case of Water Hyacinth (Eichhornia crassipes). An interesting example is of Lake Victoria where water hyacinth spelt havoc upon escaping from an ornamental pond in Rwanda into the Kagera River, which is a major tributary of Lake Victoria and finally finding its way into the lake (Makhanu, 2018).

The visual retreat that rivers offered was used by many rulers of the past to build sprawling palaces and monuments. However, none of them channeled and fragmented the river to improve aesthetics. Hammeringhas now altered the hydrological characteristics and heterogeneous habitats. The river morphometry in terms of stream length, drainage area, density and other parameters has been hugely affected by catchment area change. This, in turn, has affected the water cycle in the region leading to relative warming in the micro-climate. Thinning of the river flow network has resulted in aggravated flash floods in the recent times that not only affect the lives and livelihoods but also bring down the overall economic progress and has far reaching repercussions on the market.

The increase in impervious surface and buildings has resulted in a heat-island effect, which in turn has raised temperature. Coupled with hot water

discharge from industrial units, the river temperature has relatively peaked up affecting the organisms that survive in it. Warming of the water enhances the algal growth in spring and is responsible for phytoplankton mortality in late summer (S.Brierley, 2017).

Dams also affect the local population with diversion of land. China's Three Gorges Dam caused the forcible resettlement of 1.3 million people and destroyed the habitat of endangered aquatic species. On the Paraná River in La Plata basin of South America, the Itaipu Dam, the largest in the world, flooded approximately 100,000 hectare of land, and destroyed significant aquatic habitat including the *Guaíra Falls* (World Wide Fund For Nature, 2019).

Imported Urban Planning and the Issues Therein

Cartesian urban planning imported to Indian cities failed to account for critical topographical and geographical advantages that the local area offered. The natural landscape was scathed and levelled out to make way for concrete, glazed buildings that hardly established the connect between the internal and external environment. Residential land-use receded from the city core to make way for commercial and institutional uses, whereas the industrial land-use was either thrown to the city's periphery or made to border the river banks for ease of water extraction or for discharge of industrial effluents.

The master plan laws derived from British laws were largely rigid and unamenable to change which was required the in order to keep pace with unprecedented growth in urbanization in India. Unplanned sprawls and illegal encroachments expanded city limits resulting in low-density congested growth and accelerated degradation of the environment. The natural ecology was massacred to make way for anthropogenic activities. In the entire approach, the river was either seen as a dump yard for waste or a source of water. The river, which is much greater than the water that flows through it, is also the sum of ecology, climate and biodiversity that thrives on it. This approach was never recognized in the master plans resulting in the growing negligence of natural resources.

The expansion of non-agricultural land-use and consequent changes in the spatial structure of land altered the environmental framework of the place on a longer line scale. Much of the visible land is actually a desert excavated out of naturally existing ecosystems, be it a river or a forest. These changes are so

distributed on the time-scale that their everyday visibility and measurement may not be detectible. In essence, the changes are slow-moving and intensely place-based. Typical changes brought in by urbanization affecting the river system can thus be classified into three categories – physical, biological and chemical.

Physical Causes and Effects: Clearing of forests and vegetation to make way for structures has negatively altered the landscape composition of the region. Native forests along river banks are becoming increasingly fragmented making it easier for poachers and non-native species to enter. It also increases the chances of forest fires, deforestation and loss of freshwater biodiversity. Climate-induced droughts, fires and land-use changes turn critical carbon sinks to carbon sources.

Soil characteristics are the most adversely affected by decreased water percolation leading to relative drying and constituent loosening. Continuous erosion has led to increased silting and sedimentation in rivers. Due to increased deposition, the channel has widened into dry banks and has aggravated the dust levels in the air. The binding force of plants and foliage are no more present to contain dust pollution and air composition stands adversely affected due to this.

Increased water harvesting has proved unsustainable with the river losing its volume and consequent self-cleaning capacity. Continued reduction in flow has led to drying of rivers and exposure of river beds, which are either left to erosion or encroachment, thus affecting the aesthetic value of the place. The river that once formed the cultural fabric of an area has been left to rot like urban garbage.

An essential reason for the change in the importance accorded to the river has been the deprivation of the social value that was attached to the river. River-related rituals like a daily dip in its waters, conduct of open classes by the river banks, walking trails along the river edges, recreational boating and ferrying in the waters and other such practices have been long forgotten and the connect that existed between the people and river has been severed by concrete structures and artificially-ventilated surroundings. This spiritual disconnect caused the public memory of to forget the significance – The River in everyday life and has been left to be reclaimed on certain important events and festivals.

Wetlands that thrive in healthy river regions collapse and dry out due to loss of a naturally flowing river-stream. The entire network of water bodies, surface or under-ground, gets disconnected with the relative drying up of the basin, resulting in gradual a loss of thriving faunal variety in the region.

Agricultural run-off, contaminated with pesticides and fertilizers, affects the inherent constituent structure. An example of this can be seen in the sugarcane farms of the Kafue River in Zambia, which rely heavily on river water for irrigation. The effluents from sugarcane processing are then discharged into the river. Rich in nutrients, such effluents mixed in river water cause unusual plant growth such as that of the water hyacinth that clogs up waterways. Local people have problems navigating the river and fish suffocate, ultimately leading to a loss of livelihood (World Wide Fund For Nature, 2019).

In the longer term, these changes become more prominent in the food cycle due to bio-accumulation and bio-magnification effects. In the Amazon basin, high levels of mercury have been found in fish where gold-mining is considerably high (Forsberg, 2011). The presence of anoxic conditions and elevated dissolved organic carbon concentrations in these areas favor the methylation process and promote bioaccumulation of mercury in aquatic fauna.

Institutional Challenges and Approaches to Urban River Management

Institutional arrangements governing river development, management and water allocation are increasingly receiving traction in policy dialogues world-wide. With increased demand of river water as a source of freshwater supply for both drinking and irrigation along with the industrial demand for cheaper sources of water, the supply-side institutional arrangements were the first to be formed in India. Although popular special vehicles existed for trans-boundary river-water sharing arrangements at national and international level since pre-Independence years, the real need for institutions was felt only with increased demand for water supply. The river was reduced to merely being a water supply source and the ecosystem-approach was not recognized in the early policy dialogues.

The Indian Constitution empowers states to govern water bodies within their jurisdictions, however, disputes arising out of their governance and inter-state conflicts on water use are subject to central regulation. Within the larger urban perspective, even though Urban Local Bodies (ULBs) have been

constitutionally empowered by the 74thConstitutional Amendment to regulate socio-economic and spatial planning, this has not transformed into any real action on the ground. Much of this has been blamed upon the reluctance of states to empower the ULBs. River management governance institutes have, hence, suffered from ambiguous jurisdictions, which dilute responsibility and thus the accountability of organizations in monitoring and managing river systems. The legislative powers, technical capabilities, planning skills and operational responsibilities are dispersed across layers of government. As a result, institutes have incoherent functionality and remain regionally uncoordinated. Excessive power fragmentation and devolution has also resulted in lack of consensus-building and delays in implementation of progressive policies.

As a result, the natural resource management is rendered in effective leading to their degradation and over-exploitation. Urban river management and the importance of main streaming rivers within the city fabric and alignment of land-use planning with the conservation of river basins have not been included yet in the urban planning process. The land-use section in municipalities have focused on augmenting revenue at the cost protecting river basins. In ignoring the river, the larger ecosystem and its constituent biodiversity have also suffered.

Another concern is the culture of hydrological data secrecy because of which timely research and technological diagnosis does not take place. In most countries, such data are available in the public domain so that critical analysis can be done by stakeholders, and proper sectoral planning can be developed before the problem intensifies. Representative web sites show this clearly: Tennessee Valley Authority in the US (www.tva.gov), the Murray-Darling Basin Commission in Australia (www.mdbc.gov.au), the Ministry of Water and Forestry in South Africa (www.dwaf.gov.za), the National Water Agency in Brazil (www.ana.gov.br), to cite just a few examples. Data denial the absence of bench marking raises questions on the efficiency of ongoing efforts. There is a drive need to tap the existing potential in augmenting data-driven policy making and promoting a culture of informed decision-making. Sharing data and providing avenues to process such information is an important way of empowering people and establishing a direct connect with them. When the users have easier access to data, it helps in cross-validation and updating of

missing inputs and also in creating a patrolling network of citizens who are expected to participate in governance and decision making in a more informed manner. This will go a long way in improving the status quo. Finally, this establishes a powerful feedback loop between data availability, quality, and support for implementing most government-led reform measures.

A reform blueprint is the need of the hour. The level of synergy among land-use, conservation and urbanization policies and their effective implementation will define the success of planning measures. The stakes are arguably higher for an economy such as India that faces the challenge of balancing high rates of industrialization and urban expansion with preservation of the country's rich biodiversity. It is in this context that a National Urban River Management Plan (NURMP) has to be discussed, debated, effected and implemented to preserve the river in its natural state.

The NURMP will seek to guide the spatial transformation in the sense of restructuring the physical form of the city and strengthening the river core so that the river finds its way back into the urban design. Cities that do not actively plan for urban consolidation are more vulnerable to overloaded basic services, overcrowded housing and informal settlements, congested transport networks, conflict over unoccupied land, environmental degradation and disasters and strained municipal finances. Not only their prior planning but also their modernization will be critical to ensure lesser strain on natural resources especially in this era of climate change and global warming. By allowing natural processes to operate within corridors, pulling infrastructure back from river channels and removing barriers to flooding and channel migration, the most sustainable approaches to restoring our rivers may be logically achieved.

Way Forward

The essence of the discussion lays emphasis upon three critical factors that will help achieve a sustainable system of river rejuvenation and conservation. The first and foremost is forming partnerships with communities for participatory management of rivers. Unless people are involved in ensuring safe practices of waste disposal and understand the importance of judicious use of river resources, efforts will not translate to a substantial difference to the present status. Behavioral campaigns and public outreach measures will have to be

strengthened, propagated and diversified to channel the latent energy of the masses into appropriate action for protecting rivers from unnatural demise. For this, the second most important thing would be a carrot-and-stick policy. ULBs will have to be empowered and enlightened into carrying out effective implementation of a river management plan and related policies. By putting into place entitlement and pricing practices, which will provide incentives for efficient and sustainable management of urban rivers, a certain level of moderation and insight will also be generated into the requirements of maintaining a healthy river system. The third area of intervention is the physical infrastructure of the city, which will have to be upgraded to match the demographic needs and the carrying capacity of natural resources so that the gaps do not dissipate the efforts.

Finally, it is important to provide transparent information for managing and monitoring river health. This will also help in identifying the strengths and weaknesses of ongoing efforts and will help in modulating policies to keep track of current developments. India is poised to urbanize by more than 50 percent by 2050 with an addition of 300 million urban residents (United Nations, 2016). It is essential to streamline ongoing efforts in the urban sector with efforts in river rejuvenation so that a holistic development emerges. The NURMP will be an important framework in guiding the assessment of river health patterns and ensuring sustainable urban practices.

References

(n.d.). Retrieved from www.indiaenvironmentportal.org.in: http://www.indiaenvironmentportal.org.in/content/420116/directions-issued-under-section-5-of-epa-act-1986-regarding-treatment-and-utilization-of-sewage-for-restoration-of-water-quality-of-river-to-metropolitan-cities-and-statesut-capitals/.

Affairs, M. o. (2017). Urban Water Sustainability Report, 2017, MoHUA.

Bhat, T. A. (2014). IISTE. Retrieved from www.iiste.org: https://www.iiste.org/Journals/index.php/JEES/article/viewFile/13993/14015.

C. Sudhakar Reddy, C. S. (2015). Quantification and monitoring of deforestation in India over eight decades (1930–2013). Biodiversity and Conservation > Issue 1/2016.

CDP Worldwide. (2017). A Turning Tide: Tracking corporate action on water security.

Census of India. (2011).

Forsberg, B. (2011). www.academia.edu. Retrieved from https://www.academia.edu/2526368/Mercury_bioaccumulation_in_fish_of_commercial_importance_from_different_trophic_categories_in_an_Amazon_floodplain_lake.

KPMG. (2018). Water Sector Resilience – Reimagining a Blue Future.

Makhanu, S. K. (2018). Imapct of water hycianth on lake Victoria. 23 WEDC Conference (pp. 165-166). Durban, South Africa: ResearchGate.

Ministry of Housing and Urban Affairs, M. (2017). Urban Water Sustainability Report.

NITI Aayog. (2018). Report on Composite Waste Management Index.

Pandey, B., & Seto, K. C. (2015). Urbanization and agricultural land loss in India: Comparing satellite estimates with census data. Journal of Environmental Management, Volume 148, Pages 53-66.

River Ganga. (2012, June 18). Retrieved from Gits4u.Com: www.gits4u.com/water/ganga.htm

S.Brierley, A. (2017). Plankton. Current Biology, Volume 27, Issue 11, R478-R483.

Shafique, M., Ghosh, S., & Behera, M. D. (2019). Assessing land transformation and associated degradation of the west part of Ganga River Basin using forest cover land use mapping and residual trend analysis. Journal of Arid Land, 29–42.

Sivaramakrishnan, S. B. (2003, July). erst. Planning Commission. Retrieved from http://planningcommission.nic.in/reports/sereport/ser/vision2025/vsn2025_ndx.htm: http://planningcommission.nic.in/reportssereport/ser/vision2025/urban.pdf.

United Nations. (2016). Sustainable Development Goals.

United Nations. (2016). World Cities Report .

World Economic Forum. (2017). The Global Risks Report.

World Wide Fund For Nature. (n.d.). Retrieved from https://wwf.panda.org/our_work/water/freshwater_problems/river_decline/.

[i] Bio-accumulation refers to increase in concentration of a pollutant from the environment to the first organism in a food chain, whereas bio-magnification refers to increase in concentration of a pollutant from one link in a food chain to another.

Richa Rashmi

The author is an Consultant (Urban River Management), National Mission for Clean Ganga (NMCG), Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, Government of India at the time of writing this article.

Streamlining Financial Management of the National Health Mission

Dr. Dharmendra Singh Gangwar

Abstract

The National Health Mission (NHM) is a major instrument of financing and support to the states to strengthen public health systems and healthcare delivery in India. Analysis of available funds at the beginning of the financial year shows large amounts of unspent balances against central releases of NHM at the state and district levels every year. State level studies show that the process of planning, budgeting, approval, and releases under NHM takes about six to eight months. The delay in transfer of funds from State treasury to State Health Societies (SHS) and from SHS to district and below levels continues to be a major problem for most states. This paper takes a deep dive to understand the real reasons behind such large unspent balances, and will suggest measures to address the same. Various policy measures such as Medium Term Expenditure Framework for planning, restructuring the budget, and different options for streamlining fund flow are analyzed to improve the financial efficiency of the programme.

Streamlining the Financial Management of the National Health Mission

1. Introduction

The World Health Report 2010 (World Health Organization, 2010, p. x) stated: "The World Health Assembly resolution 58.33 from 2005 says everyone should be able to access health services and not be subject to financial hardship in doing so. On both counts, the world is still a long way from universal coverage. Three fundamental, interrelated problems restrict countries from moving closer to universal coverage. The first is the availability of resources. The second barrier to universal coverage is an over reliance on direct payments at the time people need care. The third impediment to a more rapid movement towards universal coverage is the inefficient and inequitable use of resources. On a conservative estimate, 20 per cent–40 per cent of health resources are being wasted. Reducing this waste would greatly improve the ability of health

systems to provide quality services and improve health."

Dr. Margaret Chan, Director-General World Health Organization, advised in her message (World Health Organization, 2010, p.vi):

"At a time when money is tight, my advice to countries is this: before looking for places to cut spending on health care, look first for opportunities to improve efficiency. All health systems, everywhere, could make better use of resources, whether through better procurement practices, broader use of generic products, better incentives for providers, or streamlined financing and administrative procedures."

With a view to streamline the financing procedures, the flagship programme of National Health Mission (NHM) of Government of India is analyzed in the present paper to suggest measures for improving its financing and administrative processes to better realize public health outcomes.

2. National Health Mission

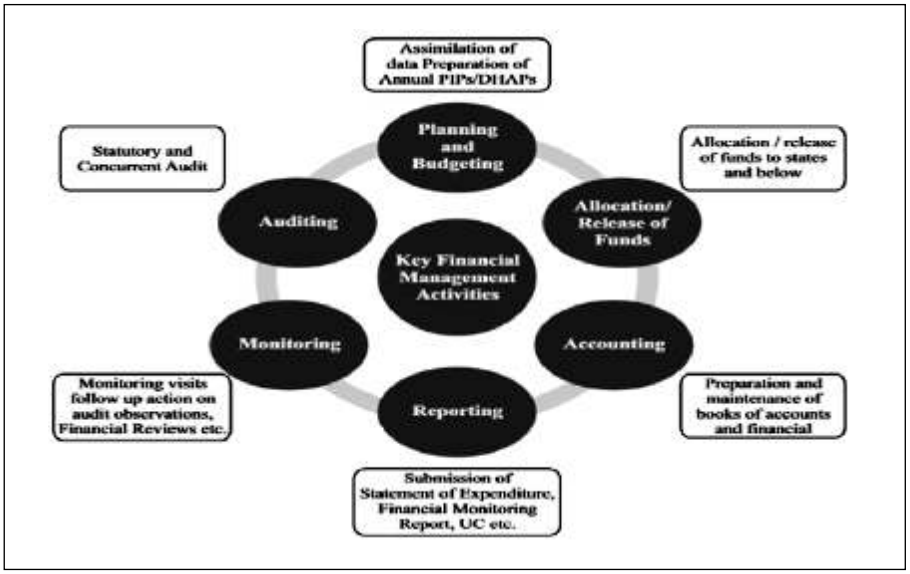
The NHM, India's flagship health systems strengthening programme, particularly for primary and secondary health care envisages "attainment of universal access to equitable, affordable, and quality health care which is accountable and responsive to the needs of people" (Ayushman Bharat Health and Wellness Centres Operational Guidelines, 2018). It is a major instrument of financing and support to the states to strengthen public health systems and healthcare delivery. National Rural Health Mission (NRHM) was launched to provide assessable, affordable, and quality health care to rural population especially the vulnerable sections. Later on, with the introduction of National Urban Health Mission (NUHM) to cater to the health care needs of the urban population especially in urban slums, NHM came into existence. NHM is being implemented as acentrally sponsored scheme; the funding was in the ratio 75:25 by the Centre and the state governments up to 2014–15 and revised to 60:40 from 2015–16 onwards. The funds received by the state are further disbursed to the District Health Societies in accordance with the requirements stated in the respective District Health Annual Plans (DHAPs). The district authority disburses funds to the blocks which in turn disburse funds to various implementing units (CHCs/PHCs/SCs/VHSNCs) for programme implementation activities. An overview of NHM is as follows:

Sl. No.	Year	Budget Estimate (BE)	Revised Estimate (RE)	Reported Expenditure
1	2012–13	20,542.00	17,000.00	16,762.77
2	2013–14	20,999.00	18,100.00	18,215.44
3	2014–15	21,912.00	17,627.82	18,037.99
4	2015–16	18,295.00	18,295.00	18,282.40
5	2016–17	19,000.00	20,000.00	18,915.92
6	2017–18	21,940.00	26,110.66	25,975.13
7	2018–19	25,154.61	26,118.05	26,040.43

2.1 Budgetary Outlay BE/RE and Plan Expenditure (Rs. in Crores):

2.2 Overall Financial Management Cycle: (Operational Guidelines for Financial Management (2012): The main aim of Financial Management is to operationalize an effective and accountable financial management system for budgeting, release, monitoring and utilization of funds under NRHM at the central / state / district / block and facility level.

- Planning and Budgeting: Planning is required for formulating achievable targets for various activities for programme implementation and to accordingly allocate appropriate funds to states under various programmes. Allocation of funds is facilitated through preparation detailed budgets. Under NRHM, the planning and budgeting process is



carried out by preparing State Project Implementation Plans (SPIPs) and DHAPs.

- Allocation and Release of Funds: The funds need to be allocated to states as per the budget approved for the programme / activities. These have to be disbursed in OPERATIONAL GUIDELINES FOR FINANCIAL MANAGEMENT tranches on a timely basis subject to certain conditions to be fulfilled by states / lowerunits.
- Accounting: Availability of funds implies accountability. Proper books of accounts and records need to be maintained at all levels (accounting centres) in accordance with the accounting policies and principles.
- Reporting: Financial Statements need to be prepared and submitted in specified formats and within the fixed timelines to report the utilization of the funds disbursed.
- Monitoring: The utilization levels of the states need to be monitored and evaluated on established parameters. Timely monitoring is essential for process improvement and follow up on audit observations.
- Auditing: To ensure correctness of financial statements and accounting records and appropriateness of internal control mechanism, audit is of foremost importance. Under NRHM, in addition to the annual Statutory Audit, Concurrent Audit also needs to be implemented.

2.3 The Planning Process

The Framework for Implementation of National Health Mission 2012–17 envisaged "decentralized outcome based planning and implementation, based on varying diseases burden scenarios, and using a differential financing approach. There will be a focus on results and performance-based funding including linkage to caseloads." One of the major areas of emphasis in the Framework is the provision of greater flexibility to the States in planning and the use of resources to finance state plans. Hence instead of fixing all norms centrally, broad principles and illustrative norms will guide planning and implementation. The Implementation Framework envisaged decentralized health planning from Village Health Plans to Block Health Plans to District Health Action Plan. But 12th Common Review Mission in 2018 found that the planning process is still top down.

2.4 Merger of Schemes and Release under Five Major Pools under NHM From 2015–16

Financing to the states is based on the states 'Programme Implementation Plan

(PIP). The State PIP's comprises following major pools:

1. NRHM RCH Flexible Pool.
2. National Urban Health Mission Flexible Pool.
3. Flexible Pool for Communicable Diseases.
4. Flexible Pool for Non-Communicable Diseases.
5. Infrastructure Maintenance.

S. No.	Name of Pools	Schemes Covered under Major Pools
A	NRHM-RCH Flexible Pool	As Below:
	(1) RCH Flexible Pool	1. RCH Flexible Pool, 2. Routine Immunization (RI), 3. Pulse Polio Immunization (PPI), 4. National Iodine Deficiency Disorders Control programme (NIDDCP)
	(2) Health System Strengthening under NRHM	Mission Flexible Pool (MFP)*
B	National Urban Health Mission-Flexible Pool	National Urban Health Mission (NUHM)
C	Flexible Pool for Communicable Diseases	1. National Vector Borne Disease Control Programme (NVBDCP) 2. Revised National Tuberculosis Control Programme (RNTCP) 3. National Leprosy Eradication Programme (NLEP) 4. Integrated Disease Surveillance Project (IDSP)
D	Flexible Pool for Non-Communicable Diseases, injury and Trauma	1. National Trachoma and Blindness Control Programme (NTPCB) 2. National Mental Health Programme (NMHP), 3. National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases and stroke (NPCDCS), 4. National Tobacco Control Programme (NTCP). 5. Health Care for Elderly
E	Infrastructure Maintenance Infrastructure Maintenance	

2.5 The Process of Financial Allocation:

a) The Allocation Procedure andProcess of Approval under NHM

Under NHM, annual resource envelope of a state is decided based on its population and a weightage factor which depends on area of the state, health lag, and socio-economic factor of the State. Every year, the States/UTs prepare their Annual PIP under NHM based on its resource envelope. These annual PIPs are appraised by teams from Government of India and approved for implementation by the National Programme Coordination Committee (NPCC). Implementation of the approved plans is essentially in the domain of the State Government as health is a state subject in the Constitution of India.

Need of liquidity under NHM: Under NHM, there is a need of minimum amount of liquidity to run nearly 700,000 health care facilities, comprising of 672 District Health Societies, 763 District Hospitals, 1022 Sub District Hospitals, 5396 CHCs, 25308 PHCs, 153,655 Sub-Centres, and 510,416 VHSNCs. This minimum amount of liquidity is generally required to maintain and carry out essential and recurring health care activities.

b) Formula for Allocation of Funds under NRHM-RCH Flexible Pool

Allocation of funds to the states under NRHM-RCH Flexible Pool is done on the basis of population with some additional weightage to states on account of socio-economic backwardness and health lag.

c) RCH Flexible Pool

Allocation is done on the basis of total population of the state and rural area.

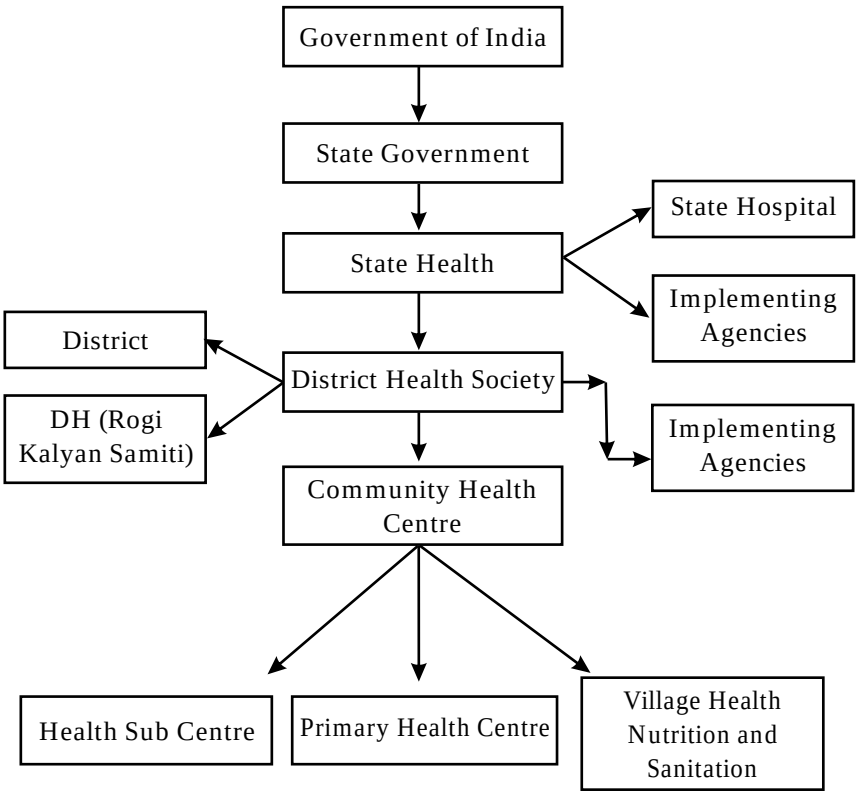
d) Mission Flexible Pool/System Strengthening under NRHM

Allocation is done on the basis of rural population and rural area. In these broad categories of states, excluding small UTs category, inter-se allocation of funds to States based on rural population and rural areas in the ratio 75:25.

e) National Urban Health Mission

Allocation is done on the basis of 50 per cent weightage to urban population and 50 per cent to slum population.

f) Mechanism of Fund Flow under NHM



3. Current Symptoms of the Problem

As per the Report of the Comptroller and Auditor General of India on Performance Audit of Reproductive and Child Health under National Rural Health Mission (Report No. 25 of 2017; pp. v, vi):

"Financial management at both Central and State levels was not satisfactory with substantial amounts persistently remaining unspent with the State Health Societies at the end of each year. In 27 States, the unspent amount increased from Rs. 7,375 crore in 2011–12 to Rs. 9,509 crore in 2015–16. Furthermore, funds amounting to Rs. 5,037.08 crore and Rs. 4,016.37 crore released in 2014–15 and 2015–16 to the State treasuries were transferred to State Health Societies with delays ranging from 50 to 271 days. In six States, Rs. 36.31 crore was diverted to other schemes."

As per the information available at the Mission office level, unspent balances at beginning of the financial year from 12th Plan onwards are as follows:

Statement of Unspent Balances of NHM

Sl. No.	Financial Year	Opening Balance	Central Release to States	State Share Credited under NHM	Expenditure Reported from States /UTs*	Unspent Balance
1	2012–13	4,763.51	15,935.09	5,246.10	20,539.49	5,405.21
2	2013–14	5,405.21	17,497.15	4,920.63	22,051.72	5,771.27
3	2014–15	5,771.27	18,324.33	5,093.35	24,243.63	4,945.32
4	2015–16	4945.32	18,158.32	7,894.53	27,024.09	3,974.08
5	2016–17	3974.08	18,699.43	9,374.46	29,485.19	2,562.78
6	2017–18	2562.78	25,829.63	12,657.22	35,702.55	5,347.08
7	2018–19	5,347.08	24,999.57	12,439.76	36,074.59	6,711.82

* Expenditure is as per Financial Management Report (FMR) reported by the States / UTs.

The 11th Common Review Mission (CRM) Report 2017 Observed:

"The delay in transfer of funds from State treasury to SHS continues to be a major problem for most states visited. Delays of 20–21 days in Odisha, 30–33 days in Jharkhand and Chhattisgarh, 30–45 days in Telangana, 60 days in Bihar, 65–164 days in Karnataka, 31–238 days in Punjab, 50–100 days in West Bengal, 90–100 days in Uttar Pradesh, and 256 days in Maharashtra were noted….The dissemination of district Record of Proceedings (RoPs) was reported only in few States such as Assam, Chhattisgarh, Jharkhand, Maharashtra, and Punjab. However, district RoPs are not being disseminated as per State RoP format with the result that the districts are not aware of approvals for activities where the payment / administration is from the state, such as Referral transport, civil works, dialysis services, etc. This leads to poor monitoring at the district level. In the absence of district RoPs fund allocation to the lower facilities becomes difficult and leads to delay in fund transfers, which ultimately leads to lower utilization of funds by CHCs and PHCs. Utilization of funds was reported low in the first two quarters of FY 2017–18 in most of the states visited…Furthermore, there was a further delay in releases of funds from state to district level ranging between 5 days to 294 days in F.Y. 2017–18, and 12 days to 196 days in F.Y 2018–19."

4. State Level Studies to Understand the Basic Causes for Large Unspent Balances

Following three studies have taken deep dive into public finance management of NHM in the states of Uttar Pradesh, Bihar, Maharashtra, and Orissa with important lessons for improving its efficiency and effectiveness:

5.1 Tracking Financial Resources for Primary Health Care in Uttar Pradesh, India, A report of the Resource Tracking and Management Project, Harvard T.H. Chan School of Public Health (June, 2017), Boston, MA, USA)

"The health sector in Uttar Pradesh suffers from a history of resource and performance shortfalls, which result in weak outcomes for its citizens. These shortfalls can be observed both at the policy level and at the service delivery level. The system is characterized by unequal access to health care, high inequity, poor quality health care services, and insufficient public spending resulting in high out-of-pocket expenditures (World Bank, 2011). Weak government health systems affect the poor most, and, it is estimated that in a recent year 8 per cent of households in UP fell below the poverty line due to health-related out-of-pocket expenditures (World Bank 2011). UP is an Empowered Action Group (EAG) state, which qualifies it for additional central subsidies. It experienced a 2.4 times increase in its health budget between 2008–09 and 2014–15 in nominal terms. Yet, the state remains one of the lowest performing states even among its EAG peers. The persistent challenge in UP is that inadequate institutional capacity and management systems of the state's Health Department limit its ability to have the full benefit of these inputs (World Bank, 2011). The study categorized the reasons for underutilization into 3 distinct areas of weaknesses–policy related, operational issues, and low capacity. They delved even further to better understand the nature of capacity constraints using the Potter and Brough's framework (Potter *et al.*, 2004). In UP they identified the capacity constraints as Systems Capacity, Supervisory capacity, Role Capacity, and Structural Capacity."

The detailed findings of the study are as follows:

a) Operational Issues: Systems capacity and operational issues are very closely linked to each other, and are elaborated in the section below.

1) NHM planning calendar and approval timelines

The process of planning, budgeting, and approvals of plans under the NHM are elaborately documented. In an attempt to institutionalize need-based and bottoms up planning, the process has become so time intensive that the Government of India approvals for the plan for 2015–16 were made after almost one-third (38 per cent) of the plan period had elapsed. This delay has a ripple effect on the budget approvals and transfers by the state to the districts which takes another 30 days on an average, leaving the districts less than the full fiscal year to implement the activities, thereby contributing to underutilization of available resources.

2) Timeliness of releases

Delays in approvals of plans have a cascading effect on the timeliness of fund releases. Based on data from all 75 districts in UP in the last 2 years, almost 50 per cent of the total funds released were in the last quarter. In addition, funds are not released to district and sub-district levels based on performance and results in large portions of funds lying idle in non-performing units.

3) Time taken for transfer/release of funds at different levels

Janani Suraksha Yojana payments: Discussions with district level officials reveal that there is a delay of approximately one month at the district level and up to two months at the block level.

ASHA payments: Delays in payments to ASHA have been well documented over time.

4) Procurement systems and timeline

Budget lines related to procurement of medicines, ASHA kits, civil works, and also equipment reflect large unspent funds. Procurement baseline study undertaken in 2014 under the Uttar Pradesh Health Systems Development Project identified the procurement cycle time of medicines to be 149 days and equipment tender as 205 days. The report further specifically highlights that lack of market information formed a reason for a large percentage of the delays followed by lack of technical capacity which accounted for 22 per cent of the delays in procurement.

5) Guidelines for expenditure: risk aversion strategy becomes a risk in itself

Delays in approvals mentioned above, also resulted in delays in releases of funds. The situation is further aggravated by a risk aversion measure that UP

employs where the SPMU sends detailed expenditure guidelines to each district along with each fund transfer, only after which expenditure can be incurred. This is applicable even for committed liabilities. As a result, districts cannot not incur expenditure even if funds are available with them and have to wait until the expenditure guidelines are received.

6) Underutilization in budgets allocated for human resources

Even when contractual human resource positions are sanctioned and budgeted under NHM, they are sometimes not filled. Over the last few years, this has remained one of the biggest challenges faced by the state. Whereas a more detailed investigation may be needed to generate evidence to address this challenge, prima facie the reasons are shortage of qualified and trained human resources in the state, unwillingness to work in rural areas, salaries and incentives that are not competitive and lack of strong human resource (HR) management systems. Vacant positions have resulted in high underutilization rates and has also affected the quality and accessibility of services.

b) Low Managerial Capacity

1) Supervisory capacity

An overall lack of dynamic and strategic leadership has a cascading effect all the way to the lower levels of governance. As a result, there is limited supervision, evaluation, or ability to do a mid-course correction, as the delays ranging from issuing ROP, or recruitment of personnel, procurement of drugs, or payment to ASHAs become the norm. These delays and disruptions are further pronounced at the sub-block level. The Government of India in its 7th CRM report corroborates this finding. Therefore, we see very low utilization rates of untied funds at the lower level of facilities across districts.

2) Technical capacity

Lack of capacity/skills in budgeting and financial planning, management capacity, procurement, and supply chain management capacity is rampant in UP at all levels. However, specific to NHM is the low capacity to utilize its untied grants which stems from a lack of clarity or poor understanding of the guidelines for spending untied grants. Grants to Village Health Sanitation and Nutrition Committees and Rogi Kalyan Samities (RKS) are often left unspent because of lack of clarity on how and when to spend the funds. This is probably also a result of weak monitoring and oversight on this component of the

programme. Reluctance to spend untied grants was exacerbated especially after the corruption scandal. Administrative delays due to change of the account holder for the bank was also cited as a reason for delayed payments.

c) Policy and Design Limitations in the NHM

1) Power dynamics at the local level can impede innovation and implementation:

The design of the NHM emphasizes community engagement; however, it has been observed that the inter-sectoral coordination, especially engagement of the village panchayats often does not support effective implementation reflecting social/power dynamics of the village. In the NHM design, involvement of local bodies is central to the community processes. Another study on utilization of untied funds in UP revealed that about 50 per cent of the ANMs could not spend the money due to non-cooperation of *panchayat pradhans* (Singh *et al.*, 2008). The same report also mentions that in majority of the cases the decision regarding the utilization of untied fund was taken by ANM herself, instead of in VHSNC meetings, therefore defeating the objective of community ownership.

2) Priorities not given to certain disease control programmes:

A budget analysis highlighted in a study conducted by Accountability Initiative in UP reveal that in a few select districts, including Sitapur, the funds utilization of the disease control programmes component of NHM was much lower as compared to other components. It may be that some disease control programmes like Iodine Deficiency, Japanese Encephalitis, Filariasis, Kala Azar are not considered priority programmes, consequently their administration, planning, implementation is weak, which contributes to the low utilization. Allocations for these programmes as a share of the total district allocation is relatively small.

d) Key Messages

1) A deeper investigation has revealed that norm-based expenditures, where the purpose of the expenditures is explicit, generally tend to have better utilization rates. But for budget lines that require discretion and / or innovation in its optimal use, the utilization rate is lower. The NHM design and human capacity factors that contribute to low-utilization can be summarized as follows:

- Lack of proper financial, management processes, and systems;
- Lack of leadership to conceive and implement an innovation;
- Risk averse attitudes of managers;
- Lack of proper knowledge of spending guidelines; and
- A shortcoming, or an unintended effect, in the design of NHM-is the power dynamics at the local level. While community engagement, an integral part of the NHM design, is expected to ensure local ownership and accountability, it often becomes a roadblock due to the power play between the various village stakeholders.

2) Other key operational reasons for low utilization are:

- Delays in approval of plans from Government of India(Government of India) are significant up to half or one-third of the fiscal year has elapsed in the last 2 years before Government of India approval of the UP SPIP was received.
- Delays in approval of plans inevitably result in delays in releases of funds. 50 per cent of total transfers were made to the districts in the last quarter in the last 2 years.
- HR positions have been sanctioned and budgeted for, but in some districts the vacancies for staff nurses, for example, are between 50 per cent and 75 per cent.
- Substantial procurement delays for equipment (205 days) and drugs (149 days).

e) Resource Productivity

1) Overall, the results of our analysis found very weak associations between levels of inputs and outputs. It appears that the level of government health care activity is largely unrelated to the levels of inputs from government sources. This is a surprising finding that calls for further investigation.

2) Individual HR categories-doctors, specialists, nurses, paramedics, ANMs-have no statistically significant relationship to outputs. However, HR (as a total) is a significant predictor of number of pregnant women receiving 3 ANC check-ups and institutional deliveries. ASHAs and ANMs were combined as community level HR category, however there is no detectable relationship to outputs.

3) Non-HR spending from Treasury and NHM is strongly associated with increased outputs.
4) Lack of significant relationship between HR individual categories and outputs but significant relationship when HR is considered as a group, could be explained by some level of informal task shifting among individual HR categories. Another possible explanation for limited relationship between HR and outputs is staff absenteeism.

f) Recommendations of the Study

Ten years after its implementation, some flaws in the NHM design and its implementation continue to persist. It appears to be a complex financing mechanism that has contributed to the fragmentation of health financing system in India. While the NHM design is innovative and empowering, and brought in substantial additional financing, the main challenge in UP is the full impact of these inputs that is undermined by inadequate institutional capacity at all levels and weak management systems of the state's Health Department (World Bank 2011). Some of the implications of this complex mechanism on the UP health sector are summarized below.

1) The planning process is arduous and there is very limited capacity at different levels to develop a credible plan. In addition, the integration of the planning process with the financing process is not very streamlined. While all health expenditure data are publicly available, they are not all collated in a format that makes tracking and analyzing easily possible, resulting in inadequate information on total resources available to implement the health programme at different levels (centre, state, and district) or to estimate the share of primary, secondary and tertiary health care; or gauge spending on vertical disease programmes as opposed to general health system financing. More importantly, even though all record keeping is now electronic and data available in real time, there is limited evidence of the data being used for mid-course correction. These shortcomings in the planning and financing processes contribute to low budget credibility.
2) There is lack of clarity and/or understanding of the financial (e.g., purchase and payments) procedures and guidelines especially at the lower levels. This is particularly true when it comes to block/untied

grants and devolved funds at the community and facility level, and as a result had the low utilization.

3) Poor information systems and monitoring capacity undermine accountability. The HMIS system, which is managed by the NHM, until two years ago, had serious data quality issues as the data validation and verification systems are weak. In addition, it is nearly impossible to systemically link the performance of the indicators to the use of resources within the HMIS and financial system. This common "disconnect" in results in UP or the Indian system is that resources are focused on funding an input say, buildings, rather than purchasing benefits for the population.

4) Another specific area of reform to improve efficiency in the system would be to improve the budgeting process. It is difficult to match health spending to priorities when budgets are classified and formed based on inputs. Furthermore, budgets disbursed and accounted for according to input-based line items as in the case of UP are quite rigid, with lack of provider autonomy to shift resources across the line items. In addition, the structure of programme budgets is by type of facility rather than the types of services to be purchased. How budgets are formed and allocated; how they flow through different levels of administration; and how they are executed / implemented has implications for health financing, revenue pooling and purchasing, and service delivery. An open and orderly public financial management (PFM) system encourages better health financing mechanism and enables results.

5.2 Tracking Financial Resources for Primary Health Care in Bihar, India, A Report of the Resource Tracking and Management Project, Harvard T.H. Chan School of Public Health (June, 2017), Boston, MA, USA)

In a similar study of the state of Bihar (Harvard T.H. Chan School of Public Health (June, 2017), it was found:

i) "The process of planning, budgeting, and approval under NHM takes about six to eight months. Based on overall resource envelope communicated by the Government of India to the state and the planning guidelines issued, the process is led by the State Health Society Bihar (SHSB). The District Program Management Unit seeks inputs from each of

the blocks to prepare the District Action Plan and the budget. Previous year's progress and the gaps form the basis for planning for the year ahead. District Action Plans are finally approved by the respective District Health Societies and shared with the SHSB for further action. SHSB reviews and negotiates the respective plans and budgets with the districts and includes state level activities to consolidate and finalize the SPIP. This SPIP is then sent to the NHM unit in Government of India. After detailed review, a coordination meeting is held between the Government of India and the state NHM team for final presentation, discussions, and approval. Typically, between May and July each year, Government of India sends the ROP to the states, communicating the approval decision and related details. The ROP contains the overall allocation for the year and the budget approved including details of all approvals awarded by the Government of India for each proposed budget line, based on which the SHSB determines the final allocations for the districts for that year. Later in the year, SHSB may submit supplementary plans as per emerging need to the Government of India for approval. All such subsequent approvals are communicated to the SHSB through Supplementary Record of Proceedings." It further found that "Underutilization of NHM funds reflects both weak capacities at local level to plan and utilize more flexible funds as well as bottlenecks in the society route's financial management systems and capacities."

ii) These constraints can be observed in spending patterns for the NHM budget lines that require greater local planning and innovation. For example, the budget heads under Mission Flexi Pool like communitization, untied grants to health facilities, and village committees are the budget lines that reflect the greatest underutilization. Some of the areas of underutilization, as shown from analysis of the NHM FMR, include:

- Selection and training of ASHAs including procurement and replenishment of ASHA drug kits and ASHA incentives.
- Untied funds specially at the level of Village Health and Sanitation Committees.
- Annual maintenance grants, especially at the level of PHC and below

- Construction of civil works / infrastructure
- Corpus grants, especially at the level of CHCs
- IEC and BCC component
- Procurement of equipment and drugs
- Maternal death reviews
- Quality assurance committees

iii) Based on analysis of NHM FMRs in the last three years, we see relatively high underutilization across different programme components, with budgets for the NHM Flexi Pool (MFP) being the most unused. The Mission Flexi Pool, as the name suggests, includes budget lines that encourage flexibility in spending to encourage innovation at the local level. In the absence of strong empowered leadership skills; management and planning capacity; and a transparent monitoring system allocations for communitization and grants to health facilities and village committees reflect significant under-utilization. Trends emerging from the financial data, review of audit reports and discussions with officials at different levels triangulate the same finding, and highlight the underutilization in areas of human resources; procurement; pharmaceuticals; civil construction; and expenditure related to ASHAs. Specifically reasons for underutilization can be attributed to absence of systems capacity and an apparent lack of accountability within the governance structures and can be captured in the five reasons mentioned below:

- Sub-optimal systems for procurement and supply chain
- Lack of contracts design and management capacity
- Lack of proactive monitoring
- Lack of accountability within the governance structures at different levels
- Inability to recruit and retain the required human resources for health

iv) The study concluded that "Public financial management factors; organizational and governance factors; and leadership and implementation capacity all constrain effective use of the more flexible components of NHM. Our study results indicate that while Bihar certainly needs to raise and spend more for health to attain basic levels of health

system capacity, it also needs to develop its ability to spend money more effectively. Both of these elements need to be developed concurrently in support of more rapid progress."

v) In the end, the study recommended that "For improved and realistic planning developing a financial plan such as the Medium Term Expenditure Framework (MTEF) should be considered, especially taking into account the large back-log of civil projects and recurrent costs. A robust MTEF can help plan a better expenditure composition in favour of health, while protecting other priority sectors against cuts. It can also guide in monitoring that budget allocations translate into actual expenditures and thereby improve the credibility of the budgeting process."

5.3 Utilization, Fund Flows, and Public Financial Management under the National Health Mission – A Study of Selected States(August 2017). National Institute of Public Finance and Policy, New Delhi.

Since its launch in 2005, NHM funds from the Central Government used to be directly transferred to implementing agencies (IA) in States bypassing the treasuries of the State Governments. Since April 2014, funds for NHM are being released to implementing agencies through State treasuries. This change in the architecture of fund flows has affected the process of budget execution of the single largest scheme in the health sector: the National Health Mission. NHM contributes about a third of all Government health expenditures in the country, and its budget execution has important implications for achieving health outcomes. This study aimed to examine various institutional features that affected the utilization of NHM funds following the reform related to the execution of the budget of the scheme. It also explored the developments in the administrative architecture which has emerged due to the reform, and has affected the utilization of NHM funds. The study focussed on three selected States in India (Bihar, Maharashtra, and Odisha) for deriving insights on the issues.

Our analysis suggests that the routing of funds through the State treasuries has had significant implications for utilization of NHM funds. The involvement of State treasuries has increased the accountability of States towards NHM spending. However, this has added an additional administrative layer in the

fund flow process, and has created barriers in the fund flow due to complexities of States' administrative procedures for releasing funds. This has adversely affected the timeliness of availability of NHM funds for utilization by implementing agencies. The file with the request for release of funds has to pass through a minimum of 32 and 25 desks up and down the administrative hierarchy in Bihar and Maharashtra, and this has adversely affected the timeliness of availability of NHM funds for utilization by implementing agencies in those States. On average, in the last two financial years, there was a delay of around two to three months in releasing NHM funds from State treasuries to implementing agencies in Bihar and Maharashtra.

The increased accountability of States towards NHM funding has also raised concerns of the Finance Departments about utilization of funds. In Bihar, this has led to creation of additional bureaucratic structures in the process of fund release to implementing agencies. These additional structures have increased the time required for release of NHM funds. Part of the concern of the Finance Department arises from the fact that the NHM accounting methods are complicated, which reduces transparency in fund utilization. Rigid budgetary structure, multiple budget heads, and strict segregation of NHM budgets, and releases for different components require separate financial reporting for each component. This has led to the creation of multiple bank accounts of implementing agencies at the State and sub-state level, translating into a complex financial architecture for NHM spending.

The volume of fund releases to implementing agencies has also reduced in the new financial architecture. In Maharashtra, a significant amount of NHM funds released by the Government of India to State treasury were not released to the State Health Society in the last financial year. As per the officials of the State, the non-receipt of NHM funds by the SHS can be attributed partially to the management of State Finances by the Finance Department. This needs to be examined further. Moreover, apprehensions about releases in Maharashtra have led to fragmented procedures: the State share of NHM funds is claimed by SHS only after the Government of India share is credited to the bank account of SHS. This has resulted in an inordinate delay in the receipt of the states' share by SHS. This is unlike Bihar and Odisha where both the Government of India and the State share of NHM funds are claimed simultaneously for each instalment by SHS.

An important factor adversely affecting the process of release is the fact that the SHS is outside the administrative setup of the State Government. Integration of SHS with State administration will not only reduce the time taken for making funds available to implementing agencies, but can also bring about a larger degree of coordination between states' health expenditure and NHM spending. On the other hand, a drawback of such integration is that this will considerably reduce the flexibility which NHM funds have extended to health facilities in most States as utilization of funds would then be affected by the rigidities of the State treasury system.

The complex and rigid administrative procedures in States need to be simplified. Odisha has a relatively less cumbersome process for release of NHM funds, and is able to transfer funds to implementing agencies much faster than Bihar and Maharashtra. In addition to the involvement of various levels of administrative hierarchy in the release process, it may be noted that in Bihar, the issuance of two separate orders (sanction order and allotment order) for release of NHM funds takes up additional time, and these can be combined into a single order as is the case in Maharashtra and Odisha. Also, the requirement of an additional structure (Personal Ledger account) in Bihar for parking NHM funds before releasing to SHS needs to be re-examined. Notably, no such intermediate account exists in Odisha and Maharashtra. To increase transparency and address concerns of the Finance Departments of States about utilization, the complexities in accounting methods and segregation of NHM budget into multiple budget lines need to be reduced. The segregated structure of NHM budget has also resulted in multiplicity of bank accounts reducing transparency. In this context, it may be worthwhile to create a single bank account under NHM at the State level from which all sub-State implementing agencies can directly draw funds.

Other Rigidities in the Financial Architecture:

In a related Working Paper, Mita Choudhary and Ranjan Kumar Mohanty (May, 2018) have noted:

Other Rigidities in the Financial Architecture: Structuring of NHM budget into more than a 1000 budget lines, and limited flexibility in the use of funds across different flexible pools poses a hurdle in utilization. Even within the same "Flexible pool," budgets are often strictly segregated. Under the flexible

pool for communicable diseases, funds for disease control programmes like the RNTCP, NVBDCP, and National Leprosy Eradication Programme (NLEP) are earmarked and approved for release by separate divisions within the Health Ministry and released separately. With separate budgets, releases and requirement of maintenance of accounts for individual disease control programmes, limited flexibility in using budgets across different heads exist even within the same pool.

The segregation of funds within the NHM budget and the requirement of separate financial reporting for each programme have complicated the implementing structure resulting in reduced transparency in utilization of funds. The reduced transparency has resulted into delays in fund releases in States like Bihar. A typical example of this is the existence of multiple bank accounts in implementing agencies which cater to different programmes under the scheme. Data provided by SHS in Odisha and Maharashtra suggest that the main (group) bank account of SHS is further subdivided into 8–9 sub-accounts to ensure segregation of funds under different programmes. Releases to District Health Societies are made separately from each of these bank accounts. Similarly, multiple bank accounts exist at the level of districts and blocks, and funds are released from each of these accounts to implementing agencies at the lower level or to health facilities. The network of bank accounts and releases from each account at different levels for expenditure on different parts of the programme reduces transparency in accounting.

The existence of SHS outside the administrative boundary of the State Governments has further added complexities. Being outside the state administration, NHM Funds can be released to SHS only in the form of Grants-in-aid (GIA), which in turn can be released only on issuance of a SO by the State Government. GIA is a transfer of funds from the State Government to local Governments or implementing agencies for the purpose of funding a specific programme or project. Much of the time consumption in the release process of States is in the issuance of SO. This is unlike withdrawals within the State administration where the approval of the budget is adequate to withdraw funds from the State treasury and no separate SO is required for release of funds. In addition, NHM grants cannot be withdrawn directly by SHS from the State treasury as they are not a part of the State administration.

These are withdrawn by a Drawing and Disbursing Officer (DDO) in the Health Department. Even in a relatively better performing State like Odisha, a significant number of days (nearly a week) are consumed in submission of bills even after the SO is issued.

Utilization can also be adversely affected by factors unrelated to the financial architecture. Deficiencies of physical inputs (like lack of human resources) in State health systems pose major constraints in utilizing NHM funds. Many of the interventions under NHM assume the existence of a certain set of complementary inputs in States, which are inadequate in many of the high-focus States. Partially due to this, the utilization of funds under the Mission flexible pool in better performing States is higher than the poor performing States.

This study highlights the role of institutional processes in effective use of budgeted resources. It takes up the case of the NHM in India, and documents the utilization levels across 29 States and their association with the volume and timeliness of fund releases from State treasuries in the three States of Bihar, Maharashtra, and Odisha. The analysis suggests that on average, about 45 per cent of the funds allocated to NHM remained unutilized across States in 2015–16 and 2016–17. The problem of low utilization is further compounded by a disproportionately high share of expenditure in the last quarter of the financial year. In Bihar and Maharashtra, the low utilization was associated with a delay of about two to three months in release of funds from State treasuries. This can be partially attributed to the complex States' administrative procedures for fund releases. The file with the request for release of funds has to pass through a minimum of 32 and 25 desks up and down the administrative hierarchy in Bihar and Maharashtra. In contrast, in Odisha, the process of fund release was relatively simpler, and correspondingly, the time consumed in release of funds to implementing agencies was shorter.

The complex procedures for release of funds partially arise from the fact that the State-level implementing agency (SHS) is outside the administrative structure of the State Governments. Unlike withdrawals within State Governments, releases of funds to SHS require a separate Sanction order from the Government, which lengthens the time taken for release of funds. In

addition, segregation of NHM budgets into multiple heads and complicated accounting procedures have reduced transparency in fund utilization of NHM. This has led to creation of additional checks and balances in the fund release process in Bihar. Further, fragmented procedures and non-release of Government of India funds received by the Maharashtra State treasury have reduced the volume of fund flows to implementing agencies.

5. Review of Current Policy for Reducing Unspent Balance and Delay in Processing

1) Monitoring and Evaluation

- Common Review Mission: Common Review Mission is organized every year to assess the progress of NHM in the States. In such review, apart from officials from the Health Ministry, officials from other ministries, NITI Aayog, Development Partners, NGOs have participated.
- Other Reviews: Periodic surveys such as National Family Health Survey (NFHS), Sample Registration System (SRS), etc., have also been carried out.
- Performance Audit by CAG under NHM in Ministry and States.
- Performance Audit by Institute of Public Auditors of India (IPAI) in selected States.

2) Incentivizing the States Based on Their Performances

20 per cent of the Central allocation has been earmarked for incentivizing the States. The performances of the States are being assessed based on conditionality framework for the year.

3) Release of Funds under Flexible Pools

To provide more flexibility to States, the funds related to 20 Programmes such as RCH, RI, PPI, NIDDCP, RNTCP, NVBDCP, NVHCP, NOCDCS, NPCB, NMHCP, etc., and 1800 odd activities are being released under Five (5) Flexible Pools only. The States can use funds as per their priorities and felt needs.

4) Utilization Certificates (UC)

Releases to States are governed by submission of UC in accordance with General Financial Rules and Measures of Expenditure Management by Department of Expenditure as follows:

i. No amount shall be released to any entity (including State Governments), which has defaulted in furnishing Utilization Certificates for grants-in-

aid released by the Central Government without prior approval of the Ministry of Finance.

ii. Ministries / Departments shall not transfer funds under any plan schemes in relaxation of conditions attached to such transfers (such as matching funding).

iii. The State Governments are required to furnish monthly returns of Plan expenditure–Central, Centrally Sponsored, or State Ministries / Departments along with a report on amounts outstanding in their Public Account in respect of Central and Centrally Sponsored Schemes. This requirement may be scrupulously enforced.

6. Major Flaws/Limitations of Current Frameworks

Since the fund is released to the state treasury, there is no control of the Centre over further releases down the line resulting in delay in fund transfer from State Treasury to State Health Society bank a/c. It is mainly due to time consuming process of fund releases at State and District level.

Support/opposition for current framework

In support

As health is a State subject, so States have flexibility in current framework. Flexi pool approach gives some flexibility in fund releases.

In opposition

No control over fund flow after release. The flexi-pool approach dilutes fiscal discipline for targeted programmes. No real-time monitoring mechanism.

7. Policy Alternatives for Streamlining the Planning, Budgeting, and Fund Flow Management of NHM

The NH Menvisages “attainment of universal access to equitable, affordable, and quality health care which is accountable and responsive to the needs of people” (Ayushman Bharat Operational Guidelines, 2018). With such an ambitious goal, NHM has evolved complex financing mechanisms flowing all the way from central government down the line to community level. With a view to simplify its financing mechanisms to address the important issue of huge unspent balances at different levels, following suggestions may be considered for bringing improvement in the planning and budgeting process, and fund flow management:

8.1. Medium Term Expenditure Framework for Planning and Budgeting Cycle

The annual planning, budgeting, and release cycle takes about six to eight months. As recommended in the Tracking financial resources for primary health care in Bihar, India report (June, 2017) mentioned above:

"For improved and realistic planning, developing a financial plan such as the Medium Term Expenditure Framework (MTEF) should be considered, especially taking into account the large back-log of civil projects and recurrent costs. A robust MTEF can help plan a better expenditure composition in favour of health, while protecting other priority sectors against cuts. It can also guide in monitoring that budget allocations translate into actual expenditures and thereby improve the credibility of the budgeting process."

8.2 Simplification in the Budgetary Structure

The Framework for Implementation of the National Health Mission 2012–17 envisaged "decentralized outcome based planning and implementation, based on varying diseases burden scenarios, and using a differential financing approach. There will be a focus on results and performance based funding including linkage to caseloads." One of the major areas of emphasis in the Framework is "the provision of greater flexibility to the States in planning and the use of resources to finance state plans. Hence instead of fixing all norms centrally, broad principles and illustrative norms will guide planning and implementation." But in practice, the budget continues to be in line items of cost or inputs. Over the years, NHM has evolved complex financing mechanisms. NHM budget is structured in 7 Major Heads, 9 Sub-Major Heads, 29 Minor Heads, 93 Sub-Heads, and 168 Detailed Heads with more than 1000 budget lines to cater to the needs of 10 Non Communicable Diseases, 5 Communicable Diseases, 5 components in RCH, and more than 24 components for Health System Strengthening. This results in rigidities in budget execution leading to large unspent balances at every level.

Gerard Schmets *et al.* (2016) have observed:

"Many countries are progressively moving away from activity-based or line-item budgeting towards a system that is more focused on outputs and places emphasis on results. The shift from traditional budgeting to alternative budgeting methods with results and performance at its focus is noted to be more useful as a policy or decision-making tool. It assures elected and

administrative officials of what is being accomplished with the money, as opposed to merely showing that it has been used for the purchase of approved input."

Further analysis of the expenditure shows that in the financial year 2018–19, only 19 Sub-Heads accounted for almost all expenditure. Thus, there is urgent need to restructure the NHM budget along the operational/functional/output heads rather than individual cost item wise with freedom to the district level society to spend as per District Health Action Plan. Similarly, for States' releases to various facilities and end users, a functional classification can be considered wherein expenditure within Health Sector can be classified in various Groups like (i) medical products, appliances, and equipment, (ii) outpatient services, (iii) hospital services, (iv) public Health services, (v) research and development on health, and (vi) health not elsewhere classified.

8.3 Improvement in Fund Flow Management

Alternative 1: Creation of District/State Level Fund with Subsequent Releases in Reimbursement Mode

At the end of every financial year, huge unspent balances ranging between Rs. 7,375 and Rs.9,509 crores are left at different levels due to long planning, budgeting, and release cycle. It will be prudent to create a permanent Fund to meet the operational requirements of about six months at District/Statelevel along with authorizing the District/State Level Society to continue to spend based on three year approved PIP. Subsequent releases to the Fund can be made in Reimbursement Mode based on audit reports. This will also do away with the requirements of Utilization Certificates before every releases.

Alternative 2: Single Bank Accounts System at State Level

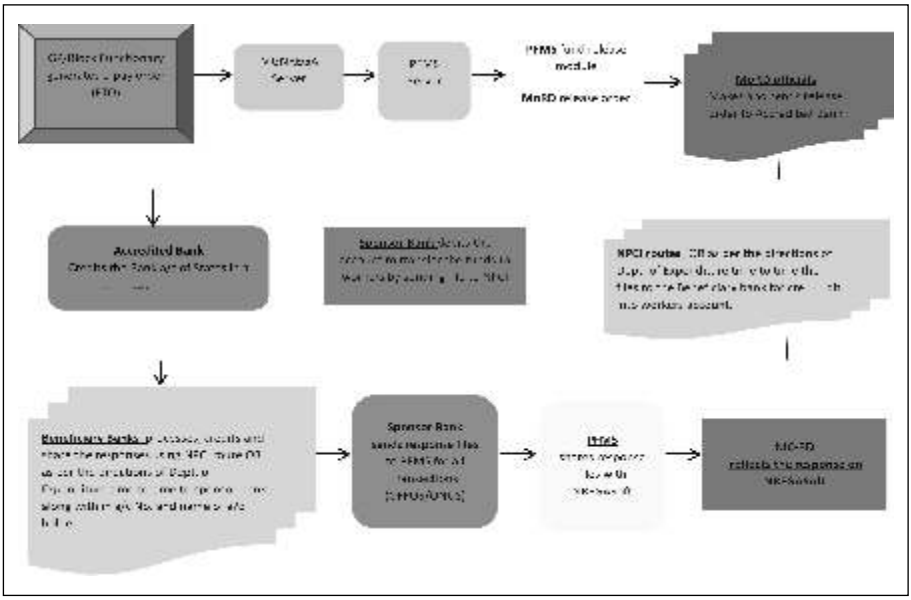
Single Bank Accounts System on line of "E-Vittapravaha system in M.P. State"can be used for financial management to reduce the parking of funds and floats at various levels, to minimize avoidable shortages of funds and to enhance the real time monitoring on availability of funds. Under this concept, a single bank account is maintained at the State level and virtual accounts are at subsidiary level. This would facilitate to have an efficient and uniform financial management mechanism under NHM. It is primarily a payment gateway solution that needs to be customized as per the requirements of the programme and State Government who are the actual implementing units.

Alternative 3: Treasury Single Account (TSA) at Ministry Level

Another alternative of TSA at Ministry level may be planned on lines of the pilot project currently under implementation in ICMR . One single account is maintained in RBI and expenditure is done through authorization on fulfilment of defined conditions. This system will be effective in checking parking of funds and will be easy to monitor. However, the efficacy of this system is yet to be established as currently only a pilot project is under implementation in ICMR.

Alternative 4: Direct Benefit Transfer from Ministry Level

One practical option can be direct benefit transfer to end users, such as ASHA workers on lines of MNREGA using National Electronic fund management system (NeFMS) to streamline fund flow and timely payments. Fund flow pattern of MNREGA is shown below: (Source: Guidelines on National Electronic fund management system for MNEREGA issued by Ministry of Rural Development)



8.4 Other Suggestions for Financial and Administrative Improvements

1) Development of dashboard to assess real-time utilization of funds against approved activities through Financial Management Report for more than 1800 activities of NHM for all States and UTs.

2) Release of funds in a single or maximum two pools (as two submissions NRHM and NUHM) instead of five Flexible Pools.
3) Upscale the Single Account System to National Level by releasing direct beneficiary payments by creating virtual accounts at periphery levels.
4) The state level studies mentioned above have highlighted the lack of absorptive capacities, such as lack of trained manpower, deficient infrastructure, poor managerial, and technical capacities at district and below levels. Therefore, creation of such capacities from state share should be made sine qua non for fund releases from central government level so that quality healthcare can be delivered.

8. Recommendation of a Policy Alternative

The entire process of planning, budgeting, and approval under NHM takes about six to eight months every year. Time taken in sanctioning different project components can be reduced significantly by extending the planning cycle over medium term of three-year cycle. The budgeting and fund flow processes need to be simplified. Among the various alternatives for fund flow mentioned above, creation of District Level Fund with subsequent releases in reimbursement mode appears most economical and efficient.

9. Conclusion

The National Health Mission is a system-strengthening ambitious programme. Its efficiency can be improved by simplifying its complex financing mechanisms, introducing multi-year planning cycle, restructuring the budget, and streamlining the fund flow through District / State Level Fund for timely execution to realize its vision of attainment of universal access to equitable, affordable, and quality health care services.

References

Berman, P., Bhawalkar, M. and Jha, R. (2017). Government financing of health care in India since 2005: What was achieved, what was not, and why?. [online] Boston, MA, USA: Harvard T.H. Chan School of Public Health. Available at: https://cdn1.sph.harvard.edu/wpcontent/uploads/sites/2031/2017/01/Government-financing-of-health-care-in-India-since-2005.pdf.

Berman, P., Bhawalkar, M. and Jha, R. (2017). Tracking financial resources for primary health care in BIHAR, India. Boston, MA, USA: Harvard T.H. Chan School of Public Health., Available at: https://cdn1.sph.harvard.edu/wp-content/

uploads / sites / 2031 / 2017 / 01 / Tracking-financial-resources-for-primary-health-care-in-BIHAR-India.pdf.

Berman, P., Bhawalkar, M. and Jha, R. (2017). Tracking financial resources for primary health care in Uttar Pradesh, India. Boston, MA, USA: Harvard T.H. Chan School of Public Health., Available at: https: / / cdn1.sph.harvard.edu / wp-content / uploads / sites / 2031 / 2017 / 01 / Tracking-Financial-Resources-for-Primary-Health-Care-in-Uttar-Pradesh-India.pdf.

Choudhury, M., (2017). Utilisation, Fund Flows and Public Financial Management under the National Health Mission: A Study of Selected States (Doctoral dissertation, Ministry of Health).

Choudhury, M. and Mohanty, R.K., (2018). Utilisation, Fund Flows and Public Financial Management under the National Health Mission (No. 18 / 227).

Comptroller and Auditor General of India. (2017). Performance Audit of Reproductive and Child Health under National Rural Health Mission Reports Of Ministry Of Health And Family Welfare. [online] New Delhi, pp. Report No. 25 of 2017. Available at: https: / / cag.gov.in / content / report-no25-2017-performance-audit-union-government-reproductive-and-child-health-under.

Dheepa Rajan, Helene Barroy, Karin Stenberg. (2016). *Chapter 8 in Strategizing national health in the 21st century: a handbook* - Gerard Schmets *et al.* WHO (2016).

Framework for Implementation National Health Mission 2012-2017. National Health Mission, Ministry of Health and Family Welfare, Government of India, New Delhi.

Gerard Schmets *et al.* (2016). *Strategizing national health in the 21st century: a handbook*. WHO, Geneva.

Helene Barroy, Elina Dale, Susan Sparkes, and Joseph Kutzin.(2018). *Budget matters for health: Key formulation and classification issues*. WHO (2018).

Ministry of Health and Family Welfare, Government of India. (2012) *Operational Guidelines for Financial Management*. New Delhi.

Ministry of Health and Family Welfare, Government of India. (2018). *AYUSHMAN BHARAT Comprehensive Primary Health Care through Health and Wellness Centres Operational Guidelines*. New Delhi.

Ministry of Health and Family Welfare. (2018). *Annual Report 2017-18*. [online] New Delhi: Government of India. Available at: https: / / mohfw.gov.in / basicpage / annual-report-department-health-and-family-welfare-2017-18.

National Health Mission. (2017). 11th Common Review Mission (CRM). [online] New Delhi: Available at: https: / / nhm.gov.in / nhm / index1. php?lang= 1& level = 2 & sublinkid=1212&lid=657.

Potter, C. (2004). Systemic capacity building: a hierarchy of needs. Health Policy and Planning, 19(5), pp.336-345.

World Health Organization. *World Health Report (2010). Health systems financing the path to universal coverage*. [online] Geneva. (pp.xxii + 106 pp). Available at: https://www.cabdirect.org/cabdirect/abstract/20113042170.

Dr. Dharmendra Singh Gangwar

The author is an I.A.S. officer of 1988 batch, Bihar cadre and was posted as Additional Secretary and Financial Adviser, Ministry of Health and Family Welfare, Government of India at the time of writing this article.

Promoting Supply of Affordable Rental Houses to the Urban Poor

Kapil Mohan

Abstract

The increasing rate of urbanization has led to severe shortage of housing stock in the urban areas of the country. The migrants to urban areas are predominantly economically and socially vulnerable. Urban housing in India is characterized by relatively high cost on account of high cost of urban land and lopsided laws which obstruct free rental market. The housing needs of the urban poor have received attention from the Government of India and the state governments. The focus has been on creation of affordable housing stock by subsidizing cost of construction by individual beneficiaries by capital grant or interest subsidy. Though partial success has been achieved, many sections of the urban houseless have not been covered as they lack creditworthiness or cannot meet margin money requirements. The note argues that there is need for promoting affordable rental housing in public-private partnership (PPP) mode by extending incentives in form of low cost funds/grants and easing of some regulatory restrictions. This component of affordable housing policy will meet housing needs of hitherto uncovered vulnerable sections of urban poor. The rental costs will be kept low by identifying the affordable rental housing developer/promoter on a competitive basis after providing suitable lands on nominal value, reducing the financial cost of construction, and providing various other incentives.

In spite of the fact that many people in the developing world live in rental accommodation, few governments have formulated any kind of policy to help develop or regulate this form of housing. Poor and low income people live in crowded, under-serviced, and dilapidated housing, because that is all they can afford. A much better approach is to find ways to encourage the construction of more rental housing. Tenants tend to be younger than owners and are often single: students, simple wage-workers, factory workers, informal sector employees and micro entrepreneurs, or professionals. Couples who rent tend to have fewer children than owners.[1] *A policy initiative on the*

[1] Alan Gilbert, UN Habitat Policy Guide to Rental Housing in Developing Countries

need for promoting affordable rental housing to the poor and low income groups has been discussed in this paper.

Outline of the Problem

The Economic Growth in India has been accompanied by growth in urbanization. The increasing urbanization has led to a major population shift from rural to urban areas. While the overall population of country has grown by 17.64 per cent during 2001–2011, urban population has increased by 31.8 per cent. It is expected that the next decadal census this trend will be further substantiated. The percentage of population, which is living in the urban areas, is estimated at 34 per cent of total population in the country as per World Bank. Urban areas being engines of growth, the population in urban areas is expected to grow in future. Apart from the general trend there are various population groups, wherein there is major population shift to urban areas viz., (a) newly employed youth, (b) migratory labor in construction and transport sectors, and (c) special interest group like students, trainees attracted by various opportunities.

The existing housing stock in the urban areas is clearly insufficient to meet the growing housing needs particularly of the vulnerable sectors which includes urban poor, newly employed, migratory labor, students, construction labor, etc. This is evident by the persistence of the informal housing (slums, encroachments in government lands also known as illegal colonies, etc.). Needless to state that there is large unmet demand for urban housing. For example, as per the survey conducted by the Department of Housing, Government of Karnataka in 2016 / 17, there is an estimated demand for more than 16 lakh dwelling units in urban areas of Karnataka. Out of these almost 65 per cent of the demand is from site-less applicants. The shortage of affordable housing in urban areas is also indicated by the prevailing high rents in the urban areas. The high rents in urban areas are a function of high real estate costs and insecurity of owners for letting out properties because of lopsided tenancy laws. The high cost of real estate is mainly because of restricted supply of quality land in urban areas. At times the cost of land in real estate projects can go as high as to 60 per cent of total cost. The high cost of houses in urban areas makes it out of reach of urban poor. Unfortunately, the high cost of real estate has led to the strange phenomenon of large number of housing units

lying vacant in urban areas. Clearly there is a demand-supply mismatch in urban housing. The demand-supply relation should be seen in the context of the 'price' or the rental yield which is expected.

In order to resolve the problem of supply of affordable housing in urban areas, the Government of India had launched numerous schemes over the past few decades to promote physical possession of housing for the vulnerable sections of the society. Housing and related subject of land being state subjects, various state sponsored schemes were also launched in conjunction with Government of India schemes to supplant the efforts. Initially the focus was on provision of subsidized housing by providing financial assistance to rural poor. Later on, with the increasing urbanization, attempts were made to tackle the urban housing shortage under Rajiv Awas Yojana (RAY) and thereafter Prime Minister Awas Yojana (PMAY) was launched by Government of India with a renewed focus on affordable housing for urban poor.

The guidelines of the PMAY focused upon provision of financial assistance as a one-timecapital subsidy for construction of houses by urban poor. It also sought to provide subsidized credit as part of Credit Linked Subsidy Scheme component for construction of houses by the urban poor and middle class.

The focus of the PMAY was on construction of houses to increase the housing stock. However, these efforts were stymied by the lack of ownership of sites by urban poor. Most of the target groups do not hold valid titles to land to enable them to construct their houses. The state governments are also expected to provide suitable lands in urban areas to take up affordable housing projects (multi-storeyed housing) for construction. Furthermore, "artificial land" is sought to be provided by providing higher FAR /TDR to such project and introduce "densification" of the areas. The target groups unfortunately are at times not credit worthy for accessing institutional credit or lack the capacity to meet this capital expenditure from own resources. It maybe noted that owning a house is perhaps the biggest investment which an individual makes in urban areas in India, over a lifetime.

While attention has been focused on construction of houses which are to be owned by targeted beneficiaries, the fundamental problem is to increase the "housing stock" which need not necessarily be owned by the target group. The focus should be meet the fundamental need of providing shelter to vulnerable

sections of society in urban areas. This can also be achieved by increasing housing stock, which can be owned by any agency but meet the demand for housing at affordable cost or by rentals. This aspect has not been adequately addressed by the clutch of existing policies of either state or central governments, which aim at promoting provision of affordable housing.

Review of Current Policy

The Affordable Housing Policy-2013 has laid down 5 different models for promoting affordable housing for Economically Weaker Section (EWS) and Low Income Group (LIG) categories by incentivizing the private developers and enabling the public agencies like Housing Board, ULB, UDA, KIADB, KSSIDB for acquiring and earmarking of land and land development for housing the EWS and LIG categories at affordable prices. The Policy specifies guidelines on enhancement of FAR/FSI, TDR, Land acquisition and development, cross subsidization, sharing of land for Housing, and other commercial purposes, incentives for private developers are broadly indicated in document. The Ministry of Housing and Urban Poverty Alleviation (MHUPA) defines affordable housing for the middle-income group and below as one where the equated monthly installment (EMI) or rent does not exceed 30 per cent–40 per cent of a resident's gross monthly household income. The National Urban Housing and Habitat Policy (NUHHP) 2007, focuses on PPP for realizing the goal of "Affordable housing for all" with focus on the urban poor.

The NUHHP 2007 mentioned regarding "creating adequate housing both as rental and ownership basis on improving the affordability of the vulnerable and economically weaker sections of the society through appropriate capital or interest subsidies."Subsequently the Central Government has come out with PMAY which has incorporated major suggestions as far as various initiatives are concerned with increasing the housing stock of the country. The major assistance has been given for (a) reducing the effective cost of affordable houses by provision of capital and interest subsidy,(b)promoting PPP in provision of affordable housing, and (c) increasing supply of the land by relaxing various regulatory relaxations in areas of FAR, zonal restrictions, etc.

The State Governments have tried to provide additional capital subsidy to target groups for affordable houses. Some of the State Governments have also

taken steps to provide suitable Government lands in urban areas and relaxed TDR / FAR norms.

However, the efforts of the PMAY for urban poor have faced few hurdles on account of (a) high cost of land in the urban areas leading to high cost of houses and (b) poor credit worthiness of the target groups like migrant labor, new entrants to labor market and special needs group viz.,students, etc. The policy has concentrated on individual ownership of affordable houses. Urban houses being prohibitively expensive on account of high land cost in urban areas, this has resulted in very high subsidization of individual ownership of affordable houses if implicit subsidy in form of free government land, relaxation of zonal and building regulations, and explicit subsidies in form of capital grants and subsidized credit are taken into account. The sustainability of such an approach is open to discussion. The contention here is to explore the untouched component of NUHHP 2007 for promoting rental housing.

In addition to existing measures it is proposed that Governments may also purpose to increase the housing stock by creation of affordable houses under PPP mode by private sector developer and promoter. This rental housing stock will meet the need of such target groups which are unable to take the benefits of existing PMAY and also reduce the financial burden of incremental capital subsidy on the State Governments.

The rental housing will meet the balance need of affordable housing. The rental will be fixed in such a manner that it will address issues on both the supply and demand side. The broad principle to be followed for the rental would be that it would be no more than 20 per cent of monthly income of the target group. As under PMAY, the income limit is fixed at Rs.3 lakhs p.a. the maximum annual rental for a unit will be Rs.5000 p.m. and will vary depending on the income of the tenant. As many in target group will have no income records, the minimum will be pegged at covering the maintenance of housing stock. On the other hand, the rental income should be enough to cover the project financing costs and the maintenance costs and with a margin for PPP partner.

To keep the rental housing viable the State / ULBs will be expected to provide land on long-term lease. In addition, provision for external infrastructure, exemption from State taxes and duties and additional provision of TDR / FAR

shall be provided. The ULBs can also further incentivize by giving exemptions from property taxes and creation of surrounding infrastructure on priority.

The rental housing will be constructed on PPP mode and the operator will be expected to bear the construction risk and maintain the property as per pre-determined service level agreements. The operator will be responsible for advertising and selection of tenants and safety and maintenance of the facility at the end of lease period, the land shall revert to the State Government / ULBs.

There are other options which can also lead to similar result of providing housing at an affordable rent. One of the options would be to provide rental subsidy by giving a monthly grant directly into the bank account of eligible target groups. The beneficiary could go to any privately or publicly owned housing of his choice. To ensure that these subsidies are used only for housing, the subventions can be in form of housing vouchers of predetermined values, which can be used to pay rent. However, these policies do not tackle the other causes which cause reduction in affordable urban housing stock like expensive urban land and outdated rent control act. The affordable rental housing projects will have to be setup on PPP basis as ownership by the state will lead to political interference and non-payment of dues. It is better to transfer the rental realization risk on PPP partner rather than to be borne by the state.

Recommendation

Specifically, this proposal seeks to provide the following:

a. Promote rental housing in the State by incentivizing construction of affordable houses to be rented to target groups which will be as per PMAY beneficiaries' guidelines.

b. Rental housing will be developed on PPP basis and the selected partner will be responsible for the construction and maintenance of the housing stock.

c. The affordable housing units will be in 1 BHK and 2 BHK configurations with carpet area of 300 sq.ft and 500 sq.ft.

d. The developer will be eligible for the following benefits:

- Capital subsidy or CLSS subsidy per unit as per PMAY.
- Land at nominal value for 30-year lease.
- Additional FAR will be given to the developer up to 5 times the sital area.

- Relaxation from the zonal planning guidelines.
- Exemption from stamp duty, transfer charges, and property taxes.
- To treat such projects as infrastructure activity with eligible benefits and not as rental activity the "rental" as commercial activity.

The ULBs will be encouraged to develop the proposals for bidding on PPP basis. While all the parameters will be fixed, the bidding should be on the basis of the lowest rent per unit per month, which will be charged by the promoter / developer. In case the process fails to attract competitive bids or rents are in excess of Rs. 5000 pm, then the ULBs which have given lands free of cost can permit some of the land to put to alternate commercial use to cross subsidize affordable rental component. Historically commercial FAR has attracted better returns then residential ones. This may require hand holding of ULBs for preparation of project bid template.

The rental housing stock option will meet the need for housing at affordable rates and meet the needs of the population which cannot otherwise meet criteria of creditworthiness to borrow or put up capital expenditure to construct own houses. The ULBs which will participate in the program will be able to provide cheap housing, exploit urban renewal opportunities, and reap economic benefits. The programs will be administered by the existing multi-stage framework of PMAY. As it will create rental housing, meet needs of the urban poor and accelerate urban growth, it will either be politically neutral or well accepted.

Conclusion

Enabling a policy for a healthy and formal rental housing sector is important for a number of reasons. First, the rental sector is a natural outlet for those households that do not have sufficient income to afford a home or have not saved enough to meet down-payment requirements. Second, a good percentage of the income earned is informal, there are limits to the share of the population that can qualify for mortgage loans. Third, rental markets are necessary for workers' mobility. This is particularly true as housing prices increase and people are forced to move farther and farther away from the city center.

Government will create systems that encourage rental properties that are safe

and habitable. Governments also need to ensure that the rights of landlords and tenants are balanced and that laws and processes that deal with eviction are fair to both parties, efficient, and transparent. Much of this will have to be done on the state and local levels, although guidance can be given from national governments.[2]

The existing PMAY guidelines, which focus on provision of affordable housing for urban poor, need to be modified and another component on provision of affordable rental housing needs to be added. This component implemented on PPP basis will provide affordable housing rental of standard quality to vulnerable groups which are hitherto under served by PMAY.

private developer to use the remaining portion of the project for use of his choice / commercial purpose, etc., were to be considered.

[2] World Bank Report on Rental Housing Lessons from International Experience and Policies for Emerging Markets, 2013.

Annexures

1. PMAYguidelines, http://www.pmaymis.gov.in/PDF/HFA_ Guidelines/hfa_Guidelines.pdf
2. PPP models on affordable housing http://mohua.gov.in/upload/uploadfiles/files/PPP per cent20Models per cent20for per cent20Affordable per cent20Housing.pdf
3. Extract of Rajiv Gandhi Rural Housing Corporation, Government of Karnataka progress reports
4. Extract of Rajiv Gandhi Rural Housing Corporation, Government of Karnataka progress reports

References

Ministry of Housing and Urban Poverty Alleviation, Government of India, *"National Housing and Habitat Policy-2007"*, pp 1-36, New Delhi.

Alan Gilbert, UN Habitat Policy Guide to Rental Housing in Developing Countries.

World Bank Report on Rental Housing Lessons from International Experience and Policies for Emerging Markets, 2013.

UN-HABITAT (United Nations Human Settlements Programme). 2003. Rental Housing: An Essential Option for the Urban Poor in Developing Countries. Nairobi: UN-HABITAT.

Department of Housing, Government of Karnataka, *"Affordable Housing Policy- 2013"* (28th October 2013), pp 1-20, Bangalore.

Ministry of Housing and Urban Poverty Alleviation, Government of India, *"Task Force Report on Promoting Affordable Housing-2012"*, pp 1-54, New Delhi.

Guideline of Affordable Housing in Partnership Scheme.

Ministry of Housing and Urban Poverty Alleviation, Government of India, *"Guidelines of Housing Scheme of the Integrated Housing and Slum Development Programme -2009"*, New Delhi.

Ministry of Housing and Urban Poverty Alleviation, Government of India, *"Interest Subsidy Scheme for Housing the Urban Poor-2009"*, pp1-10, New Delhi.

Ministry of Housing and Urban Poverty Alleviation, Government of India, *"JNNURM Guidelines, 2009"*, New Delhi.

Ministry of Housing and Urban Poverty Alleviation (Mission Directorate-JnNURM), Government of India, *"Guidelines on Affordable Housing in Partnership Schem-2009"*, pp 1-12, New Delhi.

Ministry of Housing and Urban Poverty Alleviation, Government of India, *"Revised Guidelines on Affordable Housing in Partnership Schem-2011"*, pp 1-4, New Delhi.

Kapil Mohan

The author is an I.A.S. officer of 1990 batch, Karnataka cadre and was posted as Principal Secretary, Department of Public Enterprises, Government of India at the time of writing this article.

Ethical Dilemmas in Administration

Nandini Paliwal

This is a Case Study to demonstrate how the ethical dilemmas that we face in administration and the decisions that we take in them, impact the public service delivery at the ground level.

Introduction

Ms.A is a young IAS officer with 8 years of service. After serving as Deputy Commissioner of an underdeveloped rural district, located in the interiors; Ms. A has now been posted as Deputy Commissioner of an urban and developed district in the Cadre. After gaining experience of governance in relatively underdeveloped rural areas of the country, she is keen and eager to learn the ropes of urban governance.

Background

The current Deputy Commissioner of the District is Mr.X. Mr.X is a fellow batchmate of Ms.A. She is happy when she gets to know that she would be taking charge from her batchmate and friend. Mr.X now stands transferred to another Department in the State Government. Mr.X informs her that he has been holding the charge of Deputy Commissioner of the District for about 2 ½ years. He is happy to meet Ms.A after a long time and they reminisce about their days at the academy and the Bharat Darshan undertaken during the probation days.

When Ms.A reports for duty, she is briefed by the senior officers to take charge of the district as early as possible, from the incumbent Deputy Commissioner Mr.X. She is also informed that there is a general perception that Mr.X is a corrupt officer and that his activities are bringing a bad name to the office and the Government. Hence, it has been thought fit to post Mr.X to some other assignment.

This district is a large district in the State, where land is a priced commodity.

The who's who of the society have their residences in this district. Thus, it is considered one of the most "sought-after" Districts in the State, and the posting here is considered to be a prestigious and "lucrative" assignment. The real-estate business in the area is high value and the Sub-Registrar's Office in Deputy Commissioner's Office registers high value and multiple frequency land sale transactions. There is also a general perception that registration of sale-deeds at the Sub-Registrar's Office in the District involves payment of bribe to government officials.

Two months into the office, Ms.A encounters a strange situation. The Sub-Registrar of the District seeks time to come to her residence on a Sunday. Totally unaware of the intent of the Sub-Registrar, Ms.A tells the Sub-Registrar to come and meet her in her office on a working day. One late evening at work, the Sub-Registrar comes to Ms.A's office and requests for permission to come to her chamber. Ms. A calls him to her chamber. Ms.A observes that the Sub-Registrar appears a little nervous and anxious. Ms.A straightway asks the Sub-Registrar the purpose of his visit. The Sub-Registrar hesitatingly takes out a brown envelope and places it on the table of Ms.A saying, "This is for you, Madam."Ms.A asks the Sub-Registrar, "What is this?" The Sub-Registrar replies, "Madam, this is your monthly share." Surprised, Ms.A now begins to understand that the Sub-Registrar is offering her money as her monthly share. The Sub-Registrar informs Ms.A that this is as per the system established by her predecessor. The Sub-Registrar further explains that every month Rs. 15 lakhs were given to the previous Deputy Commissioner at his residence personally by the Sub-Registrar. On further questioning, the Sub-Registrar reveals that he is not paying this money from his pocket, but he in turn is collecting this money from the people who come to his office for registration of their sale-deeds. The Sub-Registrar takes a certain percentage of money from the public for every sale transaction that is registered in the Sub-Registrar's Office. The amount collected monthly is apportioned between the Sub-Registrar and the Deputy Commissioner.

The Dilemma and the Options before Ms.A

Ms.A now has to decide what she would do. Broadly, there could be three options. First option is that Ms.A becomes a part of the prevailing system and allows the system to continue. In other words, she accepts to take her "monthly

share" and also allows the Sub-Registrar to take his share. Second option is that she puts an end to this system by formally reporting the matter against the Sub-Registrar, and her fellow colleague and batchmate Mr.X, to her seniors. The third option is that Ms.A while personally refusing to take money from the Sub-Registrar, could choose to stay silent on the whole issue and pretend that nothing ever happened.

Option I

Ms.A can accept the bribe and let the prevailing system continue. After all, she did not ask for it and was only "offered" what her predecessor had already been getting. It is a well-entrenched and well-oiled system where everybody in the loop is getting their share. The Sub-Registrar is collecting it not from one person but from many persons, so it is not as if one person is being burdened. The voice of her conscience tries telling her that what she is about to do is wrong, but she convinces herself. She feels that she alone cannot change the system and therefore it is better to "flow with the tide" rather than against it. She can put her energies and productivity to better use in improving other things, rather than fighting the prevailing practices and systems.

Option II

She can report the matter formally to her seniors. Ms.A is in a dilemma as her predecessor is also a good friend and in case she reports the matter against the Sub-Registrar, it would be obvious that the name of Mr.X will also get highlighted. At the same time, she feels that it is her chance to put an end to the corrupt system in the office and that such instances need to be dealt with a firm hand. She also understands that if an inquiry is instituted against the Sub-Registrar and Mr.X, there will be sufficient evidence to prove/establish the case against them. This in turn will set an example and send a strong message to all in office as well as to the public at large that such corrupt practices would not only be discouraged, but would also be punished severely. This option, however, will also show her as a "poor friend," who back-stabbed her fellow friend and colleague. Ms.A does not want that to happen. As they have a long professional tenure pending still, Ms.A does not want to get on the wrong side of her colleague for all times to come.

Option III

Ms.A also has the option of not saying anything to anybody and pretend that

the conversation never happened. She does not want to get involved in anything controversial like this so she decides that she will not accept the bribe but also decides not to say anything to anyone about the incident. This option, however, is fraught with the possibility that the Sub-Registrar may continue to take money from the public as he was doing earlier. People by-and-large would continue to believe that to get their work done, they need to pay a bribe to the Sub-Registrar and that public service delivery would be adversely impacted. This will not augur well for good governance and public trust in the Government system.

Questions to Ponder:

What would you do if you were in place of Ms.A?

What other options are possible and what would be factors guiding your decision?

(What did Ms. A really do?

Ms. A informed the Divisional Commissioner, her immediate senior about the incident. They both discussed the issue. The Divisional Commissioner mentioned to her that all the senior officers in the State were well aware of Mr. X's reputation but did not wish to harm the career prospects of a young colleague. Finally, Ms. A did not lodge any formal complaint either against Mr.X or the Sub-Registrar. The Sub-Registrar was transferred to another office. She however kept a strict tab and monitored the functioning of the Sub-Registrar's Office to ensure that bribe-taking and harassment of the public did not happen.)

Nandini Paliwal

The author is an I.A.S. officer of 2003 batch of AGMUT and was posted as Deputy Director (Sr.) LBSNAA, Mussoorie at the time of writing this article.

Stopping Leakages in Targeted Public Distribution System: A Suggestion

Nivedita Shukla Verma

List of Abbreviations

TPDS	Targeted Public Distribution System
NFSA	National Food Security Act
FPS	Fair Price Shops
PDS	Public Distribution System
FCI	Food Corporation of India
CIP	Central Issue Price
APL	Above Poverty Line
BPL	Below Poverty Line
AAY	Antyodaya Anna Yojana
EPOS	Electronic Point of Sale
PFMS	Public Financial Management System
RC	Ration Card
SOP	Standard Operating Procedure
UC	Utilisation Certificate
HH	Head of Household
EC	Economic Cost
GOVERNMENT OF INDIA	Government of India
CBS	Core Banking System
UIDAI	Unique Identification Authority of India

Abstract

This paper evaluates the current policy of food security in Uttar Pradesh Targeted Public Distribution System (TPDS), the problems being faced in its implementation and the possible solutions to overcome them. The National Food Security Act, 2013 (NFSA-2013) was passed by the Parliament with a view to empowering the people by

bestowing on them the right to food. The focus of the Act was on the poorest of the poor, on children and pregnant and lactating mothers. The Government of India has allocated a huge budget for this scheme to ensure that every deserving person gets the benefit intended for him or her. A lot of measures have been taken to streamline the system of distribution of subsidised food grains by using technology. However, we have not been able to stop leakages of food grains which result in diversion of the benefit from the intended beneficiary. Leakages happen during transportation in the supply chain, at godowns and at the point of final distribution at the Fair Price Shops (FPS). This paper projects the main symptoms and causes of the problem of leakage in the system and how it could be overcome by some tweaking of the processes presently in place.

Background

The government expanded the food security policy through NFSA in July, 2013.This policy primarily aimed at food and nutritional security for all human beings at every stage of their lives. The NFSA made food a legal entitlement for the poor. It combined as well as expanded, certain existing welfare schemes where the primary focus was on food distribution in subsidised forms. The main change NFSA brought in was that it covered 67 per cent of the total population. 75 per cent of rural population and 50 per cent of urban population (Shweta *eta al*,2015). States were given the freedom to devise their own criteria to select the beneficiaries for this scheme. Balani (2013) mentioned that, different upper limit for coverage of number of beneficiary was fixed for each state depending on their vulnerable population. Targeted Public Distribution System was introduced with the responsibility of the Central Government for procurement, allocation and transportation of food grains to designated depots of FCI. The State Government had to identify the eligible beneficiaries and transport the food grains from FCI depots to their own godowns and later to FPS (Verma *et al*, 2018).

Table 2 summarises the shift from the earlier PDS to TPDS under NFSA Act 2013. The NFSA Act brought in changes in the total coverage, selection criteria, quantity to be distributed, price of food grains and categorisation of beneficiaries.

Table 2

Provision	Current TPDS	National Food Security Act 2013
Implication for 'right to food'	Set up under administrative order; no legal backing	Provides statutory backing for right to food
Coverage	90.2 crore beneficiaries = 18.04 crore families x 5 (average no. of members in a family)	Up to 75% of rural and up to 50% of urban population, about 81.34 crore beneficiaries[32]
Categories	AAY, BPL, and APL	AAY, priority, and excluded
Entitlements per category	BPL and AAY: 35 kg/family/month APL: 15 – 35 kg/family/month	Priority: 5 kg/person/month AAY: 35 kg/family/month
Prices of food- grains	AAY: Rs 3/kg for rice, Rs 2/kg for wheat, and Re 1/kg for coarse grains Other categories: differs across states	All categories: Rs 3/kg for rice, Rs 2/kg for wheat, and Re 1/kg for coarse grains
Identification of beneficiaries	Centre: ▪ releases state-wise estimates of population to be covered under TPDS ▪ creates criteria for identification States: Identify eligible households	Centre: releases state-wise estimates of population to be covered under Act States: ▪ create criteria for identification ▪ identify eligible households
Centre-state responsibility	Centre: procurement; state-wise allocation; transport of grains up to state depots; storage States: delivery of grains from state depots to ration shop to beneficiary	Same as current system with some additions Centre: provides food security allowance to states to pass on to beneficiaries Centre and states: not responsible for failure to supply food grains during force majeure conditions, e.g., war, flood, drought
Grievance redressal mechanism	State governments responsible for ensuring monitoring; vigilance committees to be set up at state, district, block and ration shop levels	Appoints district grievance redressal officers; establishes State Food Commissions; and vigilance committees at state, district, block and ration shop levels

Source: PDS (Control) Order, 2001, National Food Security Act, 2013; PRS.

1. Problem Description

Overbeck (2016) mentioned that the three ingredients of food security are availability of sufficient, safe, nutritious food, economic access to available food and all-time access to the economic food. TPDS is the vital artery of the food security ecosystem in India. Leakages and pilferages in the TPDS at various stages have remained one of the most perennial problems in our country. Several efforts have been made to evolve and reform TPDS through the years. Such reforms with the help of various technology interventions have surely helped in making the system more robust and efficient (Verma *et al*, 2018). Kumar (2012) mentioned that, ensuring the effective food security by making the system completely leakage proof along with eliminating all the motivations to divert the food remains a basic problem in our country.

3.1 Problem Statement: Leakage in Targeted Public Distribution System

Leakage can be termed as that proportion of food grain which is meant for but does not reach the eligible beneficiaries due to supply leakages and inclusion

leakages (Niti Ayog, 2016). The food grains get diverted to open market (Overbeck, 2013) for a better price and these supply leakages are a major issue in the system that needs correction. Overbeck also commented that quantity which has been distributed to ineligible beneficiaries known as inclusion leakage is another threat that has been a part of PDS from the beginning. NFSA and 'End to End Computerisation' associated with its implementation has improved the overall functioning of TPDS but the plague of leakage still exists.

3.2 Current Symptoms of the Problem in Uttar Pradesh

The NCAER study of 2015 measured the leakages in various states and reported the least in Chandigarh. The report stated that diversion is comparatively high in Uttar Pradesh and accounted for the monitoring mechanism of supply chain as the real cause for leakage. Though, an extensive system of monitoring of distribution of food grain existed earlier also, there were many cases of leakage reported against the FPS owners and other persons. Table 3.2 gives an idea of the enormity of the problem.

Table 3.2: Enforcement of EC Act During 2017–19

Period	FIRs Lodged	Shops Suspended	Shops Cancelled
April, 2017 to March, 2019	3383	8041	8576

Uttar Pradesh implemented NFSA in 2016 and is the most important state in terms of sheer number of beneficiaries. There are roughly 3.5 crore ration cards covering about 14 crore beneficiaries out of a total population of approximately 22 crores. A total of 90 lakh metric tonne food grain is distributed annually to these beneficiaries. After implementation of the Act, a lot of effort has been made to align the distribution and monitoring system with the guidelines issued by Government of India. During the last few years, the state has introduced various technological reforms and implemented 'End to End Computerisation' to convert the current TPDS to technology driven TPDS. However, despite these efforts, the problem of leakage of food grain exists and manifests itself in the number of complaints that are received all over the state. The leakage takes place in the following manner:

- At the supply chain level when the food grain is being transported to the block godown from FCI depot.
- At the time of issuing grain to the FPS owner when a lesser quantity is given to them from godowns.
- At the village level, where the FPS owner either does not distribute grains at all, or distributes a lesser quantity.
- Or by inclusion of incorrect beneficiaries.

2. Review of Current Policy and Causes of the Problem

2.1. Current Policy Provisions

The NFSA Act was aimed at supporting a larger volume of beneficiaries as compared to the previous TPDS system. The key provisions of the TPDS under the NFSA act are:

1. Types of Beneficiaries: The previous TPDS system saw the beneficiaries to be categorised as poorest of the poor, Below Poverty Line and Above Poverty Line. In the current TPDS under NFSA act, the same has been reframed to broadly two categories namely Priority Households and Antyodaya Anna Yojana beneficiaries.
2. Entitlements: The current policy entitles 5kg of food grains (rice, wheat and coarse grains) per person / month at subsidised prices and AAY households were supported with 35kg per household. The earlier TPDS system had 35kg / card / month for all the beneficiaries under TPDS.
3. Central Issue Price: Under the NFSA Act, the central issue prices has been frozen at Rs. 3 / 2 / 1 / kg for rice / wheat / coarse grains. This model was different from the earlier TPDS where the prices were different for different categories of beneficiaries.
4. Coverage under the ACT: TPDS under NFSA act covers around 67 per cent of the total population that delinks it from the poverty estimates as in previous TPDS. A total of 75 per cent of rural population and 50 per cent of urban population are covered under this Act.
5. Reforms in TPDS: The NFSA act also envisaged many reforms to the earlier TPDS. Some of these reforms were door-step delivery of grains to FPS shops, usage of Information technology tools, transparent supply chain system, public awareness and setting up of vigilance committees, and establishment of an effective system of grievance redressal.

4.2 Limitations of Current Policy Framework

The reforms undertaken so far have aimed at efficient delivery of subsidised food grains to the actual beneficiaries in a transparent manner without leakages. The following has been done to achieve this :

- Digitisation and De Duplication of ration card data.
- Aadhar Seeding with Ration card at beneficiary level and house-hold level.
- The entire supply chain of the grains from FCI depot to the block godown and the FPS has been computerised. Allocation of food grains is done online and its transportation is tracked through GPS enabled system.
- Electronic weighing machines have been installed at godowns.
- The food grain is distributed through electronic point of sale machines after biometric authentication of beneficiaries through Aadhar. Epos Installation is complete in Uttar Pradesh.
- The entire data of distribution to each beneficiary are available online for public viewing.

However, the major flaw that remains is the Viability of the FPS with low profits, which is the fulcrum of this system, which encourages the FPS owner to indulge in malpractices.

4.3 Causes of the Problem

The causes for this leakage, as understood by me while implementing the scheme on the ground are the following:

1. Non-Viable Business Model for FPS Shop Owners: Fair price shops are operating at dismally low margins. FPS owner is being given commission of Rs. 70 for each quintal of food grain disbursed. Assuming an average quantity of 100 quintals disbursed by one FPS in UP, total revenue of each FPS is just around Rs. 7000 per month. Profits will be much lower considering the cost of manpower, rental, electricity and other miscellaneous costs. Very low margins at such scales make the business of FPS non-viable and unsustainable. This becomes a motivating factor for diversion of the food grains.
2. Inclusion Errors: The current policy extends the coverage to 75 per cent of the population in rural areas and 50 per cent population in urban areas.

For Uttar Pradesh, it is 78 per cent and 64 per cent for rural and urban areas, respectively. As per the Government of India instructions, this percentage is the upper cap and the criteria for identification of the beneficiaries are to be laid down by the states. However, the ground reality is that it encourages inclusion of a lot of people who do not need subsidised food grain. Dreze and Khera (2015) commented that the main source of leakage is the inclusion of ineligible beneficiaries.

3. Dual Pricing System: Foodgrains are being given at the subsidised rates, Rs. 3 per Kg for rice and Rs. 2 per Kg for wheat, to the FPS owner and the beneficiaries, whereas market rate of the food grains is much higher (around Rs. 30 per Kg for rice and Rs. 25 per Kg for wheat). This creates a vested interest in the FPS owners to divert the food grains to open market for a price even lesser than the market price.

5. Policy Alternatives - Evaluation and Recommendation

The National Food Security Act aimed at bringing in more eligible beneficiaries to the TPDS, identify the most eligible and providing them the right quantity of food at the right quality at the right time. This is the most important policy measure currently available in India in not only providing subsidised food but also giving the eligible households the freedom to use their meagre income for buying other essentials from market. Pandey (2015) pointed out very rightly that policies should generally be error free but still PDS is curbed with some errors which make the system weak.

Here, we will discuss the three main causes which lead to leakages in the system and the alternatives to them.

5.1. Inclusion Errors

Though technological interventions became a key factor during implementation of NFSA 2013, there are a lot of beneficiaries / households who have not been included in the list of beneficiaries but are eligible for subsidised food grains. Similarly, there are a lot of beneficiaries who may not be fulfilling the criteria of eligibility but are included in the list. The inclusion of ineligible beneficiaries itself is a leakage in disguise which affects the distribution supply chain. Though, studies have pegged the current number of people below poverty line at around 29 per cent–30 per cent of the population in India, an

upper limit of overall 67 per cent coverage of people has allowed many ineligible people to be included for these benefits. The rationale behind keeping such a large number of beneficiaries, perhaps, was that generally the people who are better off tend to get the benefits of the welfare schemes and the poorest of the poor find it difficult to get included in the schemes. If the numbers are kept high, then there are more chances of the poor also getting the benefit. A study done by Planning Commission shows that 19.1 per cent poor are without a ration card in India and 20.7 per cent non-poor had a BPL or Antyodaya card at the time of commencement of the Act (Eleventh Five Year Plan volume II). Statewise data are given in Table 5.1:

Table 5.1

Table 19: Distribution of cardholders among poor and non poor in some states

State	% of poor with no ration card	% poor with BPL/AAYcards	% non-poor with BPL/AAY cards
Andhra Pradesh	24.1	66.8	50.3
Assam	25.7	23.3	7.6
Bihar	25.5	21.2	12.6
Chhattisgarh	24.1	47.9	29.4
Gujarat	10.9	48.1	24.2
Haryana	4.4	32.6	15.2
Himachal Pradesh	3.3	45.1	13.7
Jammu &Kashmir	7.9	55.1	17.2
Jharkhand	22.1	31.9	17.0
Karnataka	20.7	59.6	36.5
Kerala	10.0	48.4	25.0
Madhya Pradesh	30.0	41.9	22.2
Maharashtra	19.2	39.9	18.4
Odisha	29.3	54.8	29.4
Punjab	15.8	19.5	8.5
Rajasthan	5.0	23.6	12.1
Tamil Nadu	9.0	29.7	15.0
Uttar Pradesh	16.4	22.9	10.6
Uttarakhand	6.1	35.2	12.0
West Bengal	11.2	40.5	20.6
All India	19.1	36.0	20.7

Source: Planning Commission, Eleventh Five Year Plan, Volume II, 2008; PRS.
Notes: AAY refers to the Antyodaya Anna Yojana category, the poorest 10 percent of the BPL category.

If the number of beneficiaries is kept low and only the poor and truly deserving are covered, the benefits would be more targeted and easier to monitor.

5.2 Enhancing the Viability of the Fair Price Shop

It has been discussed beyond doubt that the fair price shops are currently operating at non-viable business model. Various possible means of increasing the profitability of FPS have been listed below:

Table 5.2: FPS Viability Options

Increasing the commission margins of FPS dealers	Offering various value-added services through ePos devices	Diversification of FPS operations
* Revision of Commission margins of FPS dealers based on profitability analysis	* Various utility bills * Mobile recharge * Banking services at micro level. * Pension and other welfare schemes * Ration give up scheme	* Collaboration with dairy co-operatives * Various products can be sold bridging with Karamchari Kalyan Nigam. * Last mile connectivity for various Logistics services such as courier services

5.2.1 Increasing FPS Commission margins

A proper analysis of business model for fair price shops from the economic perspective must be conducted. Commission rates need to be fixed as per that detailed analysis to ensure certain amount of minimum profits to the FPS owners to ensure the viability.

5.2.2. Value-Added Services and Diversification of the FPS

With the most modern ePoS devices, based on latest technologies and availability of network connectivity at FPS, scope to provide various services at FPS is unlimited. Provision of such value-added services through ePoS would work as major driving factor in enhancing the overall business model of these shops. Various service disbursements which could be provided at FPS using the point of sale devices are,

- utility bills payment,
- mobile recharge,

- banking services at micro level,
- Working as booths of dairy cooperatives
- Karamchari Kalyan Nigam services can be extended to the public through FPS
- The FPS could function as Jan Seva Kendra and facilitate registration of farmers for wheat and paddy purchase operations for a nominal charge.

However, to enable such services, it is essential to have better coordination between various stakeholders involved as well as greater technological push on the integration touch-points between these services.

5.3. Automatic Ration Vending Machines

A futuristic solution to the problem lies in installing automatic ration vending machines. A smart card containing the beneficiary details could be distributed to the head of household. The beneficiary visits the ration vending machine, scans the smart card and then authenticates with biometrics. The distribution would be transparent and provide the beneficiary with exact quantity of food grain with the help of digital load sensors. The transaction receipt could be collected by the beneficiary and the distribution details would be sent as SMS to the beneficiary. This could completely eradicate leakage of food grains and thereby strengthen the TPDS system. A mobile truck with vending machines can also serve the purpose. However, this solution will require a lot of time and money for creation of the requisite infrastructure.

5.4. An End to Dual Pricing to Curb Diversion of Grains

Since the FPS owner buys the grains from FCI at subsidised rates, the temptations to sell it off in the open market and earn some money are high. Some non-deserving beneficiaries may also do so. If we tweak the present system and let the FPS owner lift the grain at full price and transfer the subsidy to him after verification of distribution of grain through the electronic data now available with the department, this problem could be overcome to a large extent. In this proposed model, the cash gets transferred to the state government account which acts as a custodian for the allotted subsidy. The state government, on behalf of the beneficiary, transfers the subsidy to the FPS owner after successful disbursement of the food grains via Aadhar authentication. The GOVERNMENT OF INDIA has tried the cash transfer

model where the subsidy is transferred to the beneficiaries' account and the beneficiary buys the food grain from the FPS at market rates. However, the FPS owner still gets the food grain at subsidised rate from FCI. Though the ideal situation would be to transfer the subsidy to the beneficiary but it has two disadvantages – the dual pricing and the incumbent temptation to earn money selling off the grain remain; and the beneficiary suffers if the head of the household is, for some reason, not able to come and some other member of the family comes to buy the grain. In this kind of a scenario, transferring the subsidy to the beneficiary's bank account by biometric authentication may be difficult.

The model proposed below will be an alternative to cash-based transfer, but with the sole aim to stop dual pricing of food grains and thereby curb diversions from FPS.

Proposed Model

1. For the first month, FPS owner will purchase the allotted quantity for the month from the department at subsidised price.
2. The quantity purchased will be distributed to beneficiary at the subsidised NFSA rate.
3. The state government / department uploads the FPS owners list to PFMS.
4. PFMS verifies the list and flags an approval to state government.
5. State initially claims economic cost of the allotted food grains of the month.
6. DFPD verifies the claim and transfers the Economic cost of the total food grains to the state account.
7. The department verifies the transaction figures at FPS and authenticates payment to the FPS owner only for the food grains distributed through Aadhar authentication.
8. The FPS owner uses the Economic cost of food grains received from Department of Food and Civil Supplies, Uttar Pradesh to lift the required food grains for the next month distribution.
9. For the next cycle, department will only claim from GOVERNMENT OF INDIA for the actual distributed quantity of food grains
10. Department will act as the custodian on behalf of the beneficiary to

maintain each beneficiary account with respect of Government of India subsidy, allotted food grains and food grains distribution.

11. The details regarding the beneficiary subsidy amount received from Government of India and the availed food grains quantity will be available for the beneficiary in the public portal.

Benefits of Cash Transfer in Proposed Model

- The proposed framework is a beneficiary driven payment mechanism.
- State Government acts as a custodian for the beneficiary allotted amount from GOVERNMENT OF INDIA State becomes the BANKER for the beneficiary.
- The actual Aadhar authenticated transaction through Epos provides transparency.
- Diversion of Food grains to open market can be reduced.
- Leverages the advantages of CASH transfer model to curb leakage, Table 5.4 gives the SWOT ANALYSIS for the proposed model.

Table 5.4: SWOT ANALYSIS of Proposed Model

STRENGTHS: • Digitised beneficiary data • Improved Aadhar Seeding in Urban areas • Presence of department officers at block level • Presence of vigilance cell at field	WEAKNESS: • Diversion of food grains • Dual Pricing of food grains • Less empowerment of beneficiaries
OPPORTUNITY: • Beneficiary empowerment with state custodian • Completely curb diversion in FPS • Strengthen vigilance and monitoring cell • Strengthen grievance	THREAT: • Process changes during FPS cancellation • Consolidation of funds received and transacted. • Awareness to FPS owners

6 Conclusion

NFSA 2013 in TPDS is an ambitious scheme of the Government of India to empower the poorest of the poor and eligible beneficiaries. Currently, the scheme serves a total of 67 per cent of the population in India and a lot of money is being spent in the scheme. As the Act now guarantees the 'Right to food' to people, it is even more important to ensure that the implementation of the scheme on the ground is effective and people get the benefit without fail. After 5 years of implementation, various studies and on field experience proves that small tweaking in the process could go a long way in achieving the same. If we take effective steps to ensure viability of FPS, do away with the dual pricing and tweak the subsidy transfer model as explained above, we could get better results.

Bibliography

Balani, S. (2013). Functioning of Public Distribution System, PRS, 14-17.

Dreze, J and Khera, R. (2015). Understanding leakages in the public distribution system. [Online], Economic and Political Weekly, 39-42.

Kumar, B and Mohanty, B. (2012). Public Distribution in India Implications for food safety and consumer protection, Procedia Social and Behavioral Sciences, 65, 232-238.

NCAER. (2015). Evaluation Study of Public Distribution in Selected states, DFPD.,

Niti Ayog. (2016). Role of Public distribution system in Shaping household and Nutritional Security India, DMEO report 233.

Overbeck, D.(2016). Leakage and Corruption in India's Public Distribution System.[Online], Heidelberg University,5-6.

Pandey, T. (2015). Public distribution System or Cash Transfer : A Policy alternative for Food Security, AEBM, Vol 2-13, 1276-1280.

Planning Commission. (2005). Performance Evaluation of Targeted Public Distribution System, Programme Evaluation organization.

Shweta, S and Ashok, G. (2015). The National Food Security Act (NFSA) 2013-Challenges, Buffer Stocking and the way forward, Indian Council for Research on International Economic Relations. Paper No 297, 5-8.

Sinha, Dipa and Patnaik Biraj. (2016)., OXFAM India, National Food Security Act (2013): Moving from Exclusion to Inclusion.

Verma, A, Rathore A S and Kumari A,. (2018). An Automated approach to Public Distribution System using internet of things, Science Direct, 288-296.

Nivedita Shukla Verma

The author is an I.A.S. officer of 1991 batch, Uttar Pradesh cadre and was posted as Principal Secretary, Department of Food and Civil Supplies, Government of Uttar Pradesh at the time of writing this article.

Improving Access to Credit for India's Micro and Small Enterprises

Pankaj Jain

Abstract

Timely and adequate availability of credit to Micro, Small and Medium Enterprises (MSMEs) has been a focus of government policy. Yet, Micro and Small Enterprises (MSEs), in particular, continue to face multiple challenges on this account due to factors such as lack of formal cash flows, lenders' bias towards relatively larger MSMEs, limited reach of lenders, lack of information, etc.

The Pradhan Mantri Mudra Yojana (PMMY) was launched by Government in 2015 as a scheme for collateral free loans upto Rs.10 lakh for income generating activities to ease credit flow to MSEs. In four years, a very large numbers of loans have been extended under PMMY leading to an increase in volume of credit along with impressive coverage for new entrepreneurs, women, SC, ST and OBC borrowers. Notwithstanding the achievements under PMMY, for MSEs, there is still a significant portion of unmet credit demand.

This paper examines possible changes to the PMMY architecture while retaining its core. Three alternatives have been examined. These has been an increase in loan limit to Rs. 20 lakh, fixing of sub-targets for lenders and finally, use of re-finance and credit guarantee to influence lenders for increasing outreach in under-served districts and new to credit customers. The paper recommends that changes to re-finance and credit guarantee would work to incentivise lenders to give greater attention to these identified segments. From a public policy prospective, this would enhance financial inclusion and mitigate the problem of access to credit for those who need it the most.

Problem Description

1.1 MSMEs variously estimated to be between 5.5 cr and 6.5 cr., of which over 90 per cent are micro units, are crucial to India's economic landscape. Estimates also suggest that MSMEs employ more Indians than any other sector except agriculture and contribute to almost one third of India's GDP. Although MSMEs in India are highly heterogeneous, they share a common

challenge - uneven access to formal credit. Most micro units and many small units lack the proper documentation needed to secure a formal loan. Many cannot offer meaningful collateral or have incomplete or under-reported financials. As a result, the formal loan process can be laborious and costly for them and for their lenders. It is no surprise that the majority of Micro and Small Enterprises (MSEs) have historically turned to informal financing to address their credit needs- whether through family, friends or through moneylenders.

1.2 Government and RBI's response to the problem has evolved over time – bank nationalisation, priority sector lending, differential rate of interest, various subsidy linked schemes such as Integrated Rural Development Programme (IRDP), Prime Minister Rozgar Yojana (PMRY), Prime Minister's Employment Guarantee Programme (PMEGP), credit guarantee scheme, interest subvention, refinance from shortfall of priority sector lending, etc.

1.3 In 2010, RBI increased the limit for collateral free lending by banks to Rs. 10 lakhs. Building upon this, Government launched the Prime Minister's Mudra Yojana (PMMY) in 2015 as a programme to fund the unfunded (and the underfunded). This programme involved collateral free business loans by banks and financial institutions upto Rs. 10 lakh with no subsidy and without any directives from Government on interest rates. The support from Government was by way of a refinance window and a portfolio credit guarantee scheme. These were optional for lenders. PMMY was designed as a straightforward, simple to understand scheme with no role for Government in borrower selection or appraisal.

1.4 Over the last four years, PMMY has made a significant impact in increasing the volume of credit at the Bottom of the Pyramid (BoP), in making available credit to New to Credit (NTC) customers and to disadvantaged groups.

1.5 Yet much more remains to be done. Demand for credit at the BoP is still being met by informal sources or not being met at all. What changes should be made in the PMMY scheme so that more MSEs are able to access it, informal lending is substituted by formal lending and credit needs of those MSEs which are growing, continue to be met?

Current Symptoms

1.6 In 4 years, credit under PMMY has expanded considerably. The sanction

of Rs. 1,32,954 cr in 2015–16 by 177 Member Lending Institutions(MLIs) increased to Rs. 3,21,723 cr in 2018–19 by 196 MLIs. 76 per cent of borrowers are women and 55 per cent of borrowers are SC/ST/OBCs. Data from RBI and credit bureaus suggest that:

i. The micro segment (<1 cr) in MSMEs is the fastest growing segment and accounts for approximately Rs. 4 lakh crores of credit outstanding (total of 14 lakh crores, taken as entities). This segment grew at 22 per cent year-over-year in 2018. This segment also exhibits the lowest NPAs, although in absolute terms still high at ~ 8.5 per cent.

ii. On an overall basis, 41 per cent of MSME credit is by way of loans to individuals and not as loans to MSME entities. This includes products such Loans Against Property and gold loans. MSME loans to individuals have a distinctly better NPA record (≈ 2 per cent) than loans to entities.

iii. 21 per cent of MSME credit in December 2018 was from NBFCs, up from 12 per cent five years back. This trend is expected to accelerate with the emergence of fin-techs (typically registered as NBFCs) focussed on this segment.

17. However, for 2018, MSME credit demand was estimated by BCG, a consulting firm, to be Rs. 45 Lakh Cr. with roughly 40 per cent of that demand served by informal credit. 25 per cent of MSME borrowing was through personal proprietor loans from formal sources. This clearly suggests that there is unmet demand for credit, a point repeatedly also made by MSME associations and businesses.

Underlying Basic Causes

18. Typically, the off-take of PMMY loans increases where there is higher economic activity. Availability of lenders in such locations increases and the virtuous cycle becomes self-perpetuating. However, how does policy address the need for increasing credit in underserved areas where economic activity is less without comprising the simplicity of PMMY?

19. The second factor is lack of awareness and inhibitions in approaching a bank. The lack of awareness plays out at the level of the borrower as well as the frontline staff of the lender. Repeated visits to the lender often mean that many potential borrowers just give up.

1 10 The third factor is perhaps the inability of many small lenders to scale up as they lack funds to onlend beyond their initial set of customers .

2 . Review of Current Policy

2 1 The current policy framework of PMMY is built around four elements -

(a) reporting of loans through an MIS based on eligible activities ,

(b) refinance through Mudra Ltd . an NBFC set up by Government under SIDBI ,

(c) credit guarantee offered under the Credit Guarantee Fund for micro units as a portfolio guarantee ,

(d) Mudra debit card for ease of transaction

2 2 A fifth element which concomitantly got added was the building up of credit histories through reporting to credit bureaus . All PMMY loans by all MLIs are reported to credit bureaus .

Major Flaws / Limitations of the Current Framework

2 3 The current framework is agnostic to ticket size , to whom the loans are lent to , where they are lent to and who lends them . As experience of earlier schemes indicates , the simplicity of the scheme has been its greatest strength . Setting of MLI level targets has been effective in increasing aggregate disbursements . However over time , it has become evident that targeting in some form or manner will be required as the gains from the initial design need to be capitalised upon to attain a higher degree of financial inclusion .

Support / Opposition for Current Framework

2 4 The current framework has been institutionalised over the last four years and there is a degree of familiarity . At the MLI level , especially Public Sector Banks (PSBs) , performance under the scheme has been focussed on meeting targets while controlling Non Performing Assets (NPAs) .

3 . Policy Alternatives and Evaluation

3 1 PMMY as a scheme and as a concept has delivered . Initial apprehensions of " loan melas " and adverse selection have not materialised . The increase in number of MLIs , year on year increase in number of borrowers , increase in ticket size of loans along with banker led selection and appraisal of borrowers are evidence for this assertion . The number of smaller loans (below Rs 2 lakh)

made by Scheduled Commercial Banks (SCB) rose significantly since 2015 (when PMMY was announced) as well as the total credit disbursed on the largest loans, i.e. between Rs. 5 and 10 lakh.

3.2 Yet the challenge and the basic causes underlying it highlighted above persist. Potential solutions for these need to be assessed. These will essentially be in the nature of changes in current policy.

Possible Changes

3.4 *Option one* is to increase the limit for PMMY loans to Rs. 20 lakh. The increase in ticket size along with the overall increase in credit disbursed in the loan segment from Rs. 5 lakh to Rs. 10 lakh would suggest that debt requirements of MSMEs are increasing as their business grows. Rs. 10 lakh operates as a glass ceiling since these MSMEs will be required to produce collateral above Rs. 10 lakh and they still lack collateral.

3.5 *Option two* is to retain the basic limit of Rs. 10 lakh, the three categories, etc., and set sub-targets for underserved districts, such as aspirational districts and for new to credit customers.

3.6 *Option three* is to use the leverage afforded by refinance and credit guarantees to encourage lenders to themselves increase their activities and outreach in underserved districts and new to credit customers.

Assessment of Alternatives

3.7 *Option one* encourages growth and enterprise. It helps nurture tomorrow's medium enterprises and helps in creation of jobs as the business is now able to expand. However, this option only funds the underfunded, not the unfunded. If this were to be the only change to be made, then it will not be enough to get formal finance to many new entrepreneurs. Another issue is that without concurrent changes to RBI's Master Directions on limits for collateral free lending, this increase will not happen. In the absence of changes by RBI, collateral requirements will kick in above Rs. 10 lakh. These could be mitigated somewhat by individual credit guarantee cover under the Credit Guarantee Trust for micro and Small Enterprises but would entail an additional cost of 1 per cent-1.5 per cent each year to the borrower.

3.8 *Option two* is a more conventional response. Setting a target has worked to help increase aggregate disbursements for PMMY. Targets have also been

used for ensuring lending to the priority sector through Priority Sector Lending (PSL) targets. PSL also has sub-targets, for instance for agriculture, micro enterprises, etc. However, targets work if they are not complex and are associated with sanctions/disadvantages if they are not achieved. Targets for PSL are for SCBs while those under PMMY cover banks (public and private), NBFCs and MFIs. Shortfall in achievement of PSL targets is monitored by RBI and results in the amount of the shortfall being taken away at a low rate of interest and provided to NABARD/SIDBI/National Housing Bank/Mudra for extending refinance. For over achievers, an opportunity exists to sell the extra amount achieved as Priority Sector Lending Certificates (PSLCs). No such system of penalties or rewards exists for PMMY, a Government scheme. Public Sector Banks (PSBs) attempt to achieve their PMMY targets at the behest of their owner, the Government of India. Private Banks do so when it makes a business case and to meet the sub-target for micro enterprises under PSL. Most other private lenders do PMMY loans as their core business. In the absence of any mechanism/incentives to ensure that sub-targets are met and the lack of tangible disincentives would suggest that sub-targets under PMMY simpliciter would be an exercise in futility, especially for private sector lenders. It may be of some use in respect of PSBs.

3.9 *Option three* is granular in its approach and avoids the pitfalls of a target driven approach. It does not change the public interface of credit in any manner and instead seeks to influence behaviour of lenders at the back end. It is configured around outcomes which are measurable and unambiguous.

Support for and Opposition to Alternatives

3.10 *Option one* is prima facie attractive for lenders as it needs less work as limits to existing customers need to be increased, there are no cost of acquisition and the customer profile of the lender remains intact. Option two is likely to be ignored by private sector lenders. Option three on the other hand is unlikely to see any opposition as its builds an add-on to existing arrangements.

4. Recommendation of a Policy Alternative

4.1 *Option three* seeks to create a set of incentives which would motivate all lenders. The specific recommendation is to have differential rates for refinance

and credit guarantees for districts which are under served due to market failure and for new to credit customers assessed as per credit bureau reports.

4.2 Re-finance under the PMMY through Mudra Ltd. provides liquidity to lenders at crucial times and enables them to recycle their funds thereby supporting faster growth in the loan book. Credit guarantee on the other hand is a risk mitigation mechanism, whereby a portion of the risk, typically 50 per cent-75 per cent of the loan, gets transferred to the credit guarantee fund. However, both re-finance and credit guarantee come at a cost. In the case of re-finance, this includes the cost of funds raised by Mudra Ltd and the margin applied by it. In the case of guarantee, the cost involved is the annual guarantee fee.

4.3 Rather than slicing the target under PMMY, it is appropriate to slice the portfolio of loans with each lender so that parts of portfolio become eligible for re-finance at lower rate and guarantee at lower premium. In addition, SIDBI/Mudra Ltd. could offer pro bono support to small NBFCs in terms of hand holding to meet all minimum stipulated standards, so that they become eligible for re-finance and guarantees or are able to obtain higher re-finance limits.

4.4 The merit in this arrangement is that lenders will themselves seek to calibrate their approaches to new markets or new to credit customers, in such a way that they become eligible to draw more re-finance/guarantees or obtain them at lower costs. From a public policy perspective, this option delivers best results, i.e., of addressing shortcomings of the market, of making credit from formal sources available where it is needed the most and building credit histories of many more individuals.

5. Conclusion

5.1 Enhanced availability of credit helps in growth of enterprises. From an Indian policy perspective, what also matters is that this credit should be from formal sources rather than informal sources such as money lenders or family/friends. Formalisation of the economy and financial inclusion has been overarching policy objectives. The two changes suggested above are likely to encourage lenders to reach out to a larger and more dispersed set of BoP borrowers. These would complement efforts of the government to get such

citizens into the formal fold .This effort will of course need to backed up by adequate publicity for PMMY itself .Video testimonials of PMMY success stories are currently available in 12 languages on the YouTube channel .This and other means of publicity and awareness generation must be used to supplement the proposed changes .

References

All data on PMMY is sourced from www.mudra.org.in

Kumar , Rajeev (2018) Mudra-Fueling growth in Micro Entrepreneurs and Employment-Yojana ,Sept 2018

Early Stage Assessment of Pradhan Mantri Mudra Yojana-Research insights into design and implementation-Dvara Research (2017)

Credit Disrupted-Digital MSME Lending in India-Omidyar Network and BCG (2019)

Pankaj Jain

The author is an I.A.S. officer of 1990 batch, Assam-Meghalaya cadre and was posted as Additional Secretary, Department of Financial Services, Ministry of Finance, Government of India at the time of writing this article.

Public Decision Making in PPPs: Sensemaking Analysis of Case Study in E-Governance

Srivatsa Krishna

Abstract

Public private partnership (PPP) is an attractive model for capital intensive projects. However, experience with PPPs has been mixed and there are a large number of failures. The quality of decision making is an important factor in determining the project outcomes. This paper examines the role of public sector Decision Making (DM) using the lens of sense-making theory in the context of a real life e-governance project. The research discovers that mental models of risk of opportunistic behaviour, information asymmetry, and public sector decision making approach are important determinants of outcomes.

Introduction

In recent years, the central and state governments have increasingly relied on the Public Private Partnership (PPP) model, especially for resource-intensive infrastructural projects (PPP Database, 2018). There are multiple motivations for PPP: sharing of capital investments, sharing of risks, better technical know-how of the private partner, professional management and governance model. The PPP model involves the collaboration of public and private sector partners through the entire project lifecycle, including developing the scope, designing, implementing and governing. Essentially, a PPP model is designed for a private partner to deliver some of those services that are usually the government's responsibility.

The Twelfth 5-year plan suggested that India had the largest number of PPP projects in emerging market economies (Planning Commission, 2012). In 2018, several PPP projects amounting to approximately INR 1000 billion were initiated, and these are currently under various stages of completion (PPP Database, 2018).

However, the experience with PPP projects has been mixed (Aayog, 2015). There have been considerable delays in the completion of several PPP projects.

Several PPP projects have failed because of inadequate dispute resolution, land acquisition concerns, corruption in contracting and sluggish processes. It is estimated that projects worth INR 115.8 billion have been delayed because of such reasons (Soni, 2015). In general, the PPP experience in India has not been successful (Aggarwal, 2015). According to a news report in 2018, the Finance Minister chaired a working group to investigate stalled PPP projects amounting to the INR 200 billion in the port sector (Financial Express, 2018). Several PPP projects are certain to face administrative problems during execution, leading to delays and cost overruns (Aayog, 2015). Often, the projects are embroiled in legal complications, which take years to resolve. There are several reasons for a pessimistic view on PPPs.

Mahalingam *et al.* (2010) outline the five main barriers that call attention to challenges faced by Indian PPP projects: (i) political drive to develop PPP models, (ii) weak institutional environment to enable the growth of PPPs, (iii) low capacity in public sector agencies to prepare projects, (iii) poor designing, (iv) structuring of PPP projects without envisaging future modalities, and (v) a thin line of trust between public and private institutions (Mahalingam, Ganesh, & Satyanarayana, 2011).

The previous paragraphs have discussed several factors that are important for the success of PPP projects. A PPP involves at least two decision makers: the government party and the private party. These two organisations have different cultures and decision making (DM) styles. DM in a government organisation occurs within the framework of democratically elected political leadership. An interesting dimension to government DM is that a decision that is made according to the prevailing rules is subject to reopening in future. Any change in political leadership could create situations for reviewing earlier decisions, which often tends to make decision makers risk averse. Government DM also operates in an ecosystem of asymmetric information. It is often difficult to collect reliable, verifiable data, resulting in making decisions in a data-poor environment, hoping to get it right each time around. DM is further complicated when government and private sectors collaborate to form PPPs. The public and private sectors are significantly different entities, with different objectives, working styles and success expectations, making project management a challenging task.

The above discussion raises some questions:

(i) Why do well-designed PPP projects encounter problems during implementation?

(ii) Why do good individual decisions by public and private partners at the vision stage often lead to unacceptable outcomes during implementation?

(iii) Why do intended actions not lead to intended outcomes?

PPP Literature Review

There is exhaustive literature on various aspects of PPP. This section provides a brief overview.

Value for money is the main enticement for PPP projects. Morallos and Amekudzi (2008) express that this is a highly persuasive argument, because it enables the government to transfer a substantial amount of costs to the private sector. Governments are able to reduce their borrowing because of the availability of private funds (Maskin & Tirole, 2008). Sadka (2007) argues that because a PPP is performed outside the budget, the budgeting and accounting procedures are different. Several researchers have discussed Transactional Cost Economics (TCE), according to which the justification for a PPP is minimisation of the total social cost (Vining & Boardman, 2008). Brown and Potoski (2003)argue that a PPP should be the preferred mode if its use leads to minimisation of the total social costs when compared with the total social cost of public service delivery by direct government provision. In addition, Vining and Boardman (2008) emphasise that while estimating the total social costs, it is important to include transaction costs for the entire project period. Similarly, it is important to include all externalities that may not show up in most budgets (Parker & Hartley, 2003).

Some researchers have argued that the private sector is typically better placed in technology know-how than government organisations. This is especially true in cutting-edge sectors such as Information Technology, Biotechnology and Nanotechnology. By partnering with private sectors, the government can potentially expedite project execution and also introduce new ideas (Morallos & Amekudzi, 2008). Hofmeister and Borchert (2004) also highlight that insourcing private expertise can lead to improvement in government's project management skills.

Morallos and Amekudzi (2008) argue that PPPs enable better risk allocation and burden sharing. The government can allocate several project risks to the private party. The basic essence of the model is that the risk is allocated to the entity that is better placed to manage it. Hence, it is an optimal risk allocation process (Renda & Schrefler, 2006).

PPPs involve multiple stakeholders with their respective interests, power relationships and responsibilities. There is a need for effective governance mechanisms to address a predominance of three main situations: (i) opportunistic behaviour by partners, (ii) internal information asymmetry and (iii) an external event that disturbs the equilibrium of the partnership.

PPP literature provides several examples to illustrate that the opportunistic behaviour by one or more partners is a reality. Vining and Boardman (2008) describe opportunistic behaviour as one that pursues a party's self-interest and not the objectives of the project. Thus, it is an unethical and unprofessional behaviour at variance with the legal and contractual obligations. They also reason that, as several PPP projects are of long durations, the involved parties have an increased time frame to indulge in such behaviours. Therefore, they agree that opportunistic behaviour is inevitable.

A PPP involves the government, private sectors and citizens. Each PPP has a certain arrangement for balance of power and responsibilities between the stakeholders. The success of PPP projects depends on how well the balance of power and varied interests are managed (Smith & Beaumont, 2003). In practice, the information asymmetry between the parties likely leads to opportunism (Arthurs & Busenitz, 2003). This essentially implies a situation in which one party has more or superior information than the other (Bahli & Rivard, 2003), providing an opportunity to indulge in opportunistic behaviour. For instance, private partners typically maximise their interest and bid low amounts to take advantage of the government's lack of information (Luis, 2004).

Power arrangements in a PPP depend on external factors such as the nature of industry. Some sectors such as the oil and gas sectors are highly regulated than other sectors. Moreover, within a sector, the nature of regulation changes over time because of a differing political context. The nature and scope of government regulation also change over time; for instance, price setting,

export–import policies, customs duties, environmental policies and safety standards. In some sectors, the parties strictly focus on the contractual agreement and not much on relational issues (Egan, 1998; Doree, 2004; Bult-Spiering & Dewulf, 2006).

Research Question and Methodology

The above discussion suggests that quality of DM on the governance structures that constitute a particular PPP is an important factor in determining the project outcomes. This paper has explored the nature and modalities of government decision making in PPPs using a case study approach. This research has relied on sensemaking approach to understand decision making processes in large PPP projects. Sensemaking deals with non-linear dynamic behaviour and complex relationships between individual actors with varying interests. It is a retrospective and a continual behavioural activity that cognitively assesses irrational and non-linear factors. Sensemaking starts with unstructured and chaotic data and then brackets the information into useful compartments. Sensemaking emphasises on retrospective thinking and the use of mental models. In the case of multiple stakeholders, each entity will have a different mental model, often making it difficult to reconcile and take appropriate decisions. They look for plausible solutions rather than the optimal ones. The decision makers attempt to make sense of the evolving events using – Enactment, Selection and Retention (ESR Theory) (Weick, Sutcliffe, & Obstfeld, 2015).

The process of enactment involves the search for meaningful cues from the ongoing experience and provides a retrospective account of the incident they collectively encountered. The process of selection involves decision makers sorting through various images generated in enactment and reaching a common understanding that seems to portray the situation in the most plausible manner. Finally, in retention, the products of enactment and selection continue to exist in organisational memory and guide future actions.

In the context of PPPs, sensemaking theory needs to consider a few key aspects.

- During crisis situations, public and private decision makers make sense of the evolving events in different ways. Their perspectives are shaped by their mental models and also the organisational cultures.

- The public and private managers could resort to opportunistic behaviour , which is at deviance with the project objectives .Each partner is cognizant of the tendency of the other partner resorting to opportunistic behaviour .
- There is an information asymmetry and power balance between the partners ,which shapes their working relationship during the course of the project .

In the light of this discussion , there are some gaps in conventional sensemaking theory ,in the context of the PPP projects .Specifically ,the main research question that this research addresses is the following :

How do the public and private sectors make sense of evolving events and take decisions as viewed through the lens of sense making ,on a PPP project ?

Figure 1 summarises the research methodology adopted in the research .

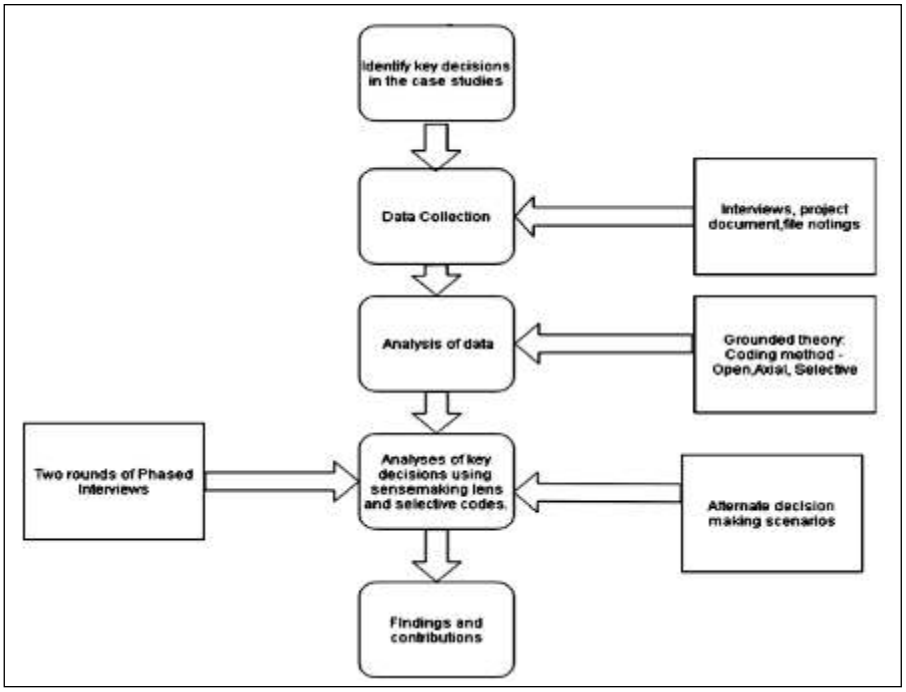


Figure 1: Research Methodology Diagram

The research has used a real life case study (Z-one). The name of the project and other associated entities have been anonymised to ensure confidentiality of the case. Qualitative data were collected for the project. A set of key decisions was

identified from this data, which were relevant in determining the project outcomes. The qualitative data were then analysed to extract meaningful codes. Each decision was then analysed using the ESR sensemaking framework. This analysis was also compared with the feedback provided by policy experts during two rounds of phased interviews.

Data Collection

The data for the research were obtained from interviews, observations, focus group discussions and documents. Here is a summary of the data collected and analysed:

(i) *Case study documents:* These included all operating documents, such as request for proposal (RFP), Master Service Agreement (MSA), Service Level Agreement (SLA), legal opinions and evaluation reports. In addition, external sources, such as publications in print and electronic media, public domain reports, published commentaries and the information available on public and private portals of the involved participants, were reviewed. A total of 17 documents (142 pages) have been reviewed in the case study.

(ii) *Interviews:* Interviews were conducted with 9 key people involved in decision making in the case, to capture details on all aspects of the project lifecycle and obtain insights into important decisions that were made. These were drawn from various backgrounds: government departments, private vendor, and members of project teams. These interviews provided rich insights into public and private managers' thought processes in key decisions during project implementation. The process involved sharing a detailed questionnaire with the interviewees before the discussion. The questionnaire comprised 15 core questions on various aspects of decision making, project challenges and reflections on key decision moments. Each discussion spanned over 2–3 hours, lasting a total of about 25 hours of interviews.

(iii) *Phased interviews with policy experts:* Finally, the research involved reaching out to a select group of 9 senior policymakers to get their perspectives on the two case studies. This group was not involved in the case studies. Hence, they provided an independent perspective on the

decisions. They were presented with a background of the two cases studies, the key decision nodes and a 16-page detailed questionnaire. They were asked how they would react and decide if they were the decision maker. In the second round, responses by all interviewees were compiled and shared with each decision maker. The identity of respondents was anonymised. A second round of interviews was then conducted to discuss if the respondent had any change of view after reviewing other responses. Each interview spanned 2–3 hours, thus yielding a total of 30 hours of interviews.

Case Study 1 – Z-one

The Office of Digital Governance (ODG) of an Indian state undertook an initiative in the e-governance department to create an integrated platform for delivery of public services. This platform, called 'Z-one', was initiated in 2014. ODG called for bids for the end-to-end development and management of the platform, which included supply, installation, implementation, maintenance and operation of the platform. Through the bidding process, ODG selected PQR mobile to build, operate and maintain the platform. The contract for this PPP project was signed on March 6, 2014.

The platform was successfully developed and was effective in providing various services, as intended. Although the project was highly appreciated by various stakeholders, conflicts arose during the implementation and management phases of the project. There were several disputes between the public and private entities regarding the scope of work and payments. ODG attempted to resolve these disputes, firstly, through consultative process and, eventually, through legal processes. However, these efforts were futile, the project got mired in controversies. The following explain the key decision making entities and their respective responsibilities:

Office of Digital Governance

This department was the signee of the PPP contract as a public client and representative of the government. Its duties included selecting a private vendor for the development and management of the mobile e-governance platform and supervision of the project implementation. ODG reserved all rights according to the contract drawn between the two parties, consistent

with the RFP document. It reserved the right to alter the scope of work or terminate the contract and to examine, if the private party is functioning according to the vision and mission of the project.

PQR Mobile

It was the private entity responsible for the development, management and maintenance of the e-governance platform. The specific responsibilities of PQR include: design, development and management of services, day-to-day operations, compliance and certifications and adherence to standards, and documentation and training.

Project Management Unit

The PMU worked under the purview of ODG. In this project, the PMU's role was to deploy resources, as consistent with the bid, such as project managers, technical consultants and operations consultants. It was the point of contact for various departments.

Key Decisions

Following are the key decision in the project:

D1. The first decision pertained to the claim of an invoice charged for additional works. It was raised by PQR Mobile to ODG as an enablement fee for increasing the capacity deployed for mobile web, smart client and IVR . ODG took a different view and felt that the vendor should have envisaged these technical enhancements, while bidding for the project. ODG decided to reject the invoice for additional payment.

D2. The second decision was regarding the appointment of a director by the private vendor without consulting ODG. The former treated it as an internal administrative change to handle policy matters. However, ODG treated it as a violation of terms and understanding. ODG expressed disapproval of the appointment and mentioned that all appointments should be with prior approval of ODG. Accordingly, ODG rejected the appointment of Director.

D3. The third decision occurred when the private vendor claimed another invoice for PMU works with ODG. PQR Mobile claimed to integrate more than 130 services (80% of work). However, ODG referred to the RFP clause and mentioned that PMU and PQR Mobile were jointly responsible. ODG took the decision to deny the claims in this instance.

D4. The fourth decision was when the ODG decided to seek legal opinions for plausibility of getting an injunction order against PQR Mobile. This was triggered since the growing impasse was stalling operations and affecting the work progress. ODG took legal opinion and based on the legal advice, decided to suspend the services of PQR mobile and appointed GIDD to take over the operations of the project.

D5. The fifth decision was when the ODG decided to seek the second legal opinion for plausibility of getting an injunction order against PQR Mobile. It was because of the defaults in operations and growing impasse that were affecting the progress of the platform. However, ODG decided not to press for a court injunction, considering that legal process could lead to an interruption in delivery of platform services, which were in high public interest.

D6. The sixth decision pertained to imposition of penalties on PQR Mobile. The growing impasse led to lack of coordination and communication between the two parties. The private vendor was not submitting the monthly progress reports. Therefore, the ODG decided to impose penalties for non-cooperation and non-compliance of contract deliverables.

Sensemaking Analysis of Decisions

This section has provided an illustration of using sensemaking to analyse one decision (D1). It is beyond the scope of this paper to explore all the decision cases. Sensemaking analysis of one decision provides meaningful insights in public sector decision making thought process. These can also be generalised for other decisions.

Before sensemaking analysis, it is important to interpret the qualitative data collected in the case study. This paper uses grounded theory for qualitative analysis of case study data using bucketing and labelling (Corbin & Strauss, 1990). The data collected through various sources are analysed in a three-step coding process: open coding, axial coding and selective coding. Here is a brief of the three steps:

Open coding creates the initial labels of information by segmenting the collected data (Creswell, 2012). The common labels were selected based on frequency of occurrence, and properties relevant to PPP decision making. Axial Coding establishes the inter-relationships between various open codes

(Babchuk, 1997). The inter-linkable open codes were analysed for more data insights; these were noted as axial codes. Finally, selective coding is used to extract core categories. These codes represent the essence of the data and are also used in sensemaking analysis of key decisions. The inputs from coding analysis were interspersed in the decision case analyses and helped to create a retrospective analysis of the decisions.

The following are the selective codes generated from the analysis of the data.

Table 1: Annual Dependency Ratio of RNP

Code no.	Selective Code	Examples
S1	Difficulty in formulating fool-proof contract	• Managing additional expenses of high optics event.
S2	Inevitability of opportunistic behaviour by partners	• Claiming additional invoices for shared set of works in PMU activities.
S3	Managing information asymmetry in PPPs.	• Additional scope levied on public partner for technical expansions of platform.
S4	Importance of effective communication in PPPs	• Disagreement on ways to appoint director by private vendor.
S5	Importance of leadership in solving bottlenecks	• Decisions to seek legal opinions for injunction order and exit, in an impasse situation with private vendor.
S6	Role for process and planning for robust execution	• Malfunctions in online platform due to launch of a large number of application.
S7	Mistrust of the other partner and appropriate as much as possible	• Asking the vendor to do activities during the high visibility launch event.
S8	Risk averse approach in decision making process	• Resorting to legal opinion instead of direct communication between partners to resolve the crisis.

S9	Sticking to rules and inflexibility in adapting to circumstances.	• Outright rejection of the invoice for additional expenses claimed by vendor without due consultation.

Table 1: Selective Codes and Examples

The key decisions in the case study have been examined through the lens of sensemaking using Weick's framework. This is further enriched by the information in the selective codes. Each decision is analysed in the following format:

(i) A brief explanation of the background and circumstances leading to the decision.

(ii) The sensemaking lens is used to explore the decision with reference to ecological changes, enactment, selection and retention.

(iii) Usage of the data collected from interviews, file notings and phased interviews with experts, is used to enrich the analysis wherever applicable.

(iv) The sensemaking analysis is linked with the selective codes extracted from the qualitative analysis of the case study documents, interviews and file noting.

Decision 1: Decision to Deny Enablement Fees Claimed by PQR mobile for the Improvement of Existing Platform in Z-one

Discussion of Decision Event

The first decision pertained to the claiming of an invoice charged for additional work performed by the private vendor. On February 17, 2015, PQR mobile submitted a *Commercial Invoice (No: 170215/G3, titled: Enablement fees for increasing capacity deployed for mobile web, smart client & IVR)* as an enablement fee for increasing the capacity deployed for mobile web, smart client and IVR. The reason to increase the capacity was the need to widen the commercial scope of the platform and improve public engagement, which eventually led to a significant increase in the incoming traffic (S1). The private partner mentioned that the system went live during the launch, which led to a sudden increase in public engagements and unprecedented traffic. This required them to enhance the scope of the project and thereby also the value of the contract (S6).

The government's ODG committee rejected this request on the grounds of violation of contractual terms (S1). The government's understanding placed the responsibility of expansion on the competence of the private bidder. Therefore, this decision caused a series of events leading to an impasse in the PPP. This development aggravated the mistrust in the partnership. The communication diluted over time, ultimately setting the basis for altercation and resulting in the ouster of the private vendor (S4).

Sensemaking Analysis

In this section, we analyse this event and decisions from sensemaking lens using Weick's framework.

Ecological Change

There were some important ecological changes during the project implementation that impacted the decision-making process and also the project outcomes:

(i) *High-optics launch event:* A key factor that influenced the decision making of the ODG was the high-visibility launch event. The work pressure in a highly short deadline led to ad hoc and last minute changes and decisions.

(ii) *Platform going public:* Another associated factor was the change of plans to make the platform public during the launch in a time-stressed manner and present it as service enabler. The government did not plan for this properly (S3).

(iii) *Number of services:* The public body was on a mission mode to include as many services as possible, which resulted in a malfunction of the user interface (S6).

(iv) *Expansion of technical requirements:* The issues with a sudden increase in technical requirements lay at the core of the conflict.

Enactment

The public and private parties had different views of the situation. The ODG considered that the additional amount was not justified because the work components should have been included in the tender bid. The private party considered that these are additional components compared to those mentioned in the tender. The ODG also assumed that the private party was resorting to opportunistic behaviour. There was a feeling that PQR mobile was

taking advantage of the exigencies imposed by the high-optics launch event to get additional payments approved (S2).PQR mobile also stuck to its decision that the company went that additional mile to support the government in the high-optics launch to make it a grand success. It also highlighted that it is highly difficult to design a fool-proof contract (S1).

Selection

The actual decision was the direct rejection of the claim based on the examination of the contractual terms against the additional work scope (S1). However, the decision led to a cascading effect and ultimately to an impasse between the public and the private partner. Was this the right choice? Could other options have been explored? This issue was explored in multiple stakeholder interviews and two-round phased interviews with top decision makers. The experts were of the opinion that the vendor should not be permitted to push many cost components in the garb of the high-optics event. The pressures of the high optics and public launch need to be managed in a systematic manner.

Retention

The case highlights the possibility of parties resorting to opportunistic behaviour. The mental model of suspecting opportunistic behaviour gets reinforced. This tends to cloud sound judgement and decision making by the public and private entities. It also elucidates that the project implementation phase will encounter situations, which were not envisaged during contract formulation. How the parties respond to these situations depends on their working relationships. Impasse in the project can be avoided by continuous communication between the parties. The decision makers should ideally follow a combination of intuitive and rational approaches while decision making at important events (S6).

Conclusion

This research has used sense-making theory to explore how decision making impacts project outcomes. The public and private decision-makers make sense of the events in their own specific ways. This is based on their own mental models developed by past experience and retention. This is an important point and impacts the outcome of the project. The public decision makers have mental models on likely behavior of the private party. These have developed

over time and are shaped by various factors such as procedures of government decision-making processes, and past experience in PPP projects. The retention from these experiences influences their decision-making. Often these retentions cloud their judgement and prevent them from taking sound decisions as required by the project. This aspect has emerged as an important contribution of this work. It adversely impacts the outcomes of well-conceived projects. It is important that public sector decisions be based on the facts of the case and not on preconceived notions based on previous retentions and mental models.

Bibliography

Aayog, N. (2015, October). *Investment in Infrastructure: Strengthening PPP Policy Framework*. Retrieved May 12, 2019, from NITI Aayog: http://niti.gov.in/content/investment-infrastructure-strengthening-ppp-policy-framework

Aggarwal, M. (2015, November 20). *Kelkar Committee on PPP Submits Report to Arun Jaitley*. Retrieved from Livemint: https://www.livemint.com/Politics/DEMv2ezu0WQ0o06NV4InfO/Kelkar-committee-on-PPP-submits-report-to-Arun-Jaitley.html

Arthurs, J., & Busenitz, L. (2003). The boundaries and limitations of agency theory and stewardship theory in the venture capitalist/entrepreneur relationship. *Entrepreneurship Theory and Practice*, 28(2), 145-162. doi:10.1046/j.1540-6520.2003.00036.x

Bahli, B., & Rivard, S. (2003). The information technology outsourcing risk: a transaction cost and agency theory-based perspective. *Journal of Information Technology*, 18(3), 211-221. Retrieved from https://link.springer.com/article/10.1080/0268396032000130214

Brown, T., & Potoski, M. (2003). Managing contract performance: A transaction costs approach. *Journal of Policy Analysis and Management*. doi:https://doi.org/10.1002/pam.10117

Bult-Spiering, M., & Dewulf, G. (2006). *Strategic Issues in Public–Private Partnerships: An International Perspective*. Wiley Online Library. Retrieved from https://onlinelibrary.wiley.com/doi/book/10.1002/9780470759653

de Brux, J. (2010). The dark and bright sides of renegotiation: An application to transport concession contracts. *Utilities Policy*, 18(2), 77-85. Retrieved from https://www.sciencedirect.com/science/article/pii/S0957178709000423

Doree, A. (2004). Collusion in the Dutch construction industry: an industrial organization perspective. *Building Research and Information*, 32(2), 146-156. Retrieved from https://research.utwente.nl/en/publications/collusion-in-the-dutch-construction-industry-an-industrial-organi

Egan, J. (1998). *Rethinking Construction: The Report of the Construction Task Force to the Deputy Prime Minister, John Prescott, on the Scope for Improving the Quality and Efficiencyof UK Construction.* London, UK: Department of the Environment, Transport and Regions (DETR).

Financial Express. (2018, January 3). F*inance Minister Arun Jaitley Chaired Body to Look into Stalled Rs 20K Crore Port Projects.* Retrieved from https://www.financialexpress.com/industry/finance-minister-arun-jaitley-chaired-body-to-look-into-stalled-rs-20k-crore-port-projects/1000712/

Fligstein, N., & Freeland, R. (1995). Theoretical and comparative perspectives on corporate organization. *Annual Review of Sociology*, 21, 21-43. doi:https://doi.org/10.1146/annurev.so.21.080195.000321

Hofmeister, A., & Borchert, H. (2004). Public–private partnerships in Switzerland: Crossing the bridge with the aid of a new governance approach. *International Review of Administrative Sciences*, 70(2), 217-232. doi:https://doi.org/10.1177/0020852304044251

Kapmeier, F. (2008). Common learning and opportunistic behaviour in learning alliances. *Systems Research and Behavioral Science*. doi:https://doi.org/10.1002/sres.910

Korczynski, M. (1994). Low trust and opportunism in action: Evidence on inter-firm relations from the British engineering construction industry. *Journal of Industry Studies*, 1(2), 43-64. doi:https://doi.org/10.1080/13662719400000003

Luis, G. (2004). *Granting and Renegotiating Infrastructure Concessions: Doing it Right.* Washington, DC: World Bank. Retrieved from https://openknowledge.worldbank.org/handle/10986/15024 License: CC BY 3.0 IGO.

Mahalingam, A. (2010). PPP experiences in Indian states: Bottlenecks, enablers and key issues. *Journal of Construction Engineering and Management*, 136(4). doi: https://doi.org/10.1061/(ASCE)CO.1943-7862.0000130

Mahalingam, A., Ganesh, A., & Satyanarayana, N. (2011). A comparative analysis of public-private partnership (PPP) coordination agencies in India: What works and what doesn't. *Public Works Management and Policy*, 16(4), 341-372. doi:https://doi.org/10.1177/1087724X11409215

Maskin, E., & Tirole, J. (2008). Public-private partnerships and government spending limits. *International Journal of Industrial Organization*, 26(2), 412-420. Retrieved from https://scholar.harvard.edu/maskin/publications/public-private-partnerships-and-government-spending-limits

Morallos, D., & Amekudzi, A. (2008). The state of the practice of value for money analysis in comparing public private partnerships to traditional procurements. *Public Works Management and Policy*, 13(2), 114-125. doi:10.1177/1087724X08326176

Parker, D., & Hartley, K. (2003). Transaction costs, relational contracting and public private. *Science Direct*. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.473.295&rep=rep1&type=pdf

Planning Commission. (2012). *Twelfth Five Year Plan 2012-17*. Retrieved May 12, 2019, from Planning commission of India: http://planningcommission.gov.in/plans/planrel/12thplan/welcome.html

PPP Database. (2018). Retrieved March 12, 2019, from Public Private Partnership in India: https://www.pppinindia.gov.in/projects-summary

Qu, Y., & Loosemore, M. (2013). A meta-analysis of opportunistic behaviour in public-private partnerships: Manifestations and antecedents. *Reading, Association of Researchers in Construction Management*. Retrieved from http://www.arcom.ac.uk/-docs/proceedings/ar2013-0415-0424_Qu_Loosemore.pdf

Renda, A., & Schrefler, L. (2006). Public-private partnerships: *National experiences in the European Uniton*. Retrieved from http://www.europarl.europa.eu/RegData/etudes/note/join/2006/369858/IPOL-IMCO_NT(2006)369858_EN.pdf

Sadka, E. (2007). Public-private partnerships: A public economics perspective. *CESifo Economic Studies*, 53(3), 466–490. doi:https://doi.org/10.1093/cesifo/ifm013

Sedjari, A. (2004). Public–private partnerships as a tool for modernizing public administration. *International Review of Administrative Sciences*, 70(2), 291-306. doi:10.1177/0020852304044256

Smith, M., & Beaumont, P. (2003). PFI, Public-private partnerships and the neglected importance of process: Stakeholders and the employment dimension. *Public Money and Management*, 23(3), 171-176. doi:10.1111/1467-9302.00365

Soni, S. (2015, November). Failure of public-private partnership in India. *Economic Policy Forum*, pp. 1-6.

Sykes, G., & Matza, D. (1957). Techniques of neutralization: A theory of delinquency. *American Sociological Review*, 22(6), 664-670. doi:10.2307/2089195

Vining, A., & Boardman, A. (2008). Public-private partnerships in Canada: Theory and evidence. *Canadian Public Administration*, 51(1), 9-44. doi:10.1111/j.1754-7121.2008.00003.x

Srivatsa Krishna

The author is an I.A.S. officer of 1994 batch, Karnataka cadre and was posted as Chief Executive Officer and Secretary, Coffee Board of India, Government of India at the time of writing this article.

Improving Electoral Participation in India

Ranbir Singh

Abstract

India is a vibrant democracy known for its free, fair, transparent, ethical and accessible elections. It is already a role model for other nations in the matter of conduct of elections. The Election Commission of India is a model institution enjoying constitutional autonomy. It is always ahead of the learning curve in terms of institution building, use of technology and introducing best practices in electoral management.

Mantras-No voters to be left behind inclusive accessible, ethical, free, fair and transparent.

One of the complaints within the country has been about the purity and inclusiveness of the electoral rolls and the low voter turnout particularly in the metropolitan areas. Political parties have been making allegations of mass deletion of voters and existence of fake voters.

Electoral participation is a matter of concern all over the world. India can perhaps develop a robust model to solve this problem, which could ultimately serve as a good template for other countries also.

This policy paper examines the nature of the problem of electoral participation in all its dimensions, identifies the underlying causes, reviews the existing policy framework and recommends policy alternatives that are consistent with the Indian ethos and have bright prospects of success.

Problem Description

There are primarily three problems with respect to electoral participation in India. First, the electoral rolls are not fully inclusive as many eligible voters are not on the voter list. Second, the electoral rolls contain many duplicate / multiple entries apart from names of many dead / non-existent voters. Third, the voter turnout during elections is relatively low even as many precious votes are lost due to systemic reasons.

Symptoms

1. The voter turnout during Lok Sabha Election 2019 was 67.4 per cent signifying a loss of about a third of the total votes. A consistent low voter turnout trend is evident from the data of successive elections (Annex-1).
2. The phenomenon of low electoral participation is more acute amongst migrants, urban educated elite, Non-Resident Indians (NRI), women, young first-time voters, persons with disabilities (PwD), transgender people, homeless people and the aged people due to different reasons.
3. Frequently, political parties have been complaining about mass deletions of voters from electoral rolls as well as existence of fake voters (e.g., Delhi, Telangana, Maharashtra, Madhya Pradesh, etc.).
4. Some celebrities and even election brand ambassadors could not vote for want of their names in the voter list leading to differing reactions in the media (e.g., Jwala Gutta, Rahul Dravid, Santosh Yadav, etc.). Of course, many common people also experience a similar thing.

Underlying Causes

1. Apathy: Some people donot want to vote. Their apathy could be due to complacency, cynicism, perceived unworthy candidates, lack of faith in the political process, unreliability of political discourse, a perceived suboptimal NOTA design, misuse of caste, religion, money-power and muscle-power by political parties, partisan role of the media, dynasty politics, social media induced fatigue, etc. Such apathy is mostly seen amongst the urban educated elite. Their faith in democratic politics and importance of voting needs to be restored.
2. Inability: Some people are not able to vote at the place where they are enrolled due to their individual circumstances. This happens due to migration for work / studies / wedding, employment in essential services, election duty, unavoidable travel, etc. Suitable voting mechanisms have to be developed to address this problem.
3. Vulnerability: Some people are unable to participate due to the bottlenecks they face on account of their peculiar vulnerabilities, e.g., PwDs, senior citizens, dependent women, trans-genders, homeless and victims of political violence. They need facilitation, simplified

procedures, specific facilities, special outreach, personalised assistance and vulnerability-specific empowerment measures. Simultaneously, we have to work on changing the societal attitudes for a systemic elimination of these vulnerabilities.

4. Ignorance: Some people donot know how to vote. They remain left out due to their ignorance, lack of awareness. They need information and facilitation. Technology and appropriate civic education strategies are required to enhance their participation.
5. Inflated Rolls: The electoral rolls contain multiple entries and undeleted dead voters, etc., which inflates the base. On the other hand, there are voters who are willing to vote but cannot do so for want of entry in the roll. These twin factors drag down the voter turnout number.

Review of the Existing Policy

Since India is the largest and the most vibrant democracy in the world, it is important that all citizens believe in the integrity of the electoral process, enthusiastically participate in it and face no difficulty in securing such participation. Since electoral participation level is less than optimal, there is a need for a systemic review of our electoral system. The following seem to be the key characteristics and flaws of the existing policy framework:

1. India has a rights-based voluntary system of electoral registration and participation. It is for the citizen to take the initiative and opt in. Otherwise he remains out.
2. The electoral system is based on a fairly rigid one-size-fits-all kind of model. It presumes fixed territoriality and relies on uniform procedures, documentation requirements and participation protocols. Needless to say, it is not well equipped to adequately respond to the varying situations of individual citizens. As such, many of them get unwittingly excluded from the electoral process, e.g., the NRIs, the migrants, the homeless and the trans-genders, etc.
3. The electoral infrastructure is not adequately accessible thus creating bottlenecks and hardships for PwDs, sick voters and senior citizens, etc.
4. The electoral system lacks easy portability of EPIC number.
5. The qualifying date is 1st January, which willy nilly excludes large

number of citizens who turn 18 years of age after that date but before the date of poll.

6. The NOTA option is a progressive step. But it still does not serve much purpose in influencing the conduct of political parties, because a high NOTA vote share has no real consequences for them.
7. Systemic Voter Education and Electoral Participation (SVEEP) activities are not well aligned to specific informational and motivational needs of specific sections of voters or specific pockets infested with low electoral participation. It is not driven by an evidence-based, data-driven approach and hence the gains remain suboptimal.
8. Political parties and candidates have not been given any direct stake in enhancing electoral participation under our electoral system. There is no minimum level of voter turnout for holding an election valid under the law.

Policy Alternatives and Evaluation

Envisioning Electoral Goals

Before we embark on a consideration of the various policy alternatives, it will be in order to take a step back and contemplate as to what should be the goals of our electoral system in terms of voter registration and participation so as to not only further enrich the quality of our democratic process but also to serve as a shining light for other democracies in the world.

The goals of our electoral system may be articulated as follows:

1. Universal registration (100 per cent) of all eligible voters.
2. Time bound delivery of EPIC card in 15 days from date of application.
3. Time bound Portability of EPIC in 15 days.
4. Deletion of the name of a dead voter within 15 days from the date of death.
5. Voter turnout rate of 85 per cent in Lok Sabha and 90 per cent in Vidhan Sabha elections.
6. Accessibility rate of 100 per cent for electoral infrastructure.
7. Lost votes rate of 0 per cent for willing voters.
8. Maximum queue time of 30 minutes at the polling station.
9. SVEEP expenditure of 50 per cent on low turnout groups / pockets.

Alternative Policy Framework

1. In Australia and a few other countries, there is a compulsory voter registration system with attendant penalties in case of default. However, such a mandatory system militates against the spirit of freedom which is a hallmark of democracy. It could be perceived as an anti-poor measure, if fines are imposed on the poor in a country characterised by acute economic inequality. It will also increase the manpower needs of the election machinery. A penalty without addressing the root causes of the problem of poor voter registration can be counterproductive. As such, this alternative is not recommended.
2. Switch to an automatic voter registration system. Link it to Aadhar or Passport or birth registration or any other suitable system. Electoral roll entry as a future voter may be made at any stage after birth. Future voters should be registered by arranging registration camps at the schools as well. On attaining the age of 18 years the voter should get a welcome letter from the ECI, with his EPIC card and a SVEEP kit. An on the demand opt-out option may be given. The default position should however be opt-in.
3. Make EPIC a fully portable number so that it moves along with an individual when he migrates to a different address or constituency doing away with the requirement of Form-7 and Form-6 transactions every time. There should be no suo motu deletion of a name due to shifting of voter, it should only be migrated.
4. Make the poll day the qualifying date in an election year or do away with the concept of a qualifying date altogether. A voter should be able to register the day he completes 18 years or subsequently but not after the last day of nomination.
5. Integrate the voter registration system with civil registration database to ensure deletion of the name of a dead voter within 15 days of the occurrence of death of a voter but after due verification.
6. Detect any multiple or demographically similar entries (DSE) by use of technology and delete the same within 15 days after due verification but retaining one entry at the place where the voter wishes to be a voter. Biometric verification should be introduced to prevent multiple entries / DSE.

7. Plan SVEEP activities to enhance the registration of NRI voters, women voters, young voters, PwD voters, trans-gender voters, homeless voters and other marginalised categories based on the statistical gap between the ratio of these categories in the total population and their ratio in the electoral roll.
8. Introduce the system of compulsory / mandatory voting as in Australia. Impose a fine after providing an opportunity of being heard in case a voter fails to vote without sufficient reason or prior leave. However, such a mandatory system militates against the spirit of freedom which is a hallmark of democracy. It could be perceived as an anti-poor measure, if fines are imposed on the poor in a country characterised by acute economic inequality. It will also increase the manpower needs of the election machinery to enforce the provision. A penalty without addressing the root causes of the problem of poor electoral participation could be counterproductive. As such, this alternative too is not recommended.
9. Introduce the system of early voting as being practiced in several countries, so that the voter gets an option to vote at the same polling station on a day before the poll day, in case he is not going to be present in his constituency on the day of poll. A window of 1–2 weeks should be adequate for early voting.
10. Introduce the system of absentee voting(postal ballot) on demand. No reasons may be sought for opting for absentee voting. In fact, a permanent list of such voters may be maintained (with an opt-in and opt-out facility) and postal ballots may be sent to those on this list during every election. Collection counters should be run at least one in each Assembly Constituency (AC) for those who wish to submit the postal ballot by hand.
11. Introduce special polling stations, at least one per AC, where online voting can be done by those who are registered voters of other constituencies (e.g., migrant students / workers, recently married women, etc.). Similar polling stations should be set up overseas at least in the Indian missions and consulates to enable the NRI voters to vote without having to come all the way to their respective polling stations in India, which most of them donot do anyway thus losing their vote altogether. In

fact, most NRIs donot even register as voters precisely for the reason that they are unlikely to visit their hometown in India to cast their vote in view of the costs involved.

12. Enter into a partnership with a good university for conducting research, surveys and data analysis for every low turnout polling station and AC and also for categories of voters with lower turnouts and identify specific reasons for each case. Suitable SVEEP micro-plans for improving voter turnout in the specific pockets or amongst the specific category of voters should be developed based on such studies in order to address the specific reasons in each case.
13. Make the electoral system truly accessible to PwD voters, sick voters and senior citizens. No polling station should be located on upper floors. Toilets should be fully accessible for both genders. Provisions of gentle ramps, quality wheelchairs, trained volunteers and facilities for sign language, Braille ballot sheets, magnifying glass etc., must be ensured. Voting compartment and Electronic Voting Machines (EVMs) should be easily accessible on wheelchairs and for the dwarf voters. Pick and drop facility and priority voting should be arranged for pregnant/lactating mothers, PwD voters, sick voters and senior citizens. Crèche facility should be provided with toys, cradles and other items for the convenience of women with small children. The compliance of assured minimum facilities at polling stations should be strictly enforced and accessibility audit done. Centenarian voters should be provided personalised services, escorted from and to their doorstep and felicitated for participating in the electoral process.
14. Involve the Booth Level Officers (BLO) in the efforts to enhance voter turnout in specific pockets. They can provide the meet-greet-call-sms-whatsapp servicers apart from delivering to them voter slips and personalised letters from the Returning Officer. This can be an effective way for increasing voter turnout if dovetailed with the evidence-based specific micro-plans.
15. Involve school children to persuade their parents through reasoning, pledge, etc., to participate in the electoral process for registration as well as for voting.

16. Introduce a provision to hold the election invalid if NOTA gets the highest number of votes in the constituency. That will encourage those voters who are disillusioned with the political parties, process and discourse and want to convey their disillusionment. It will in the long-run force political parties to adopt internal democratic processes and improve the quality of their candidates, manifestos and political discourse.
17. Make use of the SVEEP infrastructure of Electoral Literacy Clubs (ELC), Chunav Pathshalas and Voter Awareness Forums (VAF) in an optimal and regular manner to impart electoral knowledge and skills and create interest and enthusiasm amongst voters and future voters for electoral participation.
18. Manage the queue system at the polling stations so that voters are not inconvenienced and nobody has to be at the polling station for more than 30 minutes. An appropriate techno-management model should be developed for this purpose.

Recommendation

All policy alternatives except 1 and 8 are recommended.

Justification for the Recommended Alternatives

1. The recommended policy alternatives are all consistent with the rights-based voluntary electoral system of the country without an element of coercion.
2. Where an automatic system is advocated, an on-demand opt-out option is given consistent with the principle of voluntary free choice of citizens.
3. Most of the alternatives can be implemented at the level of CEO / DEO without requiring any legislative changes.
4. The alternatives are based on the pillars of electoral education, motivation, facilitation and empowerment, which will better prepare citizens to perform their civic duty leading to a stronger and more enriched democracy.
5. It will build up greater trust between citizens and the state and make our democracy more inclusive and participative.
6. It will enhance the festive character of our elections and stimulate creativity in the electoral system through SVEEP activities.

Feasibility

The proposed strategy is not inimical to the constitutional ideals or the interests of political parties. Hence the chances of consensus building are bright. There could be some resistance in case of expanding the scope of NOTA, which may not be insurmountable. Besides, most of the recommended alternatives are within the power of CEO / DEO anyway.

Conclusion

The problem of low electoral participation is a challenge, but it can be conquered through a series of initiatives which comprise a few legislative changes and several administrative measures as described in this policy paper. The flaws or inefficiencies in the existing policy framework have been identified and only such policy alternatives have been suggested which are eminently possible.

There is no country in the world the solutions of which can be replicated entirely in order to solve our problems, given our size and complexities. We need to understand the problem of electoral participation in India in all its local dimensions and then design an optimal solution to create best practices that can be emulated by other democracies. That is precisely what the policy paper has attempted to do.

Ranbir Singh

The author is an I.A.S. Officer of 1991 batch, AGMUT and was posted as Chief Electoral Officer and Principal Secretary Election Commission, NCT of Delhi at the time of writing this article.

Right to Response as a Legal Right: A Need for Indian Democratic Structure

Raghuraj Rajendran[1], Rinky Dixit[2]

Abstract

Citizens make requests to the State at different levels –from local to national. Getting a response from the State is necessary to ensure the dignity of an individual. The dignity of an individual is critical to ensuring "right to life". Thus, there needs to be a right to response that is assured to the citizens for them to have a dignified and meaningful realization of the right to life. There needs to be a concerted effort to have governments acknowledge this right. For this right to be effective there should be an administrative mechanism that is capable of delivering it. This article tries to normatively argue for the "right to response".

Introduction

"Democracy, like liberty, justice and other social and political rights, is not given. It is earned through courage, resolution and sacrifice". [i]

The contents of democracy are not cast in stone. The structures and processes that add up to make or keep a nation democratic are not static. They could be seen as a function of what is practicable at the moment-given the social, political and even technological capabilities of the state.

Nations anoint themselves as democratic and often leave the power in a representational structure to define the details. In the context of India, even a non-representational entity like the Judiciary has been instrumental in defining the contours of the institutions of governance-defining what is acceptable, preferable and aspired for.

In all of this, the unstated expectation is that the Constitution and the legal framework would be kept vibrant for "We, the People"-to be of service to them, in affording them the widest latitude that is possible to pursue happiness and dignity with the reasonable restitution that the right to such

---

[i] Aung Sang Su-Kyi, Burmese politician.

happiness or dignity does not infringe on eliminate enjoyment by others. It is in this context that there is a need to think about the "Right to Response" being made available to citizens. The citizen has entered into a contract with the State, in which one of the pre-conditions is that the dignity of the citizen would be respected. For this, it is important for the State to respond!

The "welfare state"[ii] has come a long way. As times have changed since the inception of the Indian Constitution, the requirements of a citizen have also changed. There is a long way to go to fulfill the requirements of citizens and to make India a state of transparency and accountability.

A constitutionally guaranteed right to response would ensure that the citizens have a legal right to get a response from government offices regarding their communications to State authorities. This would be difficult to implement at the policy level with even silence being viewed as a stated policy. It is therefore suggested that the same be made applicable at least at the level of administration-to render a response according to the stated policy of the State. To be able to do this, each interaction with the Government will need to be uniquely tracked irrespective of the level at which it is made.

Right to Response – A Legal Right

a) Meaning and its need in an Indian democratic structure

A "Right to response" would entail that a citizen has a right to get a response to the communication that she is making with the government. The response could be positive or negative. It could be that the citizen is asking for something that is not legally possible. It could be that there is no policy of the Government in which the request can be accommodated. In these situations, the reply is bound to be negative. Even so, it would qualify as a response.

It is quite possible that the administrative system requires some time to complete the service as requested by the citizen. It could have procedural formalities that need to be fulfilled. In these situations, it would require time for the completed response to be given. In this context, the initial response could be that a conclusive reply would be given by a particular date stating the procedure that needs to be followed.

[ii] By welfare state, it is not intended to mean a state spending on social welfare directly. It is only to suggest a state which positions itself to be in public interest, irrespective of mode of delivery.

Presently, for a competent authority it is not mandatory to dispose of the representation unless there is a writ of mandamus that has been issued by the Courts. To get a writ of such nature, involves cost. Again, the courts are found to be disposing of most of their cases with directions to respondents to decide the case as per rules. Such judgements make it a right only for those who move the courts to get a response. This is, in practice, a curious situation where a right is being created outside the legislature.

The State in India is pervasive in its presence and there is a huge dependence on the State as far as the common man is concerned. Certainly, there is a need to think of governance structures whereby the need to access authorities is reduced. In any case, if the access is required, it cannot be healthy to leave the access asymmetric. It is in this context that a defined right to response is required.

b) What is included in a Right to Response?

The Right to Response would contain statutory provisions to ensure time-bound delivery of responses to communications made to public officials by the citizens. It would also define the mechanism to penalize delinquent public officials if they fail to deliver the requested response within a stipulated time. The right to response would be one of the most effective ways to reduce corruption,[iii] enhance transparency in public sector operations and provide public accountability.

The responses could be

- The matter requested for by the citizen is genuine and has been done.
- The matter requested for by the citizen is genuine and will be done by <<date>> as <<procedure>> is involved.
- The matter requested for by the citizen is not genuine according to <<law>> and hence is filed.

The right would also define an appeal mechanism in which a higher authority can look into the responses given by a lower authority. This is akin to the Right to Services Act, the only difference being that the "right to response" would be wider, without a requirement for a notification of a service. It is akin to the

[iii] Defined as market mechanism for privileged access in "The profit at the bottom of the pyramid" by CK Prahlad.

Right to Information Act, but differs from it in that it will be deeper, with a requirement to a give response rather than just give information about the status of the matter.

c) General Procedure under a Right to Response Act

To make this right operational, it would be required to uniquely identify each and every interaction that a citizen makes with the State irrespective of the level at which it is made. In the present technological age, it would not be required of the citizen to physically visit a particular office to make a request. It should be possible for the person to register the request in the virtual account of any of the offices, say in a district, directly on the internet. Just as the Aadhar uniquely identifies an individual, the interaction with the government should be uniquely identified for future reference.[iv]

This would require that digital instances of all offices be created online so that citizens can access the same 24× 7. The credentials of the citizen can be verified using Aadhar or mechanisms like OTP sent to the mobile phone number of the person registering the communication. There should be a facility to give an instant receipt to the citizen via the mobile device registered. An instant intimation about the request should also be given to the official who is to give the reply. It could be so programmed that the contact details of the person making the request is also sent immediately to the official who needs to make the reply. This would enable prompt communication to know the details of the request, if need be.

There would be a need to link the online software application accepting the request to other government databases like land records, resident data bases, databases of infrastructure, GIS-based maps, etc., so that proper referencing of the request of citizens can be done about the requests with clarity on what is asked for by the citizen.

In case an application gets registered at a location where the original jurisdiction to attend to the same is not available, it should be possible to forward the same with a trail. The intimation should go to the citizen also so that the movement of the matter in this regard is transparently recorded and communicated.

[iv] In the event of using Uttara.nic.in, it will be the Uttara id of the interaction. A similar unique identification would be required for the infrastructure being created by the government funds at local level like roads and wells to avoid duplication – within and across schemes.

d) Advantages

India accepts the right to life as a fundamental right that is granted constitutionally. It has been brought out clearly that the right to life implies the right to live with dignity[v] and not merely animal existence. When citizens make a communication with the State, and the State does not respond, their dignity gets affected adversely. It is akin to a stonewalled conversation. Thus, to give a life of dignity to individuals, it is important to have a right to response!

One cannot enforce this right against other fellow citizens as it would be beyond the capability of any one citizen to be responding to all the stimuli that are received from other fellow citizens. However, this would be required of a State which swears by transparency and responsiveness. Thus, the right to response can be seen as an integral part of the right to life and an inextricable part of good governance.

Advantages Detailed

The regime of the right to response has some advantages for all stake holders. The note below is briefly attempt to explain the same-

For the Citizen: This would be the most obvious part. The citizens would have a much more meaningful and dignified life. The social contract that was made would be more amenable to perception with a continued dialogue between the partners in the contract.

The citizen would be able to access facilities according to the stated policies and programs of the State. There would be a clearer picture regarding the responsiveness of Government and administration of the State. This would enable better governance.

There would be more symmetry in access. In the present state of affairs, it is not unusual to find citizens jostling to thrust a paper into the hands of a District Magistrate or a visiting minister. With a system that assures receipt and response, the undignified wait that common citizens have to make would be rendered unnecessary.

The system also envisages sharing reasons with the citizen. This enables the

[v] Justice KS Puttaswamy (Retd.) Vs. Union of India (2018 SC).

citizen to transparently see the responses given to others similarly placed. This makes the administration more transparent.[vi]

For Senior Civil Servants: In public service, work is often so different and distributed that it is not easy to get data on what is the level of pendency in different offices. It is also not easy to re-allocate staff for want of information regarding the required numbers at different levels and locations at different times. With each communication being tracked, it would be possible to identify the locations that need more administrative support. Reallocation of resources can be accordingly made. Capacity augmentation of staff as per dynamic requirement would also be possible in this scenario.

The unique tracking of applications and responses to applications enables administrators to quickly access the details of a case if and when there is an occasion to. Many times, precious time is lost in getting the required details of a case and in the process genuine things do not get done. Accessing information to realize that a particular request is not genuine would also be important to prevent clogging of the system. With interactions tracked digitally, it would be possible to bring out similar applications made in the past by the individual by going into the data even if the citizen does not make the information regarding previous applications available.

On many occasions, pendency regarding a matter that has been brought to the attention of an office determines the credibility of an office / officer. This could be helpful especially in situations when credibility is of the utmost importance like that in a law and order situation. If the officer is able to access details regarding a past application in such situations, it could be beneficial.

With data regarding interaction with Government available online, it would be possible for officers to monitor and analyze work of the subordinate offices in a more meaningful manner. The analytics that is possible with online data would be crucial in providing good governance.

For Functionaries: For lower-level functionaries, there is often no secretarial or clerical support. This makes their offices inefficient in chronicling or making communications with the public. Many offices at the lowest administrative

[vi] This would have the disadvantage of a political decision in the interest of specific circumstances of the case being made difficult. Here, the administration would be needing other political instruments/institutions whereby such decisions can be made where there is an allocation of resources which is not strictly according to the stated policy in the interest of justice. Here, the decentralized governance structures who can transparently make such political decisions will be seen to be of value.

level have only one single person. An automated system to track applications and responses helps them to keep a track of the communications and automatically formulates a "To Do" list for them which they can use to deliver responses and services.

It also makes the functioning of the office more transparent, obviating incorrect and motivated allegations of corruption and nepotism. Having a transparent mechanism to see the number of cases pending before an individual for attention would help in avoiding action on politically motivated complaints.

For the Judiciary: A lot of judicial time is consumed by applications in which they merely direct the authority concerned to consider the application. If it is defined as a right and a practical regime is set up, each communication with the Government would be amenable to tracking. This would enable the Judiciary to have a closer view of the administrative response before exercising judicial powers entertaining the application. In a way, it gives a right of response to administration before proceedings begin in a judicial court. This would imply achieving natural justice on part of the administration too.

e) Disadvantages

The provision of a legal right to response has many disadvantages or difficulties depending on the way you look at it. The sheer scale of administrative capacity needed to respond in a time-bound manner to any and every communication that might be made by the citizens would be very high. It is vulnerable to misuse by citizens by raising non-issues. Many a time, responding specifically to a question by one of the citizens would be politically inconvenient to the Government as it would stand exposed on a particular issue.

Response to Disadvantages

With the present administrative structure and processes, it would be difficult, if not impossible, to deliver on a right to response. It is, therefore, necessary to set up a practical regime which can deliver this right. To start with, the right could be made applicable at the non-policy level or the administrative level. This would mean that a response according to the existing policy is given within a time-frame.

The reply could be that the particular communication has been positively addressed. It could be that the action cannot be legally or "as per policy" done as asked for in the communication. Again, the reply could be a time-limit which is committed to the citizen in which the particular action will be done. This would be easier to realize at the administrative level as it is concerned only with implementation of policy and not the framing of policy. This would obviate the need to move the Judiciary for a prerogative writ as detailed in the previous section. All of that cost can be saved for the society if there is a defined right. The judiciary or any other agency could get involved when there is an explicit violation of that right. Not defining this right would mean that there is a very high entry barrier to be able to access the same. A market mechanism for preferential access is a famous definition for corruption:

(Prahalad, C. K. 2005). Not making it a right, makes the enforced opportunity chance to such a response available only to a class of citizens who can move the court.

The difficulty of the Government in a matter being exposed is a problem for the Government and may be a solution for the people. It may take only a question in the legislatures to compel the Government to determine its stance on a matter. In a way, the right to response places the right that is now the exclusive purview of the legislature and the judiciary in the hands of the people.

This would be administratively challenging in terms of the capacity of the Government to deliver. A practical regime in this sense can only be achieved by having a systemic use of information technology as a force multiplier. It would have been difficult to conceptualize of a government which is able to efficiently reply and communicate replies to its citizens in the pre-internet days. With the present state of the internet and the computing capacity available with Governments, such a right granted to citizens is eminently possible. This has been done to a limited extent in the right to services. Here it would be a broadening of the scope of the responsiveness of the State to other areas or services which are not notified.

The practical implementation of the right to response would mean that the inward / outward register of each government office, irrespective of the level, should be available for public view. The inward register should be open to public access for "writing in" the communication to be made to the office.

Often, it is found that the functional levels of administration are bypassed by citizens in an attempt to directly reach the more visible person / office.[vii] This happens as the citizens are not confident of a reply forthcoming from other levels. They are often unsure if their application is registered. For a practical regime, all levels of Governments should be available for direct transparent public access, so that all communications and responses can be tracked and monitored.[viii]

Right to Response versus Right to Information

Under the Right to Information Act (RTI), a right has been given to the citizen to get information from public authorities. However, this is still in the form of giving information regarding the status of an application. There is no mandate for a response to be made. The information regarding the application could be that it is pending for consideration, which does not add value to the citizen.

Right to Response versus Right to Service

Many States provide the right to services as a legal right to their citizens. This however, is restricted to notified services. Mostly, services are in the nature of certification of an already existing fact related to the citizen.[ix] Thus, the right is not extended to all services. It is not applicable to a matter in which the response of the State is not in the form of a service to an individual. Thus, such a right is not applicable to many of the public services. Developed nations with effective administrative cultures, do respond to communications in a time-bound manner as a matter of practice. But it is often not defined as a right which is legally enforceable.

Right to Response versus Grievance Redressal

Many states have put in place grievance redressal mechanisms which give a number to unique identification to complaints made. There are some important distinctions between the “Right to Response” and an online grievance-redressal mechanism.

[vii] A typical case in point is the office of the DM, CM, PM.

[viii] A practical attempt in this regard is www.uttara.nic.in made in the Madhya Pradesh state of India, whereby all offices in the district were made available for public access. There was no legislative backing for the effort. Administratively, it did not sustain. UTTARA expands as Universal Transparent Tracking of Applications and Responses to Applications. Uttara, in Hindi, means answer.

[ix] This should have been done through a resident data base, which automatically certifies a person’s caste and other details without need for an application from the citizen and subsequent exertion by the machinery.

- This framework seeks to register the application or first point of interaction rather than a grievance. In this manner, this is one level before the grievance redressal mechanism.
- The fact that the original application and not the related grievance is being captured by the system changes the attitude of the office which is involved in the redressal of the grievance. There is no bias to justify action that has been taken (or not taken) in the earlier interaction which provides for more positive governance.
- In grievance redressal mechanisms, grievances are centrally registered and then sent to a decentralized agency for resolution. This could lead to the following issues
  - Bonafide incorrect marking of the complaint: The citizen knows where the complaint belongs. However, this is left to the intelligence and interest of the operator in a centralized control room which often leads to improper forwarding of applications.
  - Grievance-redressal mechanisms often do not add to the capacity at the lowest operative level whereby they are able to respond to complaints.

Conclusion

The right to response can provide a strong support to democracy and promote good governance, by empowering the citizen to participate effectively and hold government officials accountable. In this manner, it will re-define democracy.

Tackling corruption through individual-centric interventions like Lokpal might lead to problems that undermine the democratic structure itself. A solution could be worse than the problem. The right to response would involve a paradigm shift. This would make the citizen a dignified partner in the social contract. Access would be more seamless and meaningful. The society would be more transparent. This would force more accountability in governance and usher in practices of good governance in all fields, including decentralizing decision-making structures and processes at appropriate levels. Certainly, it would have its own set of difficulties. To have a meaningful implementation of the right to response, it has to be introduced in a calibrated and planned manner.

References

Analysing the Right to Information Act in India, Viewed on 18 Jan 2018 (https://shodhganga.inflibnet.ac.in/bitstream/10603/102441/11/11_chapter-4.pdf).

Deb Aishwarya & Chowdhary Prithwish: Roy A Decade of the Right to Information Act, 2005 – Critical Exploration of the Scope and Impact of the Act, Viewed on 10 Jan 2018 (http://docs.manupatra.in/newsline/articles/Upload/1FFC4018-052F-4715-9D59-F16465703352.2-g__RTI.pdf).

Ed. 2017: Constitutional Democracy and Government in India, (Atlantic Publishers and Distributors Pvt Ltd).

Jain, M.P., 4th edition (1987): Indian Constitutional Law (Nagpur: Wadhwa & Co).

Maheshwari V. The Constitution of India– The Expanding Horizons, Viewed on 13 Jan 2018 (http://www.legalserviceindia.com/articles/art222.htm).

Pandey, Dr. J.N., 48th edition (2011): The Constitutional Law of India, (Central Law Agency).

Prahalad, C. K. (2005): The fortune at the bottom of the pyramid (Upper Saddle River, NJ: Wharton School Publishing).

Roy, A. (2013): Importance of Democracy in India, Viewed on 13 Jan 2018 (https://www.importantindia.com/2423/importance-of-democracy-in-india/).

Upadhyay, Prashanti (2003):Is Preamble Part of Constitution, Viewed on 11 Jan 2018 (http://www.legalservicesindia.com/article/2003/Is-Preamble-a-Part-of-Constitution.html).

Laskar Sahina Mumtaz (2016): Importance of Right to Information for Good Governance in India, Viewed on 10 Jan 2018 (http://docs.manupatra.in/newsline/articles/Upload/AC9CD2C7-B8AD-4C5A-B910-3751BFE5CB28.pdf).

Raghuraj Rajendran

The author is an I.A.S. officer of 2004 batch, Madhya Pradesh cadre and was posted as Deputy Director, LBSNAA, Mussoorie at the time of writing this article.

Rinky Dixit

The co-author was posted as Teaching Associate in Law, LBSNAA, Mussoorie at the time of writing this article.

Reaching the Unreached Districts through CSR

Sanjeev Chopra

Abstract

This paper is an attempt to present a perspective about the possible areas of interventions that may be considered by the government to ensure that Corporate Social Responsibility (CSR) spending by the corporates makes its way into the "unreached districts,"[1] thereby creating maximum impact at locations with the highest need. The case of Odisha has been used to highlight the locational disparity in the CSR projects, with majority of the CSR spend taking place in the vicinity of industrial units. The paper also aims to address the key issues faced by the corporates in selection and implementation of impactful projects under CSR. It is proposed to create an institutional mechanism involving various stakeholders to align CSR activities with the development goals of the respective States. Such an institutional mechanism coupled with a one-stopcomprehensive portal can help bring in transparency and geographical diversity in CSR spending. A combination of institutional and regulatory changes has been proposed to ensure successful implementation of CSR projects in the "unreached districts."Adoption of such an approach can help in CSR projects playing a significant role in the development of "unreached districts"inrespective states.

Problem Description

In April 2014, India became the first country in the world to bring about a legislation to implement CSR activities. Section 135 and Schedule VII of the Companies Act, 2013 lay down the guidelines for the corporates to undertake CSR activities in the country. The total CSR expenditure in the country is expected to have crossed Rs. 50,000 crore[2] since the introduction of the legislation. However, currently there is no focused approach, nor a statutory

---

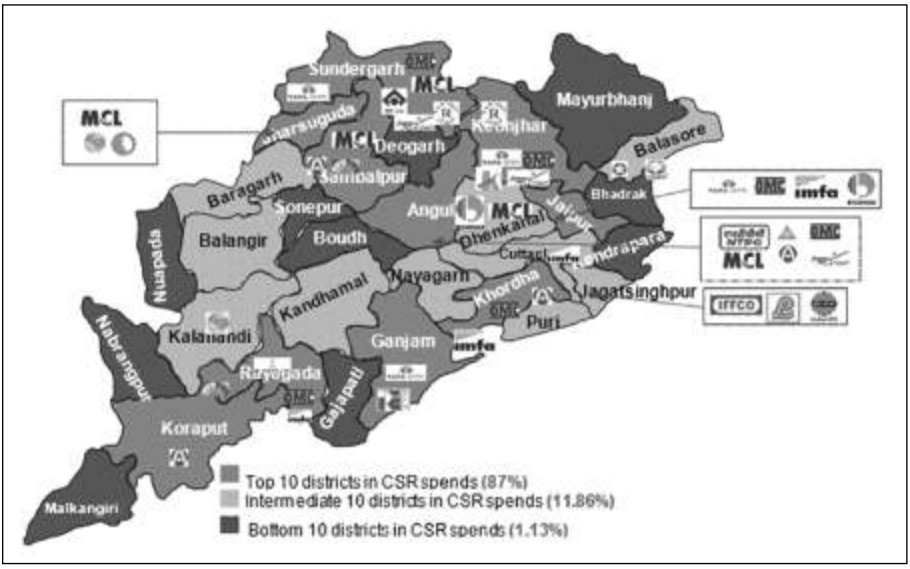
[1] For the purpose of this paper, "Unreached districts" are defined as less developed non-industrial districts which have seen minimal support under CSR from the corporates in development activities.

[2] Nambisan, R & Mohapatra, S 2019, The CRISIL CSR Yearbook 2019, viewed 9 June 2019, https://www.crisil.com/en/home/our-analysis/reports/2019/02/rs-50000cr-the-crisil-csr-yearbook-2019.html.

provision, to ensure CSR spending reaches the "unreached districts." As a result, CSR spending has taken place as per the judgement of corporates primarily in the vicinity of their geography of operations. A focused approach is required to ensure that CSR initiatives are dovetailed with the development requirements of various regions and they reach marginalized sections to create sustainable impact.

Odisha has seen a CSR expenditure of approximately. Rs. 2,161 crore during the period April 2014 – December 2018, i.e.,approximately~Rs.500 crore per year. An analysis of the district-wise CSR expenditure shows that there is a skewed pattern of CSR spending in the State with the corporates preferring to spend in the immediate vicinity of their industrial units as is evident from the map below:

CSR spending in Odisha



Source: IPICOL, Odisha

3 districts in the State have received ~48% per cent of the total CSR spending, and 20 other relatively less industrialized districts receiving ~13% per cent of the spending. In fact, 10 of these 20 districts have received only 1.13% per cent of the total CSR spending.

Further analysis of the CSR spending by the top 10 corporates with respect to their CSR spending in the State is presented in the table below. These 10

corporates have alone contributed 81% per cent of the total CSR spending in the State.

CSR Spending in Odisha

Sl.	Company	CSR Spend in top 10 Districts "A"	per cent of Spend	CSR Spend in other 20 Districts "B"	per cent of Spend	Total CSR Spending "C"= "A"+ "B"
1	Mahanadi Coalfields Limited	68,189	86	10,666	14	78,855
2	Tata Steel Limited	42,415	96	1,844	4	44,259
3	Odisha Mining Corporation	9,597	73	3,497	27	13,094
4	Rungta Group	9,731	95	496	5	10,227
5	National Aluminium Co. Limited	9,611	99	81	1	9,692
6	Hindustan Aeronautics Limited	4,582	100	0	0	4,582
7	Vedanta Limited	1,082	29	2,647	71	3,729
8	Serajuddin & Co.	3,673	100	0	0	3,673
9	JK Paper Limited	3,537	100	0	0	3,537
10	Utkal Alumina International Limited	3,286	100	6	0	3,292
		155,703	89	19,236	11	174,939

As is evident above, 89% per cent of the CSR spending by the top 10 corporates has been in the industrially progressive districts, and only 11% per cent has been undertaken in the 20 "'unreached districts'."A majority of these 20 districts score low on various Human Development Indices(HDIs) and are less developed as compared to the national benchmarks. Therefore, channelizing of CSR interventions by the Corporates can create significant positive impact towards improving lives of the people in these districts.

Review of the Current Policy

The current guidelines under Section 135 of the Companies Act 2013,as summarized in Annexure "1" attached to this paper, state that the corporates with either net worth of minimum Rs. 500 crore or turnover of minimum Rs. 1,000 crore or net profit of minimum Rs. 5 crore during the immediately preceding financial year are mandated to spend at least 2 per cent of its average net profit during the three immediately preceding financial years on CSR activities anywhere in India, provided that the company gives preference to the local area and areas around it where it operates, for spending the amount earmarked for CSR. The themes around which CSR can be undertaken is laid out by the Ministry of Corporate Affairs under Schedule VII of the Companies Act, 2013, provided as Annexure "2" to this paper.

Under the current framework, corporates identify the target locations and projects for CSR intervention through their internal research, requests received from district administration, public representatives, etc. Preference, in most cases, is provided to locations in vicinity of their operations primarily to maintain a more conducive atmosphere for their business operations. This approach has resulted in confinement of CSR interventions to the industrial regions, which are usually progressive as compared to the non-industrial areas, although the statute allows CSR expenditure anywhere in India.

Policy Alternatives and Evaluation

To ensure that there is a more equitable distribution of CSR spending and the interventions reach the "unreached districts," a strategic approach needs to be taken. There could be multiple approaches which could be undertaken to enable corporates increase their spending in the "unreached districts."Three such alternate approaches are summarized below:

a) Creation of a common pool to accumulate funds for undertaking CSR

CSR funds for the "unreached districts"and blocks could be collected in a common pool created to undertake developmental activities. A state-level CSR committee may be formed to administer the pool of funds and undertake projects in sync with the development priorities of the state. The CSR committee could select target blocks / districts including shortlisting of the interventions needed in such areas. These target blocks / districts could be

saturated with interventions required in a particular sector over a period of time (say 3–5 years) before moving to other blocks/districts. Such a mechanism of creation of common pool would be particularly beneficial for smaller companies who may not have sufficient resources/budgets to undertake CSR projects in "unreached districts."The key drawbacks of putting in place such a mechanism are:

- Non-utilization/spending of the funds by the government due to lack of capacity with the concerned line department at the district level.
- Lack of flexibility/innovation in the selection/implementation of the projects.
- Low sense of fulfillment for the Corporate as the projects are chosen and implemented by the government.

b) Advisory to spend a minimum amount of CSR funds in "unreached districts"

An advisory by the government to corporates can also help ensure increase the availability of funds for undertaking development activities in the "unreached districts." The State governments may notify the "unreached districts" from time to time. However, this approach also presents implementation challenges as the Corporates may not be able to identify appropriate type and size of projects or the projects taken up may not align with the developmental requirements of the concerned district.

c) Creation of a database of projects in "unreached districts" for the corporates to consider

In this approach, it is proposed that the States put in place a mechanism to identify high-impact projects in "unreached districts" which could be considered by the corporates for implementation. Such an approach would provide flexibility to the corporates to choose the projects and subsequent implementation through the agency of their choice. Besides, the corporates also get an opportunity to derive more visibility for their intervention.

A State level committee may be setup to decide on district-specific projects, based on there levant HDIs and the development agenda of the state and recommend shortlisted projects from among the ones sponsored by district administrations and welfare departments. Hence, the role of the State government could be limited to that of a facilitator towards identification of suitable projects for consideration of corporates and subsequent review of the outcomes, once implemented.

The key challenge in this approach would arise in identification of large pool of suitable projects with varied project sizes to enable all corporates with wide-ranging CSR spend and districts of preference.

Recommendations

Based on consultations with various stakeholders, it is understood that the key issue faced by the corporates while planning for CSR interventions is the information asymmetry unavailability of information with respect to the local needs and the corresponding projects with the corporates and lack of knowledge on the part of government about the CSR projects actually undertaken by the corporates. There is no institutional mechanism for a collaborative and holistic approach to plan CSR initiatives at the state level which could have maximum impact keeping in view the local requirements.

It is recommended that a combination of the second and the third approach described above, i.e., identification of suitable projects by State governments along with a mandatory spend a minimum of 20 per cent of the total CSR amount in the"unreached districts," could help in the target districts garnering significant interest from the corporates. It is proposed that the relevant Clause in Companies (Corporate Social Responsibility Policy) Amendment Rules, 2016 could be modified in the following manner to effect this change:

Existing Clause	Proposed Clause
4(4) Subject to provisions of Sub-section (5) of Section 135 of the Act, the CSR projects or programs or activities undertaken in India only shall amount to CSR Expenditure	4(4) Subject to provisions of Sub-section (5) of Section 135 of the Act, the CSR projects or programs or activities undertaken in India only shall amount to CSR Expenditure Provided that the company shall spend at least 20 per cent of its spending earmarked for Corporate Social Responsibility activities in the "unreached districts." The "unreached districts" shall be notified by the State governments from time to time

The State governments may create a database of recommended projects for consideration of the corporates. Corporates should be provided the flexibility

to select the projects and implement those through agencies, as deemed appropriate.

The State governments may form an institutional mechanism by constituting a state level CSR committee comprising of concerned stakeholders including government departments, corporates, NGOs and academia to help formulate periodic strategies to steer the CSR activities. The respective district administrations / welfare departments could propose projects based on the requirements of the locations and the CSR committee could scrutinize and recommend projects for consideration by the corporates. Districts and welfare departments must identify a large pool of high impact projects spread across the "unreached districts."

Dedicated nodal officers at the block / district level may be appointed who could play a major role in handholding the corporates by providing necessary local support / clearances thereby helping in timely implementation of the projects. A periodic review of the CSR interventions in the "unreached districts" may be undertaken by the CSR Committee to ensure quicker implementation of projects on ground by ensuring coordination among various concerned Departments, as applicable and necessary.

An online interactive portal capturing all information related to CSR activities may be developed. Key information on projects (such as location, size, sector, expected outcome, etc.) recommended by the CSR committee could be made available on this portal. Such a portal could also act as a central repository capturing details of the CSR activities undertaken in the respective States. Moreover, to help corporates make informed decision with respect to selection of suitable projects from the portal, block-level and district-level HDIs could be made available on the portal. As part of the disclosure process, the corporates could be encouraged to upload all information of their respective CSR projects on this portal to bring in transparency with respect to the implementation of projects. In case of non-compliance of spending the prescribed minimum amount in the "unreached districts," the corporates could be mandated to disclose in their Annual Report the constraints for compliance and the remedial action proposed to be taken.

To ensure a more focused approach, governments may introduce "Adopt a Block / Village" strategy wherein corporates could adopt a block / village for a

period of time (say, three years) and undertake various developmental activities as per the specific requirements of the identified block / village, as further detailed in the Annexure "3" to this paper.

Further, the state governments may organize "CSR challenge" workshops at the beginning of each financial year where district administrations of "unreached districts" could showcase the interventions proposed as well as the blocks for the "Adopt a Block" program, for consideration of the corporates. The workshops could cover brief of the intervention including the baseline situation, scale of intervention required, location of project, possible impact and outcome of the proposed projects. Such workshops could be attended by the CSR teams of the corporates who may select the projects / blocks as per their preference for implementation. Such workshops will also help in creating more awareness and improving the uptake of the identified interventions.

To further encourage the corporates, CSR awards may be constituted and widely publicized to recognize most scalable, replicable and impactful projects taken up by the corporates especially in the "unreached districts."For effective implementation, all corporates must be encouraged to undertake baseline and impact evaluation studies of the interventions.

Conclusion

With the rising economy and growth in industrialization, the CSR expenditure by corporates is bound to see a significant rise. Considering the large scale of CSR expenditure which can significantly benefit the society, it is necessary that state governments introduce suitable institutional interventions. A robust, data-driven, transparent institutional mechanism can channel CSR spending to reach the "unreached districts" creating a positive impact in the areas with the maximum need. Also, the proposed intervention can improve the transparency and reduce the information asymmetry currently existing with respect to undertaking CSR initiatives across the country. It is believed that the proposed interventions can assist the corporates in better understanding of the field requirements to plan their CSR projects and also help the respective governments to better appreciate the impact of CSR initiatives being undertaken in the States.

ANNEXURES

Annexure 1: Section 135 of Companies Act, 2013

(1) Every company having net worth of Rs. 500 crore or more, or turnover of Rs. 1,000 crore or more or a net profit of Rs. 5 crore or more during the immediately preceding financial year shall constitute a Corporate Social Responsibility Committee of the Board consisting of three or more directors, out of which at least one director shall be an independent director.

(2) The Board's report under Sub-section (3) of Section 134 shall disclose the composition of the Corporate Social Responsibility Committee.

(3) The Corporate Social Responsibility Committee shall-

- formulate and recommend to the Board, a Corporate Social Responsibility Policy which shall indicate the activities to be undertaken by the company [in areas or subject, specified in Schedule VII]
- recommend the amount of expenditure to be incurred on the activities referred to in clause (a); and
- monitor the Corporate Social Responsibility Policy of the company from time to time.

(4) The Board of every company referred to in Sub-section (1) shall:

- After taking into account the recommendations made by the Corporate Social Responsibility Committee, approve the Corporate Social Responsibility Policy for the company and disclose contents of such Policy in its report and also place it on the company's website, if any, in such manner as may be prescribed; and
- ensure that the activities as are included in Corporate Social Responsibility Policy of the company are undertaken by the company.

(5) The Board of every company referred to in Sub-section (1), shall ensure that the company spends, in every financial year, at least 2 per cent of the average net profits of the company made during the three immediately preceding financial years, in pursuance of its Corporate Social Responsibility Policy:

Provided that the company shall give preference to the local area and areas around it where it operates, for spending the amount earmarked for Corporate Social Responsibility activities:

Provided further that if the company fails to spend such amount, the Board shall, in its report made under clause (o) of Sub-section (3) of Section 134, specify the reasons for not spending the amount.

Annexure 2: Schedule VII of Companies Act, 2013

Activities which may be included by companies in their CSR policies. Activities relating to:-

- Eradicating hunger, poverty and malnutrition, ‘‘promoting health care including preventive health care’’ and sanitation including contribution to the Swach Bharat Kosh set-up by the Central government for the promotion of sanitation and making available safe drinking water.
- Promoting education, including special education and employment enhancing vocation skills especially among children, women, elderly and the differently abled and livelihood enhancement projects.
- Promoting gender equality, empowering women, setting up homes and hostels for women and orphans; setting up old age homes, day care centers and such other facilities for senior citizens and measures for reducing inequalities faced by socially and economically backward groups.
- Ensuring environmental sustainability, ecological balance, protection of flora and fauna, animal welfare, agroforestry, conservation of natural resources and maintaining quality of soil, air and water including contribution to the Clean Ganga Fund set-up by the Central government for rejuvenation of river Ganga.
- Protection of national heritage, art and culture including restoration of buildings and sites of historical importance and works of art; setting up public libraries; promotion and development of traditional art and handicrafts;
- Measures for the benefit of armed forces veterans, war widows and their dependents;
- Training to promote rural sports, nationally recognized sports, Paralympic sports and Olympic sports.
- Contribution to the Prime Minister's National Relief Fund or any other fund set-up by the Central Govt. for socio-economic development and relief and welfare of the schedule caste, tribes, other backward classes, minorities and women.
- Contributions or funds provided to technology incubators located within academic institutions which are approved by the Central Govt.
- Rural development projects.
- Slum area development.
- Disaster management, including relief, rehabilitation and reconstruction activities.

Annexure 3: "Adopt a Block" Strategy

"Adopt a Block" strategy is aimed at bringing in more focused and systematic CSR spending by the Corporates with measurable results. The Corporates may adopt a block for a minimum of 3 years. For instance, in Odisha, such strategy could be introduced for blocks located in 20 "unreached" districts discussed earlier to attract CSR interventions.

States such as Odisha receive levies / royalty / penalties as contribution from the mining lessees for the extraction of minerals from the State. These levies are deposited in the funds of District Mineral Foundation (DMF) and Odisha Mineral Bearing Area Development Corporation (OMBADC). DMF is a non-profit body / trust set up as per the Mines and Minerals (Development & Regulation) Amendment Act, (MMDRA), 2015, in mining affected districts, to work for the interest and benefit of persons and areas affected by mining related operations. Similarly, OMBADC is a special purpose vehicle created by the State government to improve social infrastructure / carry out developmental activities in mineral bearing regions of the State. Since the blocks covered under either of these two schemes, i.e., DMF and OMBADC, receive significant amounts for carrying out development activities, the remaining (i.e., non-DMF and non-OMBADC) blocks could be targeted under the "Adopt a Block" scheme. District authorities can identify such target blocks in the "unreached districts" which the corporates could consider to adopt as part of their CSR interventions.

Sanjeev Chopra: *The author is an I.A.S. officer of 1990 batch, Odisha cadre and was posted as Principal Secretary, Home Department, Government of Odisha at the time of writing this article.*

Improving Access to Credit for Tenant and Landless Farmers - Use of Technology and Data Analytics

Saurabh Garg

Abstract

Small and marginal farmers, and particularly tenant and landless farmers have a high dependence on the informal credit system in the absence of quick and easy access to formal credit institutions. Non-availability of credit through banks, exorbitantly high interest rates and coercion by money lenders has led to increased stress on farmers. Although the banks have focused on the expansion of branches in rural areas, and more recently on opening accounts under the Jan Dhan Scheme, and despite the efforts of the government like KCC and interest subvention schemes, the landless and tenant farmers have not been able to avail of these mainly due to non-possession of land record documents. Certain innovative measures like finance through Micro-Financing Institutions (MFIs) and formation of Joint Liability Groups (JLGs) have been evolved to solve the issue but they still fall short by a big margin.

A new method of creating the credit history of farmers through data sets existing with the Government has been proposed. It would involve combining the data with modern-day technologies like machine learning, psychometric analysis, GIS and remote sensing for creating trustworthy farmer profiles and evaluation of crop conditions, which can be used by Non-Banking Financial Companies (NBFCs)/Banks for reducing the of operational cost and check the credit worthiness of the farmers for real-time reduction of risk. This would result in lower interest rates as compared to what exists in the current scenario and ensure better access to agricultural credit.

Agricultural Credit - Dependence on the Informal Sector

Credit (Loans / Debt) plays a crucial role in the lives of agriculture-dependent rural households in India. Farmers are dependent on loans to cover the cost of inputs like seeds, fertilizers, water, labor and pesticides, apart from the funds required for storage and processing.

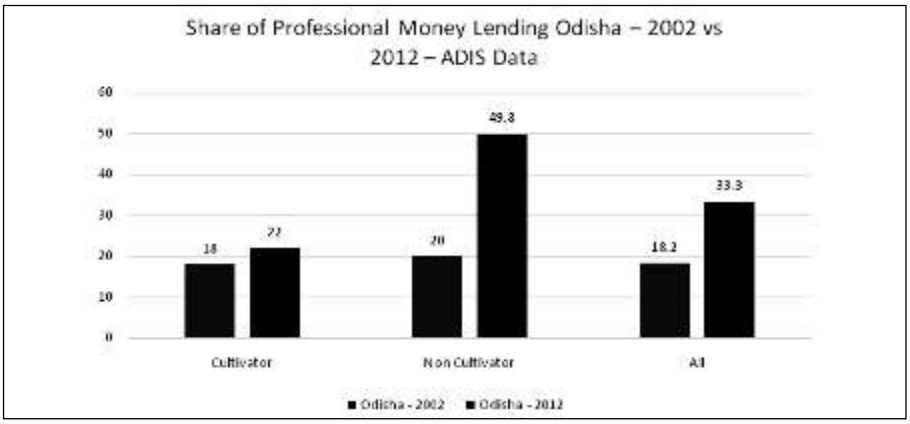
Farmers are dependent on the vast network of financial institutions including formal and informal agencies for these loans. The formal sources of funds include the government, banks and cooperatives, whereas the informal

sources comprise the landlords, professional money lenders, traders, relatives, etc. The Agriculture Professional / Money Lenders form a major source of credit for the farmers in the villages in the absence of a robust rural credit system.[1]The situation is worse for the landless and tenant farmers as they do not have the option of borrowing from the formal sector due to non-possession of appropriate documents like land lease, etc., and because non-institutional sources offer quick money.

For example, Odisha is largely a rural and an agrarian economy. Close to 83 per cent of its people live in rural areas and about 61.8 per cent percent of its 17.5 million workforce is employed in agriculture.[1] There has been a phenomenal rise (around 30 per cent) in the share of non-cultivators (tenant and landless agricultural laborers) who have borrowed money from professional money lenders in Odisha[2] for agricultural purposes.

In a series of interviews done on 41 suicides that took place in 2014 in Odisha, it was found that due to banks / cooperatives not extending loans to them, they had been compelled to take loans from moneylenders and SHGs at high interest rates, often, forcing them into a debt trap. [3]Across India "Bankruptcy or Indebtedness" are reported as major causes of suicides among farmers / cultivators, accounting for 38.7 per cent (3,097 out of 8,007 suicides) during 2015.[4]

Figure 1: Share of Professional Money Lending in Odisha-Comparison between 2002 and 2012[5]



[1] Census 2011
[2] All India Debt and Investment Survey 2002-03 and 2012-13
[3] Why Farmers quit? A study on farmer suicides in Odisha by Indo-Global Social Service Society
[4] Accidental Deaths and Suicides in India-NCRB 2015
[5] All India Debt and Investment Survey 1971-72 and 2012-13

The data and analysis above manifest the increasing dependence on informal sources of income and distress caused by it among farmers due to high interest rates and coercive methods used by the money lenders.

Formal Credit System-Not Enough for Farmers

The commercial banks were mandated to open branches in rural areas after nationalization in 1969. Due to this mandate, the number of rural branches has increased from 1,833 in 1969 to about 47,000 in 2016.[6] The increase in the branches in rural areas has resulted in the share of the credit via Institutional Agencies from 29 per cent in 1971 rising to 56 per cent in 2012 at the all India level and 30 per cent in 1971 to 57 per cent in 2012 in Odisha.[7] In the last decade, the growth of bank correspondents has also increased the penetration of banking.

Along with the push on increasing the number of branches in rural areas, there has been a major thrust by the government to improve the institutional credit to agriculture sector. This is evident from the emphasis on the Kisan Credit Card scheme, interest subvention scheme, setting targets for priority sector lending for the banks, among others.

Despite the increase in the branches of banks in rural areas and push by the government to improve the availability of credit through these institutions, the dependence on the informal sector has remained substantial.[8]

Figure 2: Distribution of Loans by Sources in India[9]

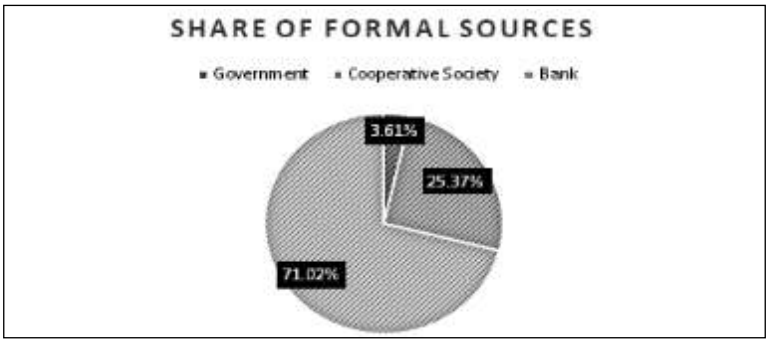
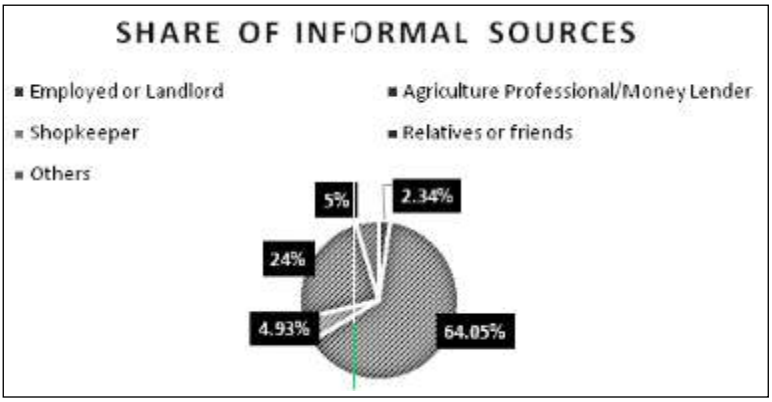


Figure 2: Distribution of Loans by Sources in India[10]

[6] Report on Trend And Progress of Banking In India 2016-RBI
[7] All India Debt and Investment Survey 1971-72 and 2012-13
[8] NSS KI (70/33): Key Indicators of Situation of Agricultural Households in India
[9] Institutional versus Noninstitutional Credit to Agricultural Households in India by Anjani Kumar *et al*-March 2017
[10] Institutional versus Noninstitutional Credit to Agricultural Households in India by Anjani Kumar *et al*-March 2017



Figures 1 and 2 reveal that informal sources of rural credit account for about 36.4 per cent of the loan volume for agricultural households, and professional moneylenders (64 per cent) are the largest source of informal credit.[11]

A study done in Sambalpur, Bargarh, and Kalahandi districts of Odisha shows that poor and the marginalized peasants borrow more from the informal credit market. For them, moneylenders and shopkeepers are the two most important source of borrowing.[12]

The major reason for the lack of access to the formal credit system for small and landless farmers' can be attributed to lack of land records or tenancy contracts. There are many farmers who do not have these documents as the mutation does not take place automatically. Another shortcoming of the land records based loans is getting an NOC from all the banks in the vicinity, making it cumbersome for the farmer. For the landless farmers, the stringent tenancy laws make it difficult to get credit from formal systems due to lack of tenancy contracts. The tenancy law acts as a strong deterrent from providing any documentation for fear of losing the land for the landowners.

This is further amplified by the ease at which the money is available from the moneylenders and traders in the rural areas. The urgency to secure capital for farming clubbed with requirement of very little or zero documentation in the informal credit system has ensured its significance in the agriculture credit ecosystem.

[11] Institutional versus Noninstitutional Credit to Agricultural Households in India by Anjani Kumar et al – March 2017

[12] Behind Agrarian Distress: Interlinked Transactions as Exploitative Mechanisms by Deepak K Mishra E-Pov, Centre for Science and Environment (2005)

Formalizing the Informal Credit System-The Alternatives

With 92 per cent of farmers falling in the category of small and marginal farmer in Odisha, it is very important to bring all the farmers under the ambit of formal credit system. There are multiple ways in which this can be achieved-

- Promotion of Micro-Financing Institutions

  MFI are considered to be a convenient option for bringing the poor farmers into the formal credit system and in turn reducing the financial distress, increase their ability to raise productivity, grow high-value crops, and improve their own living standards.

  A clear advantage with the MFIs is their ability to provide non-collaterized loans to the farmers above Rs. 1,00,000 which is impossible in case of the conventional credit system. Adding to this, they also have the appetite to serve the larger section of the population due to availability of the funds. A large share of priority sector lending from the banks goes directly to NBFCs which mainly comprise of MFIs, besides regional rural banks and cooperatives.

  However, the loans from MFIs do not come cheap. MFIs across India charge between 30 per cent and 50 per cent with an average of 37 per cent.[13] These are comparable to the already existing informal loan rates through professional money lenders, traders, etc., in rural areas.

  The latest regulations by RBI have introduced a cap on the interest charged by MFIs but the interest rates would not come down anytime soon due to high operational costs (staff cost and customer management overheads) in MFIs.

- Joint Liability Groups

  JLG was a concept introduced by NABARD in 2006 to provide institutional credit to small and landless farmers. Under the scheme, the banks provide credit to a group of people (4-10) from same village/ locality. The farmers get a collateral free loan with each group member is jointly and severally liable for repayment of all loans taken by all individuals in the group.

  Joint Liability Group has proven to be very successful in certain belts of

[13] Malegam Committee Report on MFI Regulation 2011

North and South India but have not grown at a requisite pace across the country. There are a couple of reasons behind slow growth rate of JLGs -

- Lack of cohesiveness in the groups-Most of the members take individual loans and are not able to take unified decision on one activity. The formation of JLG requires homogeneity in the group at multiple levels.
- High Interest Rates-Since the JLGs are borrowing money from MFIs, the interest rates are upwards of 25 per cent which is only slightly lower than the informal credit system.

Financial Inclusion System in Public-Private Partnership Model with Extensive Use of Technology and Data

Financial Inclusion in rural parts of India is severely curtailed due to lack of farm level data, leading to a decrease in the "trust factor" among credit institution. For instance, there is no verifiable information available to identify a farmer's crop, growth stage, health, and yield, not just for the present season but also from the past seasons, that can help in judging a farmer's repayment and hence, borrowing capacity. This lack of data also affects the ability to provide farm-level insurance, having to rely instead on average crop cutting data, potentially differing from farmer's crop conditions and thus creating a considerable basis risk. Credit and Insurance, which should complement each other in a seamless product, are therefore provided on the willingness of the financial institution to bear risk based on some averages, rather than the farmer's risk profile, leading to poor availability and inefficient pricing. In addition, metrics such as land ownership are used to assess risks which are poor substitutes, and often tenant and landless farmers are excluded from the provision of such facilities, leading to considerable financial distress for them, especially in Odisha. The solution lies in the identification of an alternative method to help banking institution gain "trust" of the farmers requesting for loan.

Increasing smartphone ownership among farmers, improving mobile network coverage and advances in automated image processing are unlocking new opportunities, calling for a solution to collect and use real-time farm and farmer data for enabling better financial inclusion.

The proposed approach essentially involves collecting verifiable, near real-time farmland parcel level information along with mapping specific farmers to specific land parcels in order to be able to generate farm level and hence farmer level time-series data. Such dataset will help credit institution in the following manner:

- For NBFCs, it will reduce the operational cost that is spent in deploying manpower on-ground to inspect whether the farmers are utilizing the sanctioned loan correctly.
- It will also reduce the risk of low productivity as the farm information captured at farmer level will help the Departments of Agriculture take necessary actions, e.g., agro-advisory and assistance through extension workers.

  Both (1) and (2) will make it easier for the NBFCs to reduce interest overhead they charge to farmers.
- For formal credit institutions, it will decrease instances of moral hazard and certainly increase "trust" factor among banking community.

The implementation would involve a couple of key innovation-

- Usage of Satellite imagery to capture crop condition for a particular plot which could also be used as evidence in the insurance schemes.
- Development of a simple mobile application for farmers or Progressive farmer (Krushak Saathi) to capture crop imagery, GIS coordinates, datetime, etc. The app will be primarily used for Ground-truthing of Satellite data.
- Use of psychometric test (adapted to the context) to under the willingness of the farmers to repay the loans, as well as use of loans for the activities intended.
- Setting up a technical team with knowledge of data science, risk analysis, and GIS at the Department of Agriculture to act collate, verify the information and share it with banks. Based on the inputs of this team, Agriculture Department will provide a "certificate of cultivation" to all cultivator farmers / tenant cultivators which will enable banks to extend loans to farmers.
- The availability of farmer level time-series information with Department

of Agriculture will act as a foundation for bargaining lower crop-loan interest rates with MFIs and NBFCs.

This will result in multifold advantage to all the stakeholders in the ecosystem viz., -

- Credit availability to landless and tenant farmers.
- More data availability for the credit institution for verifying information and disburse stage wise to manage risk.
- Better interest rates for the farmer due to data-backed credit profile.
- Reduced cost for the credit institution due to reduction in logistic overhead due to lesser visit to farms.
- Better management of portfolios for the credit institution.
- Increased financial Inclusion in the state.

A pilot on these principles is being implemented in Odisha during Kharif 2019, which will provide an alternative channel for credit access to the tenant and landless farmers.

Conclusion

In the absence of digitized land records and legislation allowing for tenancy in agriculture, it will be very difficult to get such farmers into the formal credit system. The dependence on the informal sector will remain significant which would result in growing distress in the farmers.

The proposed approach for credit access can be used in tandem with credit histories (which will be created), usage data for different subsidies, satellite observation and basic demographic data in order to assess the borrower repayment intention with a view to facilitating credit. In addition, the time series data will be used to create farmers' credit-rating which could be linked to interest subvention by the state and central government to promote data sharing for and within the farmers' community.

Saurabh Garg

The author is an I.A.S. officer of 1991 batch, Odisha cadre and was posted as Principal Secretary, Agriculture and Farmers Empowerment, Government of Odisha at the time of writing this article.

State Strategy for Airport Development

Valsa R Nair Singh

Abstract

The Aviation Industry in India is the fastest growing aviation market in the world with a domestic growth rate of 18.6 per cent compared to the global average rate of 7 per cent (Source: IATA Data 2018). At this rate of growth, India will require close to 200 developed airports by 2038 to provide adequate connectivity to air passengers and to handle more than 1.1 billion passengers(NITI Aayog, Strategy of New India@75). A state-led strategy in airport development can help in closing this gap and ensure better functioning of these assets. This paper looks at such an alternative, which has been put in place in Maharashtra.

At present, 15 major Airports out of 122 operational airports in India are handling 85 per cent of the traffic with the top 6 airports handling 87 per cent of the India's cargo (Of these, the Mumbai, Pune, Nagpur, Aurangabad airports are in Maharashtra). In addition, more than 500 aircraft are already on order by Indian Airlines to be delivered over the next decade and this will result in straining the existing airport slots, parking bays, terminal and city side infrastructure.

The government targets to invest more than Rs. 2 trillion over the next decade to build 100 new airports (Budget Speech, 2018) with major investment coming from private sector but the assets offered by the government are not attractive enough for investors. The big challenge is to get the right financing for these large infrastructure projects especially in the small (<1.5 million pax pa) and mid-sized airport sector (2–5 million pax pa).

The world over, it has been witnessed that privatization of airport assets has resulted in more efficient airports, greater competition, higher exploitation of the non-aeronautical assets and consequently lower airport charges per passenger apart from harnessing the needed private investments in the public sector. With the Airport

Authority of India (AAI) also initiating privatization of its own airports, it is the apt opportunity for States to step into the role with an array of products including Airport Asset Management companies.

With a varying size of investments requirements across small, emerging and mega airports, India needs a basket of development models and "a single concession" may not fit all. A state-led model which offers specific solutions for different scenarios is a strategy tried and tested in Maharashtra. The airports in Navi Mumbai, Shirdi, Sindhudurg, Chandrapur, Gadchiroli (all greenfield), New Pune (under process) and brownfield airports in Nagpur, Amravati, Nanded, Gondia, Akola, Baramati, Dhule are managed at the state level and are just a few examples of the state-led growth in airport infrastructure. A parastatal like the Maharashtra Airport Development Company (MADC), which successfully manages the airport infrastructure development in the state, has demonstrated its capacity to not only conceive but also develop and operate airports. With over 36 unserved/underserved airports in the state, the role of a state-led policy has a focused sense of ownership and direction apart from strategically monetizing the impact on real estate/urban development and allied developmental activities. The MADC/AAI has been operating the Nagpur International Airport since the last ten years, and has also developed and is operating the successful greenfield airport in Shirdi. Presently, the Company is developing a mega airport in Pune, as well as 8 other mid-sized airports, whereas City and Industrial Development Corporation (CIDCO), another Govt. of Maharashtra agency is developing the mega Navi Mumbai airport.

This study recommends a state driven policy for capacity augmentation at brownfield and in the development of green-field (airports), transaction structure and on economic regulation. Land acquisition for the airports is already effectively handled by the state.

Certain important issues like regulation of airport tariffs, where a city (say Mumbai) may have multiple airports, which shall compete, but green-field airports will not be viable at current tariffs, may continue to be addressed at the national level. The Airport Authority of India may restrict its role to air side management, ATC and CNS activities in the airports (Air Traffic Control, and Communication Navigation services).

Bundling of small (<1.5 million pax pa) and mid-sizedairports maybe based on Origin-Destination pair or on basis of State/region.These airports can be handled by AAMC (Airport Assets Management company) structured within State for efficient operations and better-quality capital/financing.

For Small-sized airport (<1.5 million pax pa) other models such as O&M contracts, etc., are not attractive owing to the disproportionality between risk and rewards. But, may create benefits as in interim solution (or short-term solution) with specific purpose of performance improvement with only the terminal building or the non-aeronautical assets being handed over to the private party. The air-side and the city side may continue to be under Govt/AAI's control.

Mid-sizedairports have relatively higher base traffic and high growth potential. Public-private partnership (PPP) may not suffice for all and therefore need arises to formulate the models on a case to case. This is where the States can offer specific solutions in partnership.

For Mega Airports, states may continue to adhere to the Concession models similar to the existing models in India or amend in-line with the brownfield nature of assets.

Such a strategy will focus on lowering of operating costs in the regional airports through initiatives like outsourcing of non-core activities, encouraging private sector investment and inducing management skills in the regional airport infrastructure (ICICI market watch).

The Ministry of Civil Aviation may consider such a policy shift to achieve the goals of the NCAP .

Problem Description

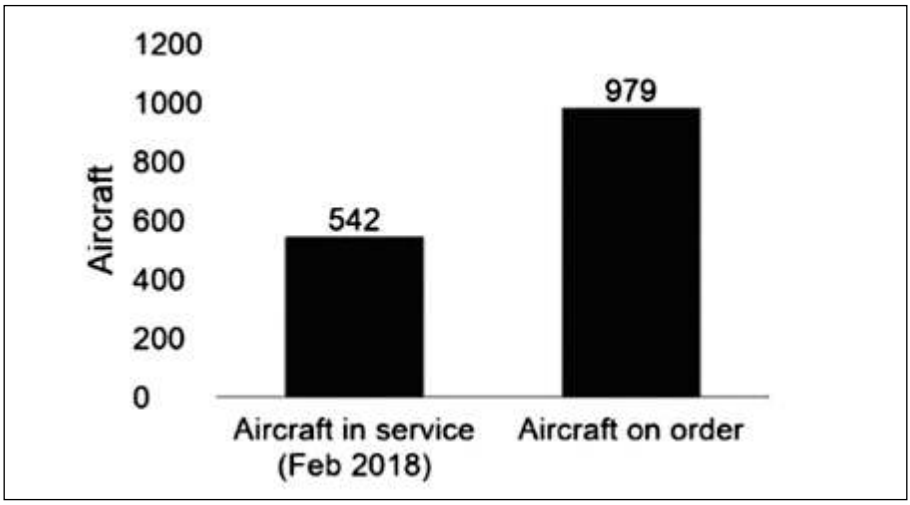
There is a dire need for the massive expansion in the Airport Infrastructure to meet the massive growth and demand in the Aviation Industry. The PPP model offered by the Government at present is not attractive enough for the investors.

Background

The Indian Aviation Industry is currently 7th largest aviation market and is expected to be the 3rd largest by FY 2022 and the largest by 2040 *(Source: Vision 2040 document, Ministry of Civil Aviation, 2019).* Indian Airlines is also leading RPK growth and PLF across the globe *(Source: AAI).*

But currently, in India 7 airports are already saturated working with >100 per cent utilization and 5 with more the >85 per cent utilization *(Source: AAI,*

CAPA). More than 500 aircraft are likely to get inducted and strain airport slots, parking bays, terminal and city side infrastructure, creating a shortage for slots too.



(Source: CAPA Fleet Database, 2018)

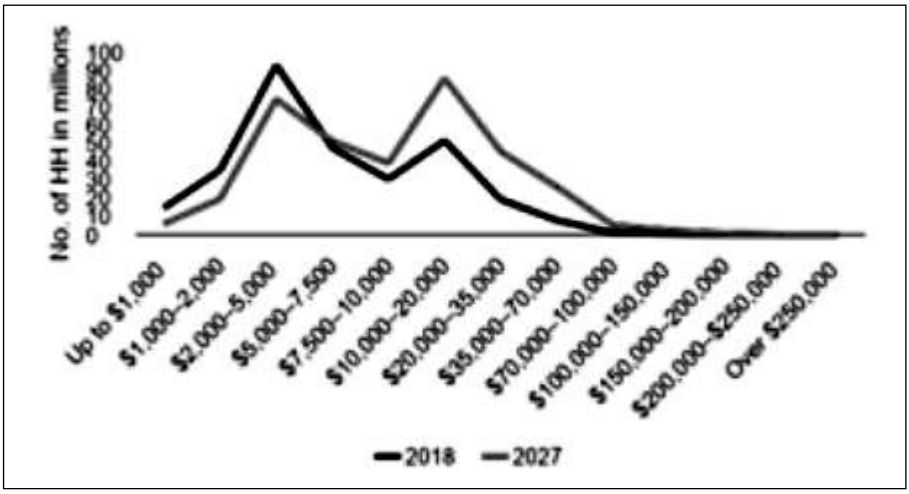
Air cargo throughput may reach 17 mmtpa in FY 2040 from 3.35 mmtpa in FY 2018. The top 6 airports accounts for 87 per cent of the total cargo volume which is leading to terminal congestion at these airports.

Multiple airports in Metro Cities are necessary as connection of Tier 2, Tier 3 airports will be through Tier 1 Airports.

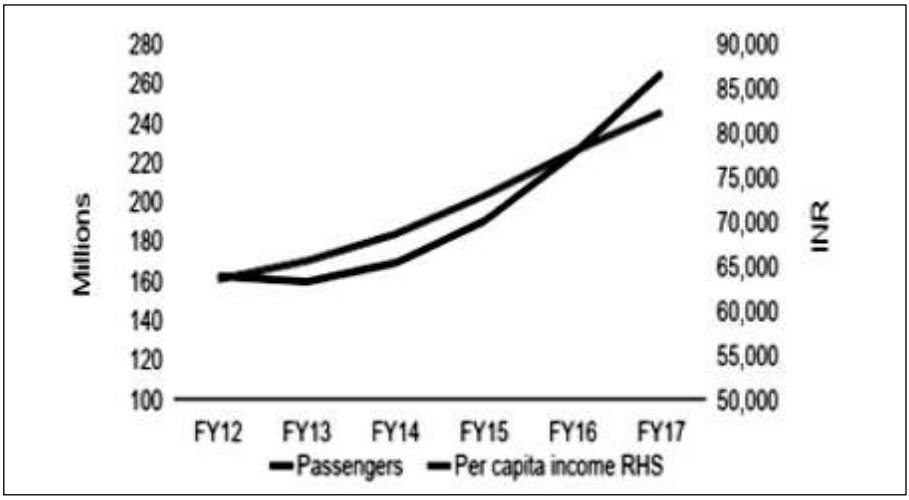
In Maharashtra, the domestic passenger traffic, which is the primary driver of air traffic, has been rising at a CAGR of 10 per cent *(Source: AAI, April 2019).*

Major Growth Drivers for Airline Travel in India are:

- Urbanization: Urbanization is expected to progressively rise to 43 per cent by 2037 from 34 per cent in 2017. At present, the average urban dweller is registering 0.23 trips per annum by air. India could witness additional air trips of 2.7 million on account of rising urbanization.
- Rise in middle-income group: The number of households having income greater than US$ 10,000 per annum is expected to double during 2018 to 2027. The number of households in the income range of $200,000–$250,000 is expected to witness the steepest rise during 2018–2027 *(Source: Oxford Economics).*



- Airlines innovative business models: Entering high growth markets and tapping all opportunities to cross-sell and to enhance yields.
- Economics and demographics create new priorities: Speed and reliability are the key requirements of the new age traveller.
- Robust growth of per capita income shall provide a fillip to air travel in India: Air traffic is expected to grow at 9.8 per cent YoY on an average during 2017-38.



The elasticity of air traffic with per capita income: For every 1 per cent rise in per capita GDP, passenger air traffic rises by 1.96 per cent in India.

Review of Current Policy

Major challenges faced by the Indian airport sector include lumpiness of investments, tariff uncertainty, low interest by foreign and domestic investors, lengthy legal disputes, long bidding processes, and challenges in fund-raising, revenue leakage risk in PPP airports and sub-optimal exploitation of real estate. Keeping these challenges in mind, the government proposed a new transaction structure under NABH Nirman 2018.

Current Transaction Structure: Concession will be on "Develop, Build, Finance, operate and transfer"(DBFOT) Basis

- A longer concession period of 40 years.
- Bid parameters have been changed from " share of gross revenue " with concessioning Authority to " Concession Fee " and administration fee in INR per passenger with 3 years moratorium period on concession fee for greenfield airport .
- Introduction of MBAY to make tariff predictable .
- Financial support (Waiver of concession fee with a promise to pay later at certain interest rate) .
- Waving off equity stake of concession authority .
- Recently ,under the new structure ,the Government of India has cleared proposals for managing six AAI run airports on PPP basis .AAI receiving 32 technical bids from 10 companies for these airports augurs well for this policy recommendation and for the success of the future bidding processes .
- On earlier privatization contracts ,AAI has had several disagreements with the private airport operators in Delhi and Mumbai over revenue sharing and allegations that the private airport operators formed subsidiaries to hive off certain non aero operations at these airports in a bid to avoid revenue share with AAI as per the privatization pact .

This new transaction model does not help small (<5 million passenger traffic per annum)and mid sizedairports (2 5 million)to get a stable source of financing as they are not profitable investments due to the low passenger traffic . With amendments in the concession agreements , though , this

framework can work well for the large airports handling more than 5 million passenger traffic. However, this framework does not offer solutions to issues like competing airports, tariff regulation and performance management for these airports.

Policy Alternatives and Evaluation

India is a large country with a diverse set of challenges requiring different transaction models based on the size of airport traffic it handles. The states can effectively develop/oversee these different categories of airports with varying size of investments requirements.

- Small airports (handling traffic below 1.5 million pax pa) that cannot be commercialized.
- Emerging airports (handling traffic 2 – 5 million pax pa) that may need viability funding.
- Mega airports (handling traffic >5 million pax pa) that can be commercialized.

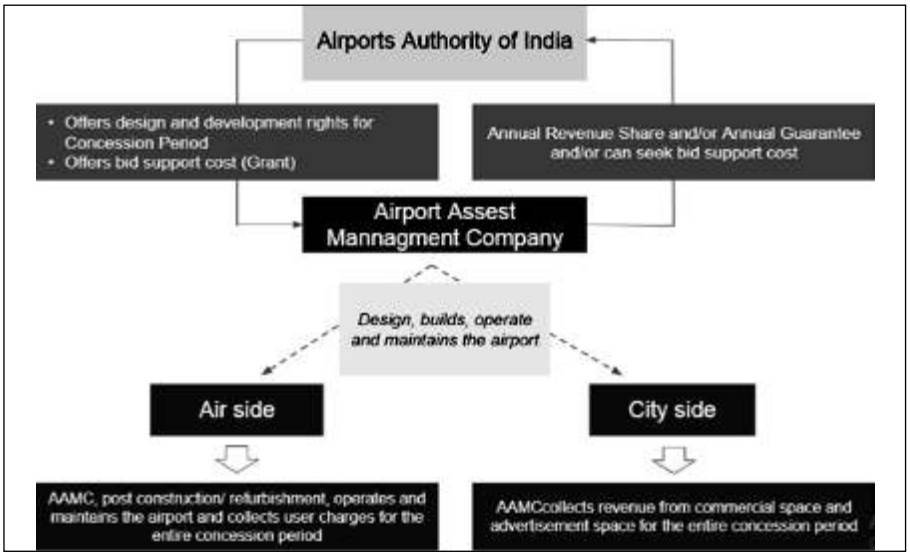
State-led Development Model for Small Airports

- Bundling the small airports

  Airports with small passenger traffic (1<5 million pax pa) are not an attractive investment for private investors. Grouping these small airports and commercializing certain aspects of these airports can help in a big way to get the capital needed for their profitable functioning. Bundling can be done on the basis of origin-destination and/or regional spread.

- Airports Asset Management Companies (AAMC)

  AAMC within the state government may be structured for efficient operations and better quality capital/financing with all operational assets transferred to AAMC under a long-term contract. This structure will allow/separation of project/operations and financing risks as institutional investors are unlikely to take project risks this way. The AAMC operates and manages assets on behalf of the state and raises finances through various instruments in a most economically efficient manner giving better management focus and capacities to better manage project lifecycle and deliver value.



State-led Development Model for Mid-SizedAirports: Innovative Financing structures

Bundling small-sized airports, which will be controlled by the Airport Asset Management Company, can open the gates for Viability Gap Funding and Strategic investments.

HAM (Hybrid Aannuity Model) can be used for effective financing of the project with a viable option as it would be cheaper due to lower interest during construction. At COD (Commercial Operation Date), construction risk is minimal and lenders should bewilling to refinance Government at a much lower rate.

It will provide better credit to lenders as they start financing when key construction risks are mitigated. Also, better credit post-construction would be possible. In case of delays / other issues, it can be converted to EPC with the benefits of PPP as equity would remain in the project and provide comfort for long-term institutional finance. Instead of lenders, the government can also refinance in capital markets or with institutional investors and most importantly, recycled capital would enable government to do 20 per cent–25 per cent more projects within the same budget.

Development Model for Large Airports

The Government's decision to allow Infrastructure Funds and Infrastructure

Developers without any prior airport development/operations experience was designed to break the current duopoly of 2 private airport operators in India. Additionally, H-RAB (Hypothetical RAB) concept was used for the existing brownfield assets. As the state is the original owner of land, state-led initiative can use these policy changes to get the best private partner.

The following options can be adopted to regulate traffic in cities with multiple airports.

- Common ownership of 2 airports-under Rights of First Refusal (RoFR) or otherwise.
- User charges for airport system-used to part-finance new airport for a pre-agreed period.
- Grant funding to support capex (Global examples Greece-Kastelli Airport, Istanbul Airport).
- Higher tariff for new airport-with, pre-agreement with airlines to operate.

Conclusion

The recommendation through this paper is to assign a focused role to the states in developing the sector of airport infrastructure. In most states, as of now, only land acquisition is presently handled at the state level. However, as demonstrated in Maharashtra, the entry of states in airport infrastructure development can fuel expeditious and focused growth. This can be done through setting up of state-level parastatals which will create airport asset management companies.

Concession agreements need to be made on the regional requirements and not on the “one size fits all” concept. The development model will vary based on the passenger potential of the airport which ranges from the passenger capacity of <1.5 million to >5million and above 5 million. This model will assist in improved professional management and to raise finances more competitively and will depend on the size of the airport, its commercial viability and its location. Regional cluster approach/bundling will be adopted for those with lesser passenger growth. The partnership will be relatively risk-free for the investor. This model will assist in appropriate risk allocation and management, provide professional management and raise finances more competitively

The air side operations can be entrusted to the asset management company while the terminal management and city side operations may be with the designated partner. AAI's role will be restricted to ATC and CNS activities. The AAI and DGCA will continue regulate air traffic and perform certification, respectively.

The state governments will be able to focus on the development planning and connectivity linkages in the "influence area" of the airport in perfect synergy.

References

Ministry of Civil Aviation, January 2019. *Vision 2040 for Civil Aviation Industry in India*<https://www.globalaviationsummit.in/documents/VISION-2040-FOR-THE-CIVIL-AVIATION-INDUSTRY-IN-INDIA.pdf>

Ministry of Civil Aviation, *Nation Civil Aviation Policy 2016*<http://www.civilaviation.gov.in/sites/default/files/Final_NCAP_2016_15-06-2016-2_1.pdf>

Ministry of Civil Aviation, August 2018, *Enhancing international air connectivity* <http://www.civilaviation.gov.in/sites/default/files/Draft per cent20UDAN per cent20Scheme per cent20document per cent20extension.pdf>

Airport Authority of India, September 2019, *100 Airport for new India*<https://www.aai.aero/en/system/files/resources/AAI per cent20CTB per cent2017-9-2018.pdf>

Airport Authority of India, February 2019, *UDAN - Giving new meaning to Airport Connectivity*<https://www.aai.aero/sites/default/files/aaiupload/ UDAN-Giving-New-Meaning-to-Air-Connectivity.pdf>

Office of the Registrar General & Census Commissioner 2011, *Population Enumeration*<http://www.censusindia.gov.in/2011census/population_enumeration.html>

International Air Transport Association, India 2014, *20 years forecast* <https://www.iata.org/whatwedo/Documents/economics/20yearsForecast-GAD2014-Athens-Nov2014-BP.pdf>

International Air Transport Association, February 2011, Vision 2050 <https://www.iata.org/pressroom/facts_figures/documents/vision-2050.pdf>

Oxford Economics, Asian cities and regional forecast <https://www.oxfordeconomics.com/asian-cities-and-regional-forecasts>

Oxford Economics 2013, *Future trends and market opportunities in the world's largest 750* cities<https://www.oxfordeconomics.com/Media/Default/landing-pages/cities/OE-cities-summary.pdf>

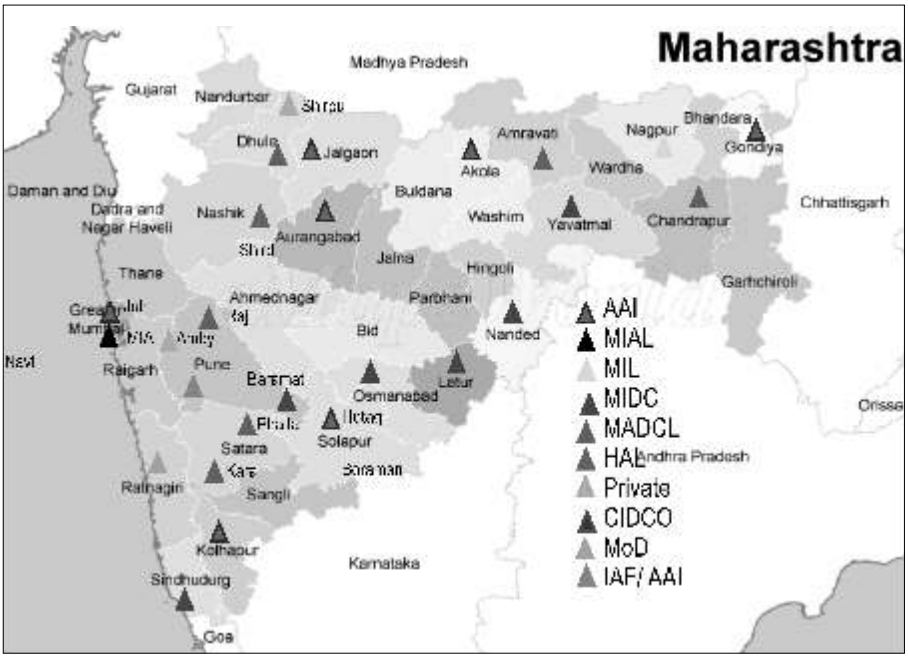
Centre of Aviation, December 2016, *CAPA India Aviation Outlook 2017/18: Surging traffic but infrastructure constrains become critical* <https://centreforaviation.com/analysis/reports/capa-india-aviation-outlook-201718-surging-traffic-but-infrastructure-constraints-become-critical-314982>

India Brand Equity Foundation, April 2019, *Indian Airport Analysis Presentation* <https://www.ibef.org/industry/indian-airports-analysis-presentation>

NITI Ayog 2018, *Strategy for New India@75* https://niti.gov.in/writereaddata/files/Strategy_for_New_India.pdf

ANNEXURES

Annexure A: Airport Map of Maharashtra

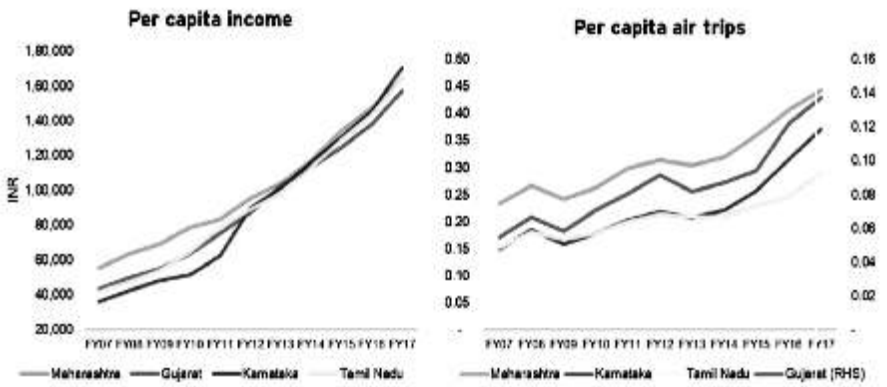


Annexure B:

Advantage Maharashtra: Socio Economic Snapshot

Annexure C:
Expected Rise in Demand for Air Travel in Maharashtra

Despite having the highest per capita annual income for majority of the past 10 years, Maharashtra's per capita air trips have not risen at the same pace as that of some other progressive states such as Gujarat, Karnataka and Tamil Nadu



Source: Department of Economics and Statistics of the respective states

Source: AAI and Census of India 2011

Valsa R Nair Singh

The author is an I.A.S. officer of 1991 batch, Maharashtra cadre and was posted as Principal Secretary GAD, Excise and Civil Aviation, Government of Maharashtra at the time of writing this article.

Policy Paper on Early Childhood Development Services in India through Healthcare System

Vandana Gurnani

Abstract

This paper attempts to work on converging multi-sectoral approaches for better implementation of the Nurturing Care Framework for Early Childhood Development (ECD) and using the health sector as an entry point for ECD services. There is ample evidence to show that early and equal childhood development services are the critical piece for improving human capital. Until very recently, most of the early child development services focused around early education, however considering the fact that the first 1000 days of a child's life, beginning from conception to two years are the period of most rapid development of neurons, connections and learning, thus laying the foundation for the rest of life, actions need to be taken from the pre-pregnancy period and continue till at least eight years of age to give the best start to each child's life. In the rapidly changing scenario, it is a well-established fact that children are more vulnerable to the impact of climate change. The Nurturing Care Framework released by WHO in 2018 gives a clear direction of actions required at all levels to help countries implement ECD services. The challenge is how to bring multiple stakeholders together like health, nutrition, education, WASH, climate change, and in congruence with the sustainable development agenda, in order to give the best possible start to every child's life. Bringing in experience of work in these different sectors, at all levels, it is proposed to explore this area and suggest a balanced approach of involving multiple sectors and help them contribute effectively to the agenda of early childhood development.

Background

With the global launch of "Nurturing Care Framework" in 2018,[1] there has been a renewed focus on early childhood development as a smart investment not only to improve health and nutrition but also because of its huge impact on

[1] World Health Organization, United Nations Children's Fund, World Bank Group. Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO.

cognition and human development potential. ECD encompasses physical, cognitive, sensorial, social and emotional development of a child, beginning from conception up to eight years of age. This development is multi-dimensional and dependent on diverse experiences that a child has in its mother's womb and during birth, followed by the sensory and the emotional perceptions of the world around them and the nurturing care they receive in the early years of life.

During early years, responsive relationships and healthy stimulating environments help young children build sturdy brain architecture that lays the foundation for their learning and development and in turn, their productivity. At birth, a baby's brain is about a quarter of the size of the average adult brain and it keeps growing to about 80 per cent of adult size by age three years and 90 per cent by five years. Maximum neural connections[2] are formed during the first three years after birth, as the child explores the environment and gathers new experiences. To reach their full potential, every child must have access to five inter-related and indivisible components of ECD:

- Good health: complete emotional and physical wellbeing of children as well as mothers. It is a result of responding appropriately to their daily needs, protecting them from household and environmental dangers, hygiene practices, seeking treatment for illnesses and using promotive and preventive health services.
- Adequate nutrition for both the young children and their mothers: meeting the nutrient needs of pregnant women and breastfeeding mothers; and of the children through early and exclusive breastfeeding of the child-together with skin-to-skin contact and adequate complementary feeding from six months onwards.

Figure 1: Components of ECD.;
Source: WHO Nurturing Care Framework 2018

[2] Center on the Developing Child (2009). Five Numbers to Remember About Early Childhood Development (Brief). Retrieved from www.developingchild.harvard.edu.

- Security and safety: from extreme poverty, violence, abuse, neglect, environmental risks-including indoor and outdoor air pollution, water pollution and exposure to hazardous chemicals.
- Responsive caregiving: includes responsive feeding, playing together, and interacting, by responding to their gestures, movements and requests, and providing opportunities to build trust and social relation with caregivers.
- Early learning: includes opportunities of early stimulation for young children through interactive engagement with caring adults and an environment conducive for learning from the earliest age. Given that children learn through play, early learning opportunities must be play-based to enrich and diversify the experiences for their optimal development.

The Lancet Series on ECD (2016)[3] states that an estimated 250 million children in lower and middle income countries are at risk of suboptimal development due to poverty and stunting. The real numbers could be much higher considering the multidimensional impact of the early childhood on later life. Countdown to 2030 Report on ECD (2018)[4] states that 154 per cent of adult wages in India are lost due to inadequate nurturing care and ECD. Globally, it is estimated that every dollar invested in ECD can provide a thirteen-fold return on investment.

Situation Analysis

Government of India's continuous commitment and ongoing efforts to improve the survival and quality of life of children has led to the promising performance over the last decades. Child mortality has fallen to 39 deaths per 1000 live births in 2016,[5] full immunization rate has increased,[6] and more children receive breastfeeding early and are breastfed exclusively. However, India still accounts for 18 per cent of under-five mortality globally and more

[3] Lu, C., Black, M.M. and Richter, L.M., 2016. Risk of poor development in young children in low-income and middle-income countries: an estimation and analysis at the global, regional, and country level. The Lancet Global Health, 4(12), pp.e916-e922.

[4] Accessed from https://nurturing-care.org/resources/2030-Countdown.pdf.

[5] India Sample registration System Bulletin, 2016.

[6] IIPS, I., 2017. National Family Health Survey (NFHS-4), 2015–16: India. Mumbai: International Institute for Population Sciences.

than one-third of children are malnourished putting them at risk of not developing to their full potential.

Threats to optimum development of children are further exacerbated by the dangers of climate change. Effects of extreme weather events are more pronounced for children. [7]National Family Health Survey (NFHS)-4 shows that one in three households in urban areas does not have a toilet, and one in ten lack access to a source of improved drinking water and only one out of ten children (6–23 months) receive adequate diet. This has huge negative implications on the development of children. At this juncture, it is urgent to address these vulnerabilities in an appropriate manner.

Review of the Current Policy

India has one of the oldest ECD programs in the world, which dates back to 1890s.[8] The first structured programme which addressed the early child care and education component was the Integrated Child Development Services (ICDS) package in 1975 targeting children below six years and pregnant and nursing mothers. The National Early Childhood Care and Education (ECCE) Policy, 2013 calls for a comprehensive approach to survival, growth and development of children. The Maternity Benefit Amendment Act, 2017, provides for maternity leave up to 26 weeks. National Health Policy, 2017 aims to achieve optimal child health and proposes measures such as improved home-based and facility-based management of sick newborns, and screening and treatment of growth-related problems and birth defects. Juvenile Justice (Care and Protection of Children) Act, 2015 and The Protection of Children from Sexual Offences (POCSO) Act, 2012 lay down legal provisions for child protection.

POSHAN Abhiyaan strives to create the synergy and link the various nutrition related schemes with each other to achieve optimum output. Anganwadi Services Scheme under Umbrella ICDS is the largest public provider of ECD in India through a network of 1.4 million Anganwadi Centres (AWCs) established across the country. The Rashtriya Bal Swasthya Karyakram

[7] United Nations Children's Fund, Clear the Air for Children, UNICEF, New York, October 2016, <https://www.unicef.org/publications/files/UNICEF_Clear_the_Air_for_Children_30_Oct_2016.pdf>.

[8] Umayahara, M., 2006. Paper commissioned for the EFA Global Monitoring Report 2007, Strong foundations: early childhood care and education. Education for All Global Monitoring Report 2007.

(RBSK), a child health screening and early intervention programme, aims at early detection and treatment of 30 identified health conditions through mobile health teams.

Pradhan Mantri Matru Vandana Yojana (PMMVY), Janani Suraksha Yojana (JSY) and Janani Shishu Suraksha Karyakram (JSSK) address the maternal health issues. The Integrated Child Protection Scheme incorporates the entire range of interventions necessary for effective and efficient protection of children and contributes to the well-being of children in difficult circumstances, as well as reduction of their vulnerabilities.

In spite of having numerous policies and programmes, India is losing out on the potential of nearly millions of young children below five years. There are various reasons behind this, such as lack of quality in services, lack of convergence, inequity in service delivery, etc. Due to the unavailability of adequate infrastructure and facilities in Anganwadi Centres and infants below six months of age not being catered to, a sizeable share of children are left outside the ambit of services through AWC. In addition, low awareness of frontline functionaries on ECD and inadequate training negatively affects the quality of services. The system also suffers from lack of linkages between facilities and lack of accountability framework, resulting in fragmented service delivery. This makes a compelling case for incorporation of ECD and nurturing care in the current profile of evidence-based interventions under the reproductive and child health programme of the government.

The ability of caregivers to invest quality time and resources towards development of their children is also impacted by their challenging socio-economic circumstances and awareness among the families. Multidimensional aspect of ECD requires involvement of multiple ministries to work together, promoting alignment among various policies and programmes related to early childhood.

Proposed Solution

While singular interventions, such as antenatal and delivery care, care of sick babies, micronutrient supplementation, improving nutrition security, and strengthening public health infrastructure have proven essential in the continuing fight against childhood mortality and malnutrition, emphasis also

needs to be on integrating early stimulation and responsive care in existing provisions. Regular home visitation emerges as an effective strategy and healthcare system is at a vantage point for ensuring the effective delivery of intense and high quality integrated ECD services to all children because of its contacts with the children and caregivers and other components can be built upon these. Government of India has several existing platforms that offer opportunity to integrate ECD with additional focus on responsive caregiving.

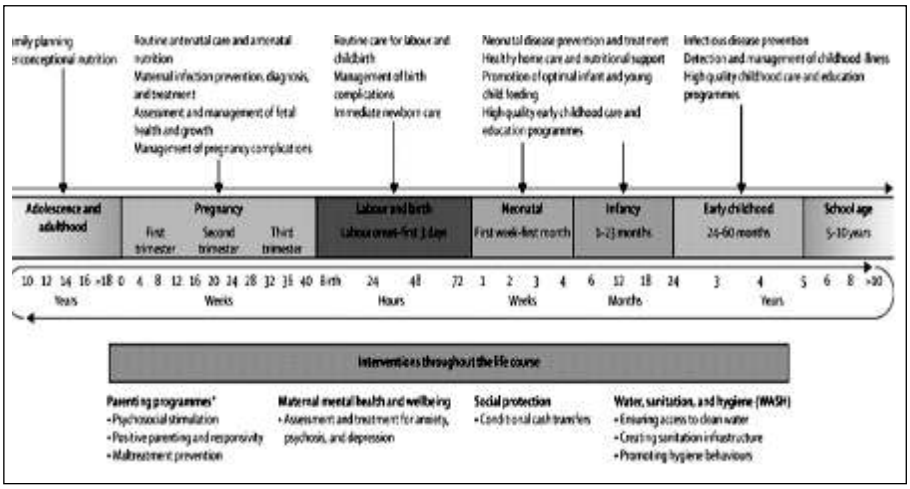


Figure 2: ECD interventions through the life course. Source: Lancet, 2016[9]

In the context of the health sector, while most ECD interventions such as family planning, antenatal care, routine care during labor and childbirth, newborn care, disease prevention and treatment, improvement of nutrition, etc., are already being implemented, additional focus needs to be on responsive care of children through adequate play and communication by sensitive and responsive caregivers. [10]The healthcare providers can utilize all opportunity contacts to empower the families and improve the coverage of interventions during the critical 1000days in an incremental manner. Policy coherence, joint planning and monitoring would lie at the heart of provisioning of high quality ECD services.

[9] Series, L., Advancing early childhood development: from science to scale. Oct 2016. The Lancet.
[10] Richter, L.M., Daelmans, B., Lombardi, J., Heymann, J., Boo, F.L., Behrman, J.R., Lu, C., Lucas, J.E., Perez-Escamilla, R., Dua, T. and Bhutta, Z.A., 2017. Investing in the foundation of sustainable development: pathways to scale up for early childhood development. The lancet, 389 (10064), pp.103-118.

Objective

To provide nurturing care through the health system with a focus on the first 1000 days from conception up to two years of age to provide an optimal start to a child.

Steps

To deliver quality ECD services, India needs to prioritize on six actions with an aim to helping each child reach her / his fullest potential.

- Expand equitable access to quality ECD services by integrating components of the nurturing care framework into existing interventions by systematically leveraging all strategic contact points (facility-based, community-based and home-based) across the continuum of service delivery. All children, including sick children and children with developmental delays should receive quality ECD inputs, i.e., health, adequate nutrition, responsive caregiving and early learning opportunities in safe and secure environments. During the critical 1000 days, there are enormous opportunities for the care givers to upgrade nurturing care for health and happiness of the child, the mother and the family. As increasing number of parents are accessing routine services at health facilities, it is possible to incorporate components of nurturing care in services at all levels of care and all possible opportunities of contact, e.g., Village Health, Sanitation and Nutrition Day, parents' meetings under ICDS and community-based events under the POSHAN Abhiyan. The messaging should target all caregivers, especially fathers.
- Optimize home visits under the existing service delivery platforms of Home-Based Newborn Young Child Care, and Umbrella ICDS facilitated by a harmonized and augmented service package to deliver continuum of care from antenatal period through the early years. Health system has numerous contact opportunities with the care providers and child through the life-course, which is not possible through Anganwadi which misses crucial first six months of life of the child.
- Saturate all contact points with well-equipped functionaries to ensure quality.

  - Integrate ECD messages in their induction; on-job and refresher trainings.
  - Explore a blended learning approach to combine the existing training with digital methods.
  - Strengthen the existing institutional supportive supervision and mentoring mechanism.
- Strengthen coordination and convergence for effective implementation and monitoring across ministries and leverage strategic partnerships by preparing common frameworks for action with clear accountabilities to ensure synchronized implementation across sectors. Harmonization of reporting and information sharing mechanisms to develop a reliable and robust data base with regard to quality and coverage.
- Create an enabling environment that prioritizes ECD by mounting targeted nationwide IEC campaign on ECD to deliver messages that increase visibility and draw unprecedented attention to ECD and partnering with multiple stakeholders and innovating finance mechanisms to scale up ECD programmes. Increasing awareness of parents and caregivers on the importance of responsive nurturing care harnessing different platforms (mass media, dedicated call centers, portals) mobile technology, mothers'/parents' groups, etc.). Another important mechanism will be increasing caregivers' knowledge on rights and entitlements of children and available social protection schemes.
- Generate evidence to inform future policies and programmes by establishment of a collaborative learning network of academic organizations. Build alliances with research institutions to conduct rigorous operational and impact evaluation researches to generate evidence on most effective intervention designs to integrate responsive care into existing service delivery platforms, their efficacy and cost benefit analysis.

India is committed to SDGs and at least nine out of 17 goals[11] can be influenced

[11] G20 Development Working Group: Investing In Early Childhood Development, March 2018.

positively through incorporation of ECD interventions. Effective policies are in place, POSHAN Abhiyan, National Health Mission and Ayushman Bharat are testimony to India's ambition to ensure that all its children survive and thrive. Now is the time for India to make ECD a national priority to ensure that its youngest citizens receive nurturing care to enable them to attain their fullest potential and contribute to building India.

Vandana Gurnani

The author is an I.A.S. officer of 1991 batch, Karnataka cadre and was posted as Additional Secretary, Ministry of Health and Family Welfare, Department of Health, Government of India at the time of writing this article.