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Financial Reforms for Improving Irrigation Performance in Odisha

Deepak Kumar Das[1]
Mamata Swain[2]

Irrigation in Odisha is besieged with various problems such as deteriorating physical structures, poor maintenance, low cost recovery, under-utilization of created potential, tail-end water deprivation, uncontrolled water delivery, siltation, water logging and, above all, poor quality of irrigation service. Therefore, during the last two decades both institutional and financial reform measures have been undertaken to improve the system performance. Analysing the reform process, the paper concludes that the irrigation agency should have sufficient financial autonomy. This will result in greater accountability of the irrigation agency to the water users and will also encourage water users' involvement and participation in irrigation water management. In the assessment, billing and collection of water charges, there must be administrative decentralisation by delegating powers to Water Users' Association.

Keywords: Irrigation, Financial Reforms, Water Pricing, Water Users' Association, Odisha

1. Introduction

Many irrigation systems, particularly in developing countries like India, perform below their potential. Head–tail problems, leaky canals and malfunctioning structures because of improper maintenance, leading to low water-use efficiency and low yields, are some of the commonly expressed problems. A large part of low performance may be due to inadequate water management at system and field level. The poor quality of irrigation infrastructure leading to poor performance is considered to be the result of inadequate funding. It is thought that because water rates are low, there are inadequate funds for Operations and Maintenance (O&M) which cause poor quality of services leading to farmer dissatisfaction and consequently, poor recoveries. Therefore, it is hypothesized that increasing water rates would lead to improvement in the irrigation system performance. But the problem is more complex than what is supposed. Irrigation sector performance is largely linked to the quality of services provided by the irrigation institutions, and since there is no incentive to improve performance (or disincentive against poor performance) of irrigation departments are not affected by the increased water rate. Therefore, merely increased water rates would not substantially change

[1] *Reader in Water Resources Engineering, Water and Land Management Institute, Odisha, E-mail: deepak_das62@yahoo.com*
[2] *Professor of Economics, Ravenshaw University, Cuttack-753003, E-mail: mama_swain@hotmail.com*

the performance. The decision on water rates is not merely based on the O&M costs but is largely a socio-political decision.

There is also no structured link between water recovery and O&M costs. In most states in India, water rate recovery is done by the Revenue Department and the revenue collected from water users goes straight to the state treasury. Thus, water rate collected from the project beneficiaries is not meant for the O&M costs of the project concerned. Since each system is not treated as financially autonomous, the irrigation staffs have little incentive to improve water rate recovery and farmers also consider the water rate as a tax rather than a user charge which is linked to the maintenance of their system. Increased water rates do not necessarily mean a proportionate improvement in quality of work and system performance. This necessitates reforms in both financial and institutional aspects.

Therefore, during the last two decades most of the states in India have brought about profound reform measures in irrigation sector to improve efficiency in water use, ensure equitable distribution of water among water users and sustainability of the system. Two major planks of the reform efforts are decentralization of irrigation management by turning over operation and maintenance of downstream part of irrigation systems to Water Users' Associations (WUAs) and economic pricing of water to recover the supply cost and manage demand.

In India, since 1990s due to resource crunch and financial constraint, the budgetary support to irrigation sector has been drastically reduced and emphasis is placed on internal generation of resources by increasing water rates. In 1992 the International Conference on Water and the Environment in Dublin issued four guiding principles, one of which was that "water has an economic value in all its competing uses and should be recognised as an economic good." A consensus has emerged that irrigation water should be priced based on economic principles and the undue high subsidy given to irrigation sector should be withdrawn in phases. The financial performance of irrigation sector should be improved to ensure sustainability of the irrigation system.

In the above backdrop, this paper attempts to critically analyse the financial reform measures undertaken in eastern India of Odisha to rationalise water rate structure and to suggest appropriate measures to improve irrigation system performance. The rest of the paper is presented as follows. Section 2 gives an outline of the reform measures undertaken in the irrigation sector in Odisha. Section 3 contains the changes in water pricing in the context of irrigation management transfer to farmers. Section 4 critically analyses the water pricing system in Odisha. Section 5 examines the water rate collection efficiency in Odisha. Section 6 indicates the factors that are taken into account to determine water rate. Section 7 is the concluding section containing some suggestions for reforming water pricing system to improve irrigation performance in Odisha.

2. Irrigation Reforms in Odisha

Odisha is predominantly an agrarian economy. Nearly 60 per cent of its main workers depend on agriculture to earn their livelihood. Agriculture plays an important role in the economic development of the state. Irrigation is the most important factor that determines agricultural production. Irrigation enhances agricultural production and farm income and by increasing crop yield rate, making possible cultivation of cash crops and increasing cropping intensity (Dhawan, 1988; Bharadwaj,1990). Therefore, huge investments have been made in irrigation projects to increase agricultural productivity, alleviate rural poverty and ensure food security.

However, many empirical studies undertaken across the state unfolds that the yield increasing potential of irrigation has been rarely achieved (Mallik and Padhi, 1995; Swain, 2003). There still lies a large gap between the actual yield achieved from the irrigation commands and the expected yield that is assumed at the project appraisal stage in computing the benefit-cost ratio of the project. As a result, in most of the major and medium canal irrigation projects in Odisha, the estimated benefit-cost ratio is not realised. It is also observed that a considerable proportion of irrigation potential created remains unutilised due to faulty planning, deficient design, cultivation of water intensive crops, use of excessive water by the head reach farmers, and defective operation and maintenance of the canal system. Therefore, during the last two decades, radical reform measures have been undertaken in the irrigation sector to improve irrigation efficiency and equity in water distribution.

There has been a spectacular change in irrigation management paradigm with respect to both institutional pattern and financing mechanism. As farmers are the end users of water and ultimate beneficiaries of irrigation system, it is now emphasised that they should actively participate in the planning, development and management of irrigation infrastructure (Vaidyanath, 1994; Svendsen and Gulati, 1995; Mitra, 1996; Swain and Das, 1999; Kar and Swain, 2000). In fact many states including Andhra Pradesh, Gujarat, Maharashtra and Odisha are now implementing Participatory Irrigation Management (PIM) through Irrigation Management Transfer (IMT) to farmers with great passion with financial support from international donor agencies like World Bank, Department for International Development (UK), European Commission, Japan Bank for International Co-operation, Asian Development Bank (ADB) and under state initiative as a part of overall economic restructuring programme. Farmers are motivated to form Water Users' Associations (WUAs) and important management functions such as operation, maintenance and repair of physical structures, water allocation among water users and collection of water rates which had been traditionally performed by the irrigation agency are now being transferred to WUAs. The PIM is based on cherished principles of democratisation, decentralisation, debureaucratisation and empowerment of water users,

However, it is observed that though institutional reorganisation encompassing devolution of irrigation management responsibility to farmers is undertaken with a high clamour, the financial reform of irrigation which needs to be undertaken with the same vigour with hand in hand institutional reforms is not given due attention (Svendsen and Gulati, 1995). One of the most important pre-conditions for sustainability of WUAs once they are formed is that they should be financially viable by raising funds from various sources. WUA can raise funds from membership fees, share capital, collection of water rate, and operation and maintenance grants from government, income from commercial operations etc. However, revenue from collection of water charges is the most important source of income for a WUA. The WUAs can undertake the devolved responsibility of O&M and repair of the irrigation system only if they have adequate financial resources. Mere transfer of responsibility will not yield desired results, unless fund is made available for the purpose by proper resource mobilisation mechanism. Therefore, while bringing about institutional change in governance structure of irrigation by democratising and decentralising its management, it is important that devolution of financial power to farmers' organisations should also be ensured to realise desired results. In the case of minor flow and lift irrigation projects in Odisha, the WUAs are now empowered to fix and collect water rates and they operate and maintain the systems with the revenue collected from water users. In the case of major and medium canal irrigation projects such financial autonomy has been granted in a few projects.

If we analyse the practice of irrigation financing in Odisha, it is clearly visible that due to capital intensive nature of canal irrigation projects and long payback period coupled with difficulty to recover project cost from innumerable small poor farmers, the irrigation projects (major and medium) have remained mostly state owned, state funded and are departmentally managed by government bureaucracy in the traditional top-down approach. Irrigation water rates are fixed more on the basis of political considerations than on economic criteria. Water charges are highly subsidised to woo the rural electorate. Leave aside the capital cost of the projects; the revenue receipts from sale of water hardly cover the recurring expenditure on operation and maintenance of irrigation structures.

Under the above circumstances, reform in irrigation water pricing has become necessary due to the following reasons; (i) high subsidy in provision of irrigation service has become unsustainable due to financial crisis faced by the government; (ii) realisation of scarcity value of water due to increased demand for domestic use, industry and environmental needs as a result of increase in population, urbanisation and industrialisation;(iii) to ensure optimal use of water without waste through demand management; (iv) to generate resources internally to improve quality of irrigation service; (v) to take into account environmental externality effects like water pollution, water logging and water salinity and to reduce water use to tackle such effects; (vi) to implement general economic reforms towards reduced public involvement in commercial activities. On the whole, sustainable financing for irrigation systems necessitates increase in water rates, removal of subsidy, improved cost recovery from water users and increased management efficiency through farmers' participation.

3. WUAs and Water Pricing

In Odisha, WUAs, which are popularly known as Pani Panchayats (PPs) are formed on a three tier system with two informal associations and one formal association on hydraulic boundaries ranging from 300 ha to 600 ha of command area. At the lowest level, Chak Committee is formed taking three farmers, one farmer each from head, middle and tail reach of the ayacut of an outlet. The representatives of these Chak Committees are members of the executive body of Pani Panchayat and all the water users are members of general body of the Pani Panchayat. There is a federation of all WUAs with a formal and non-binding advisory role in main system operation and maintenance known as Apex Committee. Out of the presidents of all WUAs within the command area of the irrigation project, the executive members of the Apex Committee are elected.

In Odisha as on May 2014, a total number of 22255 Pani Panchayats have been formed covering command area of 17.92 lakh ha. Out of this major and medium irrigation projects include 2448 Pani Panchayats covering 10.68 lakh ha irrigated area. In the case of major and medium canal irrigation projects, the power to fix water rate has not so far been vested in the WUAs. While delineating the functions of PPs, the Orissa Pani Panchayat Act, 2002 envisages that in the case of major and medium canal irrigation projects the PPs will assist the Revenue Department in the preparation of demand and collection of water rates. However if the government prescribes and the farmers' organisation decides, the PPs can levy and collect water rate. In the case of Minor Irrigation (Flow) projects and lift irrigation projects the farmers' organisation/ Pani Panchayat is empowered to fix and collect water rate and retain it for O&M expenses. The farmers' organisation shall fix the water rate, which may cover energy charges and maintenance charges of the project.

If the individual PP is empowered to fix water rate, the water rate will vary depending on climate, water scarcity, cropping pattern, output prices, ability to pay and affordability and many other factors. Also, it is observed that in case of minor irrigation projects where the PPs are fixing and collecting water rates, many problems are cropping up in assessment, billing, collection and utilisation of funds raised from water rates. This is happening more frequently where the office bearers of PPs are corrupt and enjoy unchallenged power belonging to rural elite class. In many turned over lift irrigation systems, it is observed that the farmers are reluctant to use water as they apprehend that water rate will be increased by the PPs. Therefore, regulation of water rates is necessary by putting enough checks and balances in place. Many suggest that a regulatory body like Odisha Water Rate Regulatory Commission should be established to provide guidelines, norms, and criteria to fix water rates as has been done for power sector by setting up Odisha Electricity Regulatory Commission. On the basis of the criteria prescribed by the regulatory body the PPs will be required to fix/revise their water rates from time to time. There should be hearing from water users if they have any grievances.

In many countries such as Philippines, Mexico and Japan, in turned over irrigation projects, farmers are charged a two-part tariff. The first part is meant to recover the O&M costs of irrigation schemes and is based on individual farm acreages receiving irrigation service. The second component is meant to reimburse the State over a fifty year period for the capital costs invested in projects. The first part is retained by the WUAs for incurring O&M expenditures and the second portion is paid to the parent irrigation investment agency towards capital cost. Many studies reveal that in turned over irrigation projects the water rate collection has improved as a result of improvement in quality of irrigation service. WUAs are generally in a better position to monitor compliance and to use social pressure to collect water fees from their members.

Most of the states in India have recently increased water rates substantially under the mandate of international donor agencies such as World Bank, DFID, ADB etc. The water rate structures, assessment of water rate, principles of water rate determination, water pricing methods in India are discussed below with special reference to Odisha.

4. Water Charging System

In most states, water rates are charged on the basis of area irrigated differentiated by season and crops grown. Some exceptions are there. In Assam and North Eastern states no irrigation charges are levied directly or indirectly. In some regions of states like Andhra Pradesh and Tamil Nadu water charges are integrated with land revenue by charging wet lands at a higher rate than dry lands.

In Odisha water rate is assessed on the basis of area irrigated and types of crops grown. The present practice is to levy a water rate on a per hectare basis for the Kharif crop and Rabi crops. Kharif crop is levied with a compulsory basic water rate on the basis of class of allocation (the total depth of water) that each project is designed to supply (Table 1). The basic water rate has to be paid whether the water is used or not. The Rabi rate is not compulsory and it is paid only if a crop is irrigated.

Table 1: Compulsory Basic Water Rate In Odisha (In Rs. Per Hectare)

Sl. No.	Class of Irrigation	Depth of Supply						
		(in inches)	Irrigation Rate for Flow Irrigation					
			61-62	68-69	75-76	81-82	98-99	2002
1	Class I	28"	19.77	9.88	19.77	39.54	100	250
2	Class II	23"	14.83	7.41	14.83	29.65	75	188
3	Class III	18"	9.88	4.94	9.88	19.77	50	125
4	Class IV	9"	4.94	2.47	4.94	9.88	25	63

Source: Department of Water Resources, Govt. of Odisha.

For the staple cereal crop kharif paddy, the per hectare water charge for class-I irrigation has been substantially enhanced from Rs.39.54 in 1981 to Rs.100 in 1998 and further to Rs. 250 in 2002 (Table 1). The water charges for different Rabi crops as revised from time to time are shown in Table 2. The water rates are fixed according to the water requirement of crops. Water rate is very high for water intensive crops like ganja, betel leaf and saru. The per hectare water rate varies from the minimum of Rs.28 for low water consumptive crops like mung and to the maximum of Rs.930 for ganja, which is a highly water intensive crop.

In most of the Indian states it is observed that the revision of water rate has been infrequent, hesitant and quite modest in comparison to the increase in cost of provision of irrigation service and also increase in irrigation benefits due to substantial increase in support prices of crops. The Irrigation Commission (1972) has recommended for reviewing and adjusting water rates every 5 years. However, no states in India have followed the practice of revising water rates every five years. In Odisha, the water charges had not been revised since 1981. After a period of about 17 years, in 1998, water rates were increased enormously i.e. nearly two and half times. As raising of water rate is a sensitive matter and will most likely invite the wrath of the rural electorate, the party in power always avoids to address such issue. Thus water rates are determined on the basis of political considerations rather than from the viewpoint of economic necessity.

Table 2: Rabi Water Rates In Odisha (in Rs. Per Hectare)

Sl. No.	Crop	1968-69	73-74	74-75	81-82	98-99	2002
1	Paddy	19.77	39.54	59.3	88.96	225	450
2	Tobacco	37.07	37.07	55.6	83.4	210	420
3	Potato	24.71	24.71	37.07	55.6	140	280
4	Vegetables	19.77	19.77	29.65	44.48	115	230
5	Onion	24.71	24.71	37.07	54.36	140	280
6	Wheat	4.94	14.83	22.24	32.12	85	170
7	Maize	12.36	12.36	18.53	27.8	70	140
8	Mung	2.47	2.47	3.71	5.56	14	28
9	Groundnut	12.36	12.36	18.53	27.8	85	170
10	Orchards	29.65	29.65	44.48	66.72	167	334
11	Sugarcane	34.59	44.48	66.72	100.08	250	500
12	Jute	7.41	7.41	11.12	16.68	42	84
13	Fodder	12.36	12.36	18.53	27.8	85	170
14	Pulses	4.94	4.94	7.41	11.12	30	60
15	Cotton	24.71	24.71	37.07	55.6	140	280
16	Til (Oilseeds)	4.94	4.94	7.41	11.12	30	60
17	Betel Leaf	74.13	74.13	111.2	166.79	420	840
18	Arhar	12.36	12.36	18.53	27.8	-	170
19	Sunhemp	17.3	17.3	25.95	38.91	100	200
20	Chilly	12.36	12.36	18.53	27.8	85	170
21	Saru	74.13	74.13	111.2	166.79	420	840
22	Ragi	6.18	6.18	9.27	13.99	35	70
23	Mustard	2.47	4.94	7.41	11.12	30	60
24	Ganja	-	123.55	123.55	185.33	465	930

Source: Department of Water Resources, Govt. of Odisha.

The point to be noted is that as water rate is assessed on the basis of area irrigated, the payment that a farmer has to make has no relationship to the actual quantity of water used. Therefore, the farmers have no incentives to economise in water use, which results in excess use and wastage of water. Moreover, low price of water does not reflect its scarcity value to the water users and hence not encourages conservation of water.

5. Collection of Water Charges

Assessment and collection of water charges in Odisha is undertaken by the officers of the Revenue Department on area basis. The Tahasildar is responsible for the annual assessment and collection of water charges and works under the control of the Collector for the district. The Tahasildar after jointly agreeing with the Water Resources Department on certification of the area irrigated collects water charges accordingly. The amount of water charges collected from the water users by the Revenue Department goes to the general revenue or state treasury. Thus, water is supplied by the Water Resources Department, water charges are collected by the Revenue Department and whatever is collected goes to the state treasury. Therefore, the Irrigation agency does not feel itself accountable to the farmers, as it is not receiving the payments for providing the service. Further, the revenue yields from water charges are not earmarked for irrigation development. It is advocated that the whole or substantial part of the receipts from each irrigation system should be earmarked for operation and maintenance of the system concerned. There should be partial financial autonomy.

It is observed that the revenue receipt from sale of water is far less than the cost of providing irrigation service. Moreover, there is a wide gap between the amount of water charges assessed or demand raised and the actual amount collected. About more than 50 per cent of assessments issued is remaining as arrears. Most important reasons for non-payment of water rates usually adduced by the farmers are inability of the farmers to pay, unwillingness to pay and faulty assessment (Pant, 1981).

Also, it is observed that mostly the large and influential farmers evade payment on different pretexts. The collection process of water charges from water users is beset with difficulties due to several reasons as follows (GOO, 1993): (a) the person collecting water charges hails from a different department and is not certain whether an area was supplied with water or not;(b) problems in water supply with regard to timeliness, adequacy, reliability and predictability resulting in gross discrepancy between the standards of service provided and that promised; (c) little perceived benefit by farmers especially in tail ends; (d) arguments with landowners over whether basic water rate should apply when water is received indirectly from uncontrolled canal leakages etc; (e) absence of any direct link between the charges, the quantity of water received and the entitlement to receive water; (f) irrigation causing adverse effects like water logging, salinity and crop loss.

The sad picture of collection of water charges falling short of the assessments issued and the resultant piling up of arrears is also visible in other states of India. Moreover, the high cost of collecting water rates from thousands of farmers is a matter for concern. An extreme case is

Bihar, where the cost of collection exceeds the amount of water charges collected. Further, in all the states, the amount of water charges collected hardly covers the operation and maintenance expenses of irrigation projects.

6. **Water Rate Determination**

While fixing water rates, factors affecting both demand for and supply of irrigation water need be taken into consideration. The costs incurred in supplying water is as important from the point of view of the supplier of the service/irrigation agency, the benefits derived from the use of irrigation water is equally a matter of prime concern for users of water/farmers. Now there is increasing emphasis on cost recovery from water users to provide improved and sustainable irrigation service. The irrigation project cost has two components: fixed or capital cost and variable or O&M cost. The annual cost of providing irrigation consists of three elements: (a) operation and maintenance expenses (O&M); (b) depreciation and (c) interest on capital invested. There is diversity of opinion as regards which components should be taken into account to fix the water rates.

The National Water Policy adopted in 1987 envisaged that water rates should cover annual maintenance and operation charges and part of the fixed cost. Recent National Water Policy 2002 emphasizes the physical as well as financial sustainability of existing irrigation systems. It stipulates that water charges should cover at least operation and maintenance costs of providing the service initially and a part of the capital costs subsequently. However, it prescribes subsidy to the disadvantaged and poorer sections of society, which should be transparent and reach the targeted population.

In the 2002 National Water Policy, equity and social justice in water allocation was stressed upon. Disparities in the availability of water between head-reach and tail-end farms and between large and small farms should be obviated by adoption of a rotational water distribution system and supply of water on a volumetric basis subject to certain ceilings and rational pricing. Concerted efforts should be made to ensure that the irrigation potential created is fully utilized. For this purpose, the command area development approach should be adopted in all irrigation projects.

According to the draft National Water Policy 2012, in order to meet equity, efficiency and economic principles, the water charges should preferably / as a rule be determined on volumetric basis. Water Users Associations (WUAs) should be given statutory powers to collect and retain a portion of water charges, manage the volumetric quantum of water allotted to them and maintain the distribution system in their jurisdiction. WUAs should be given the freedom to fix rates subject to floor rates determined by WRAs. A Water Regulatory Authority (WRA) should be established in each State. The Authority, inter-alia, will fix and regulate the water tariff system and charges, in general, according to the principles stated in this Policy in an autonomous manner and such tariff will be periodically reviewed.

The Odisha State Water Policy (2007) prescribes that the cost of operation and management will be fully recovered from the beneficiaries. Norms will be established for ensuring water rights commensurate with water rates. The State will explore the possibility of setting up a regulatory authority for fixation of water rates in order to achieve full cost recovery of the O&M charges.

However, the Vaidyanathan Committee (1992) appointed by the planning commission was of the opinion that full-cost recovery cannot be sought without improving quality of irrigation. Therefore, in the first phase the aim should be to at least cover O&M costs and 1 per cent interest on capital employed. On an India-wide basis this would mean a five-fold increase in water charges and would present about 6 per cent of the gross value of irrigated production. If we examine the cost recovery aspect of irrigation projects in Odisha, the picture is alarming. In 1993-94 the funds to be made available for operation and maintenance of irrigation assets was around Rs.263 million. In 1991-92, revenue collection from all water rates totaled Rs.49 million from demand of Rs.96 million. Thus, only 20 per cent of present O & M cost is borne by the beneficiaries of the irrigation projects. Thus state managed irrigation systems have become financially unsustainable.

Also, there is difference of opinion as regards which costing principle should be followed in fixing water rate? Whether water rate should be equated with average cost or marginal cost? Champati and Patnaik (1985) have determined the average cost and marginal cost of irrigation water in the case of Salandi irrigation project in Odisha and have indicated that there is significant gap between water rate and the costs of providing irrigation water. They are apprehensive of fixing water price at MC/AC as farmers will be hesitant to use water at such high prices. Though it is theoretically sound, it is practically unworkable due to the low income and lack of ability to pay of the farmers especially marginal and small farmers.

Now coming to the demand for irrigation water, from the point of view of water users it is not the cost of providing irrigation service but the benefits that accrue from use of irrigation water need to be taken into consideration to determine water rates. In this regard the Irrigation Commission (1972) envisages that water rates should be fixed at around 5 per cent of gross income for food crops and 12 per cent for cash crops. At present, the actual gross receipts per hectare of area irrigated by major and medium projects is barely 2 per cent of the estimated gross output per hectare of irrigated area. In Odisha farmers are paying only 0.4% to 0.7% of value of production. The incremental benefits due to use of irrigation water is considerably greater than the payments that the farmers make to get irrigation service. Thus farmers enjoy significant economic rent, which need to be tapped for improving irrigation service or extending irrigation facility. Thus there is enough scope to increase water rates without causing any discouragement to the farmers.

7. Conclusion

From the foregoing discussion on financial reforms in irrigation sector in Odisha, the following suggestions are made for fine tuning the reform efforts to boost production from irrigated agriculture.

Financial reforms should go hand in hand with the institutional restructuring process to improve irrigation performance. To promote efficient, equitable and sustainable water use it is not only necessary to decentralise irrigation management by devolving management functions to WUAs, at the same time it is required to empower the WUAs by giving them sufficient financial autonomy in generating their own resources by fixing, assessing, collecting water rates and retaining and utilising water charges collected for enhanced service delivery to water users.

It is suggested that while charging irrigation water the 'user pays' principle should be followed. It is observed that during last two decades the state government has been facing severe resource constraint for which cost recovery should be the main consideration in the process of determination of water rate. It should be kept in mind that while fixing water rate, it should be fixed at such a level so as to cover at least O&M expenses of irrigation. From the point of view of both enhancing efficiency and equity current highly subsidised water rate should be increased in a phased manner considering the consumer acceptability and ability to pay of the farmers. A gradual improvement in irrigation management with farmers' participation will convince the farmers of the benefits of irrigation. When the farmers will get substantial benefits from improved irrigation management scenario, a two-part tariff structure may be applied. A fixed sum for getting the irrigation service at a flat rate on per hectare basis towards capital cost of the project to be recovered in 100 years from water users and then a variable charge according to area actually irrigated and types of crops grown to cover O&M expenses may be adopted. The first part may be reimbursed to the parent irrigation agency and the second part may be retained by the WUA/ Pani Panchayat for operation, maintenance and repair of the project. Once the farmers' institution takes over the water rate collection responsibility, the free riders will be forced to pay the water rate due to peer pressure and in fear of social ostracism.

When the methodology of water pricing is considered, charging irrigation water volumetrically according to the actual quantity of water used is well deliberated to be the best method of water pricing as it encourages allocative efficiency with a scope to provide incentive to economic and efficient water use and has the opportunity for greater water conservation. But in the institutional context of Indian states in general and Odisha in particular where a gravity irrigation system serves a large number of small farmers, volumetric irrigation pricing is technically infeasible, administratively unmanageable and economically prohibitively expensive. Therefore, the current practice of charging water according to area irrigated differentiated by crops grown and season may continue. In lift irrigation projects where a direct outlet is given to land of particular farmer it is possible to charge per hour of pumped water supply.

While considering the principles in fixing water rates, the allocative efficiency objective should be accorded the utmost importance. The pricing policy should improve irrigation performance by encouraging optimum utilisation of water. Other goals, which should be given due attention are meeting financial requirement of irrigation agency, consumer acceptability, minimisation of administrative costs and promoting environmental efficiency. The equity objective may be taken care of by extending subsidy to the poor and the disadvantaged farmers, whose income is below poverty line. The subsidy component should be transparent and well targeted to the resource-poor farmers only.

Moreover, for improving irrigation system performance, sufficient financial autonomy is a necessary precondition for the irrigation management institution. This will result in greater accountability of the irrigation agency to the water users and will also encourage water users' involvement and participation in irrigation water management. The responsibility of collection of water charges should be transferred from the Revenue Department to the Department of Water Resources and amount collected must be earmarked for O&M of the concerned project.

In the assessment, billing and collection of water charges there must be administrative decentralisation. The Water Resources Department will sell water in bulk volume to the WUAs. The WUAs will distribute water among the members according to their entitlements. The task of collection of water charges from individual water users will rest on the WUA. Through appropriate persuasion, pressure and penalty measures the collection of water charges can be improved. The WUA will retain a part of the collected water charges as a commission for collection work. In due course the WUAs may be empowered to fix or determine water rates based on cost considerations. However, there should be an independent and competent regulating authority to oversee water rate fixation procedure and to provide guidelines and norms on the basis of which water rates will be determined. The WUAs or Pani Panchayats should be involved in decisions on determination of irrigation water charges and other water services management and expenditures.

References

Bharadwaj, K., (1990), "Irrigation in India: Alternative Perspectives", ICSSR Research in Economics, Second Survey, Monograph-3.

Champti, M. and S.C. Patnaik., (1985), "A Functional Approach to fixation of Water Rate under the Principles of Marginal and Average Costs: A case study of Salandi Irrigation Project of Orissa", *The Indian Journal of Economics*, Vol.66, Part I, No.260, July, pp.21-37.

Dhawan, B.D., (1998), "Irrigation in India's Agricultural Development: Productivity, Stability and Equity", Sage Publisher, New Delhi, India.

Government of Orissa (1993), "Report on Water Charges for Major and Medium Irrigation Projects", Water Resources Consolidation Project, Orissa Irrigation Department.

Government of Orissa (2007), State Water Policy, Department of Water Resources.

Government of India (1987), National Water Policy, Ministry of Water Resources.

Government of India (2002), National Water Policy, Ministry of Water Resources.

Government of India (2012), Draft Report, National Water Policy, Ministry of Water Resources.

Gulati, A. and et al., (1994), "Major and Medium Irrigation Schemes: Towards Better Financial Performance", *Economic and Political Weekly*, Vol.29, No.26, June 25, pp.A72-A79.

Hooja, R., Panagare, G. and Raju, K.V., (eds) (2002), "Users in Water Management", Rawat Publisher, Jaipur, India.

Mallik, R.M. and Padhi, S.P., (1995), "Irrigation System in Orissa, Its Impact on Agricultural Development", Study sponsored by the ICAR, New Delhi under its Adhoc Scheme, Nabakrushna Choudhury Centre for Development Studies, Bhubaneswar.

Mitra, A.K., (1996), "Irrigation Sector Reforms- Issues and Approaches", *Economic and Political Weekly*, 31n (13), A 31-37.

Organisation for Economic Cooperation and Development, (1987), Pricing of Water Services, Delhi: Oxford & IBH Publishing Co.

OECD, (1999), Agricultural Water Pricing in OECD Countries, OECD Working Paper No.33.

Pant, N., (1981), Some Aspects of Irrigation Administration, Calcutta: Naya Prokash. Chapter VI.

Small, L.E. and Ian Carruthers, (1991), Farmer-financed Irrigation: The Economics of Reform, Cambridge: University Press.

Svendsen, M. and Gulati, A. (eds.), (1995), Strategic Changes in Indian Irrigation, ICAR, New Delhi, IFPRI, Washington DC, USA.

Swain, Mamata (1998), "Water Rate Fixation in Major and Medium Irrigation Projects in Orissa: Issues and Problems", Water and Energy International, Vol.55, No.2.

Swain, Mamata and D.K. Das (eds.), (1999), Emerging Trends and Reforms in Irrigation in India: A Perspective of Orissa, Delhi: M.D. Publishers.

Swain, Mamata and G.C.Kar (eds.) (2000), "Farmer and Local Participation in Irrigation Management and System Turnover", New Delhi: Commonwealth Publishers.

Swain, Mamata (2003), "Demand Driven Rural Drinking Water Supply with Cost Recovery Component: Applied Policy Issues", Man & Development, Vol.25, No.1, pp.85-94.

Vaidyanathan, A. (1992), Report of the Committee on Pricing of Irrigation Water, Planning Commission. Government of India, Indian Journal of Agricultural Economics, Vol.49, No.1, pp.107-23, 1994.

PMJDY and Financial Inclusion in India: *Challenges and Way Forward*

Damodar Jena[1]
Padmalochan Rout[2]

Financial inclusion is a process of making financial services including savings, credit, insurance and remittance facilities available, accessible and affordable. It does not mean mere opening of bank account or the provision of credit alone. As per 2011 census, almost half of the households especially in rural India were unbanked. To address the problems of unbanked households, the government of India announced PMJDY on 28 August 2014. By 28 January 2015, more than 12 crore accounts were opened. However, by comparing the number of accounts under PMJDY with the percentage of households which have availed banking services as in 2011, it is found that significantly more accounts were not opened in the states with lower percentage of banked households. Based on the frantic response to PMJDY in terms of opening of the record number of bank accounts, the following fundamental questions have been raised and answered in this article. They are: (a) why so much hustle to open accounts under PMJDY?; (b) what are the important fixed and operational costs involved to meet the very purpose of financial inclusion?; (c) who will bear the cost and for what?; and (d) how will this cost be covered?

Key Words: Financial inclusion, enabling approach, delivery approach, operational cost, fixed cost, livelihoods, credit, saving, insurance, remittance and pension.

JEL Classification: D23, E44, E51, G23, H55, H81, I31, I38, J65, O16, O23.

Credit and financial institutions are the arteries and veins of an economic system. Financial reforms and financial inclusion are the pre-requisites for inclusive development. Nationalization of banks in 1969 is one of the milestones in financial reforms as it was designed to make financial services available to the poor and the deprived. After long time, in 2005-05, the BC-BF guideline by Reserve Bank of India (RBI) was the first effort to move forward banking to the unbanked. It followed with many changes as international waves from Kenya's M-pesa, Philippines' Smart and Globe and much more structured Bolsa Familia famed Brazil's inclusion efforts (FFIFS, 2015). Subsequently, the Payment and Settlement Systems Act in 2007-08 and recommendations of the Rangarajan Committee on financial inclusion have been the foundations for financial inclusion in India.

[1] *KIIT School of Rural Management (KSRM), KIIT University, Bhubaneswar -751024*
Email: damodarjena@ksrm.ac.in / damodarjena@gmail.com
[2] *Panchayat Prahallad College, Nischintakoili, Cuttack*

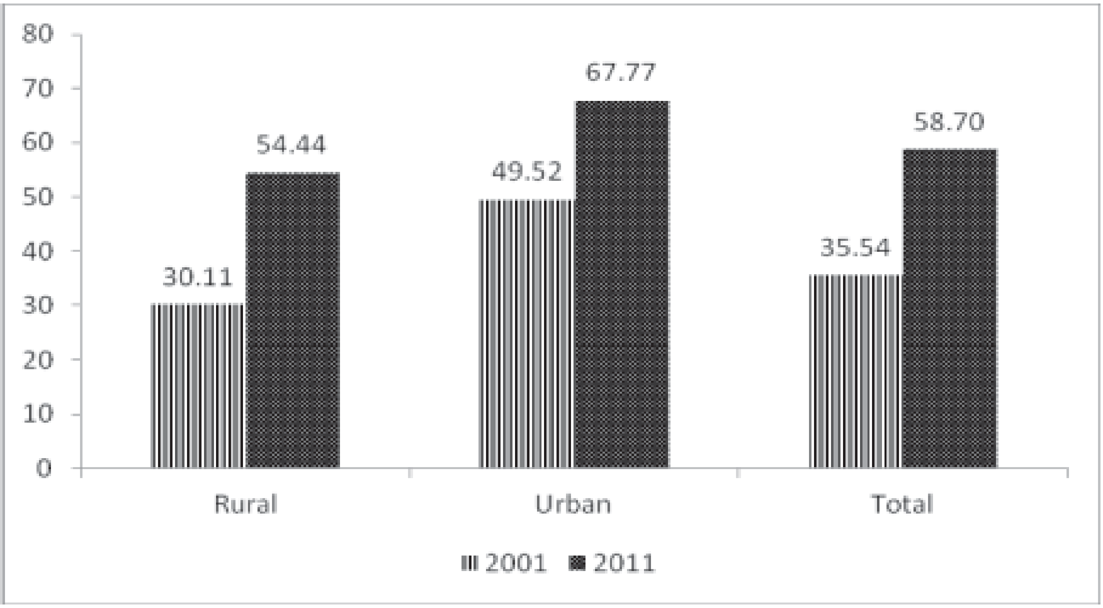
During the last 10 years, starting from zero balance – no frill account to Swabhiman, financial inclusion has gone through many contours. About 200 million accounts were opened and an overdraft of Rs. 166 crore was given by the banks under the scheme of Rs. 500 as incentive for the deserved till March 2013. In this context, the RBI has stepped forward in consultation with the Ministry of Finance, Government of India to fortify the country's financial system. To have a strong financial system it is necessary to have a strong payments system in place. Although starting late, the efforts are carried out through the Payment Systems vision documents (RBI, 2009-12; 2012-15).

In the endeavour, the new government on 28 August 2014 announced a completely revitalised and revamped financial inclusion programme named Pradhan Mantri Jan Dhan Yojana (PMJDY). It marked a departure from the past significantly without deviating the target of financial inclusion as the focal point. The differences were strategic and focussed (a) For the first time it became the government's mission mode project and the Department of Financial Services under the Ministry of Finance took charge of the mission, instead of RBI's supervision.(b) Attractive incentives are loaded with the programme including Rs. 5000 overdraft facility, Rs. 1,00,000 accidental insurance coverage, and a RuPay Debit Card. (c) Household, instead of individual, is the target. (d) The State Level Bankers' Committee (SLBC) and the state governments are brought under a government scheme.

1. Jan Dhan Yojana and Financial Inclusion in India

Financial inclusion is a process of making financial services including savings, credit, insurance and remittance facilities available, accessible and affordable. It does not mean mere opening of bank accounts or the provision of credit alone. However, as per 2011 census, 58.70 per cent of the total households in India had availed banking services. This share was relatively lower in rural areas (54.44 per cent) than that in urban areas at 67.77 per cent (Figure-1). In other words, almost half of the households, especially in rural India were unbanked.

Figure-1: Percentage of households availing banking in rural and urban India during 2001 and 2011 Census



This share of unbanked households was found to be much lower among the different deprived sections such as scheduled caste (SC), scheduled tribe (ST) and female-headed households (Table 1).

Table-1: Percentage of households availing banking services in India by caste during 2001 and 2011 Census

Rural/Urban/ Total	2001			2011		
	SC	ST	All	SC	ST	All
Rural	16.84	16.08	30.11	43.27	46.35	54.44
Urban	42.30	32.25	49.52	52.5	50.39	67.77
Total	25.20	19.46	35.54	46.48	47.23	58.70
Female headed households	NA	NA	NA	NA	NA	53.40

Source: Census of India, 2001 and 2011.

To address the problems of unbanked households, the government of India announced, as mentioned earlier, PMJDY on 28 August 2014. On the same day, almost 600 account opening camps were conducted countrywide. By the time the Prime Minister actually inaugurated the programme, nearly a crore of accounts were opened. Considering this progress, the original target of 7.5 crore accounts from 15 August 2015 was pruned back to 26 January 2015. By the end of November 2014, more than seven crore accounts had already been opened and by 28 January 2015, the number rose to more than 12 crore (Table-2). However, by comparing the accounts under PMJDY with the percentage of households availed banking services during 2011 Census, it is found that significantly more accounts were not opened in the states with lower percentage of banked[3] households ($r = -0.012; p = 0.946$) (Table-3).

[3] *Household availed banking services as per 2011 Census.*

Table-2: Households availing banking services and no. of accounts opened under PMJDY

Sl. No.	India/ State/ Union Territory #	Total No. of Households (Excluding institutional households) #	% of Households availing banking services#	Total no. of accounts under PMJDY *as on 28 January 2015*			% of households with bank account under PMJDY*
				Rural	Urban	Total	
1	A & N Islands	93376	89.30	30161	12207	42368	11.15
2	Andhra Pradesh	21024534	53.10	6386265	4403053	10789318	12.74
3	Arunachal Pradesh	261614	53.00	69799	15229	85028	6.15
4	Assam	6367295	44.10	2854220	1006642	3860862	12.39
5	Bihar	18940629	44.40	6130548	2427424	8557972	8.24
6	Chandigarh	235061	80.10	25742	140112	165854	15.73
7	Chhattisgarh	5622850	48.80	3486532	1857520	5344052	20.92
8	Dadra & Nagar Haveli	73063	56.70	27803	6631	34434	10.04
9	Daman & Diu	60381	65.40	11467	4924	16391	6.75
10	Goa	322813	86.80	75583	24698	100281	6.88
11	Gujarat	12181718	57.90	2598306	2298032	4896338	8.11
12	Haryana	4717954	68.10	2038479	1587444	3625923	14.30
13	Himachal Pradesh	1476581	89.10	560128	78178	638306	9.31
14	Jammu & Kashmir	2015088	70.00	969953	194961	1164914	9.28
15	Jharkhand	6181607	54.00	1787590	862346	2649936	8.04
16	Karnataka	13179911	61.10	4076282	2490831	6567113	10.74
17	Kerala	7716370	74.20	941677	775430	1717107	5.14
18	Lakshadweep	10703	85.30	4064	224	4288	6.66
19	Madhya Pradesh	14967597	46.60	4845434	4868073	9713507	13.38
20	Maharashtra	23830580	68.90	4036063	4355181	8391244	7.47
21	Manipur	507152	29.60	178021	202771	380792	13.99
22	Meghalaya	538299	37.50	95656	44987	140643	4.75
23	Mizoram	221077	54.90	23593	43604	67197	6.16
24	Nagaland	399965	34.90	67353	50038	117391	5.93

25	NCT of Delhi	3340538	77.70	241062	1957557	2198619	13.12
26	Odisha	9661085	45.00	3057093	1164141	4221234	10.06
27	Puducherry	301276	64.00	42408	41863	84271	6.77
28	Punjab	5409699	65.20	2156404	1466583	3622987	13.08
29	Rajasthan	12581303	68.00	5232351	3492468	8724819	12.71
30	Sikkim	128131	67.50	48427	8385	56812	9.35
31	Tamil Nadu	18493003	52.50	3131485	2494222	5625707	7.80
32	Tripura	842781	79.20	246381	100042	346423	9.44
33	Uttar Pradesh	32924266	72.00	11480960	7417870	18898830	9.47
34	Uttarakhand	1997068	80.70	869529	416010	1285539	12.71
35	West Bengal	20067299	48.80	5850292	3120227	8970519	9.82
36	**INDIA**	**246692667**	**58.70**	**73677111**	**49429908**	**123107019**	**10.17**

Note: *It is assumed that no multiple accounts per household is opened under PMJDY.
Sources: # Census of India 2011.
Official website of the PMJDY (*http://pmjdy.gov.in/account-statistics-statewise-table.aspx*)

Table -3: Correlation between % of households availing banking services and % of households with bank account under PMJDY

		%of HHs availing banking services (2011 Census)	% of HHs with bank account under PMJDY (as on 28 Jan 2015)
%of HHs availing banking services (2011 Census)	Pearson Correlation	1	-.012
	Sig. (2-tailed)	-	.946
	N	36	36
% of HHs with bank account under PMJDY (as on 28 Jan 2015)	Pearson Correlation	-.012	1
	Sig. (2-tailed)	.946	-
	N	36	36

Note: It is assumed that no multiple accounts per household is opened under PMJDY.

2. Approaches of Financial Inclusion

There are different ways of categorising the various approaches of financial inclusion. Based on the different dimensions of financial inclusion, Dasgupta (2009) has grouped the approaches of financial inclusion under two heads, i.e. Rangaranjan Committee (Rangarajan,

2008) approach and Raghuram Rajan Committee (Planning Commission of India, 2009) approach. The former defined financial inclusion as "the process of access to financial services and timely and adequate credit needed by vulnerable groups such as weaker sections and low income groups at an affordable cost". It focuses more on credit dimension of financial inclusion. On the other hand, the Raghuram Rajan Committee focuses on the other dimensions of financial inclusion such as savings, remittances, insurance and pension needs of poor. It says "the most important financial services for the poor are vulnerability reducing instruments. These include savings, remittances, insurances and pension needs".

Both the approaches, in fact, seem to be important. But the question is how to ensure them. In this regard, we would like to bring the other two approaches, viz. Delivery Approach and Enabling Approach. As per the Delivery Approach, irrespective of the dimensions and components of financial inclusion that needs to be given to the beneficiaries, it does not necessarily assure their entitlement and ownership. Moreover, over the years, through delivery approach of our development programmes made our potential beneficiaries dependent and attitude of competing to become poor. Attractive features with subsidy components of the programmes have been, in fact, used as free gift rather than as instrument to enable them to come out of poverty. No doubt that the delivery approach is extremely appropriate to a particular section of poor who are really getting marginalised. But no one can deny that the socio-economic condition of a section of poor has been improving even though they have not yet come out of poverty (Krishna, 2005). Unless they are differently approached, the common programmes including the attractive features of the PMJDY would not yield better results.

The enabling approach, on the other hand, focuses systematically on capacity building of the defined beneficiaries with their confidence and ownership. They may need handholding support to start up, but that handholding support has to be carefully differentiated from the popular so called "free" culture. Rather they need to be enabled and followed up in the process of development with defined and accountable implementation strategies and action points. The provision of financial inclusion, especially with regard to credit, has to be integrated with their livelihood requirements by considering their skill and available market.

3. Challenges of and Way Forward for Financial Inclusion

Based on the frantic response to PMJDY in terms of opening of the record number of bank accounts, the following fundamental questions arise, which need to be addressed. This section covers these questions and responses to them.

a) Why so much hustle to open accounts under PMJDY?

b) What are the important fixed and operational costs involved to meet the very purpose of financial inclusion as stated in the earlier section?

c) Who will bear the cost and for what?

d) How will this cost be covered?

3.1 Why so much of hustle to open accounts under PMJDY?

As stated earlier, the process of development especially through development programmes with political vested interest, the potential beneficiaries have been dependent on such programmes. Moreover, it is observed that over a period of time, people have developed an aspiration of becoming officially poor to avail different benefits including subsidies. The attractive features of PMJDY especially the overdraft facility of Rs. 5000 might be the important influencing factor[4] to open bank account irrespective of their knowledge of eligibility to avail the overdraft. Further, some of them are under the impression that the overdraft amount is free. The above observations, of course, need to be empirically verified.

It is also found that 844.73 lakh accounts of the total 1257.73 lakh, which constitute more than two-thirds of accounts, were with zero balance. By the facilitating category of banks, relatively higher share of zero balance accounts as compared to the share of total accounts were found with Regional Rural Banks (Table-4). This fact corroborates the argument mentioned above.

Table-4: Accounts opened by categories of institutions as on 31 January 2015

Category of institutions	% of accounts by category of institution			% of RuPay Debit Cards by category of institution	% of balance in accounts by category of institution	% of accounts with zero balance by category of institution
	Rural	Urban	Total			
Public Sector Banks	71.05	89.48	78.27	82.34	77.86	77.59 [66.57]
Regional Rural Banks	24.65	6.54	17.32	13.51	15.23	18.86 [73.14]
Private Banks	4.30	3.99	4.16	4.15	6.91	3.55 [57.22]
Total	100.00 (750.15)	100.00 (504.57)	100.00 (1257.73)	100.00 (1107.93)	100.00 (1049962.62)	100.00 [67.16] (844.73)

Note: Figures in parentheses show the respective total (in lakh). Figures in square parentheses show the percentage of zero balance account to their respective total no. of accounts.

Source: http://pmjdy.gov.in/account-statistics-country.aspx.

[4] *Based on the poor insurance penetration and low insurance literacy particularly in rural India, rupees one lakh insurance coverage might not be as important as the Rs. 5000 overdraft facility to motivate people for opening account hurriedly. The similar is the case of RuPay Card factor.*

3.2 What are the important fixed and operational costs involved to make accounts under PMJDY functional?

As per the Aadhaar Task Force report 2012, the annual cost of each account would be Rs. 240, which includes Rs. 55 as unamortised account opening cost and Rs. 185 as recurring annual operating cost. Based on the Swabhiman Scheme experience, assuming 75 per cent accounts to be dormant, this would demand almost Rs. 2500 crore operational cost by banks without getting back any direct return. These costs do not include the cost related to infrastructure and other necessary fixed assets. Besides, to make these accounts operational, there is a need to provide BCs, if not bank branches, in all the areas including remote rural and tribal pockets. In addition to salary minimum of Rs. 5000 per month per BC, they need to be regularly trained and updated with the emerging financial service delivery developments. This would also demand additional cost.

The fixed costs involved, in this regard, include the cost of upgrading the internal infrastructure, adaptable system and software particularly with BCs, opening of new branches and ATMs particularly in rural areas and making available POS machines especially in rural areas. As on March 2014, less than 15 per cent of the total ATMs were found to be in rural areas where about 70 per cent of population live (Table-5).

Table-5: ATMs by area in India as on March 2014

Area	No. of ATMs	% of ATMs
Rural	23334	14.58
Semi-urban	43200	26.99
Urban	47641	29.77
Metropolitan	45880	28.67
Total	160055	100.00

Source: Report on Trend and Progress of Banking in India 2012-13, Reserve Bank of India, Mumbai.

3.3 Who will bear the cost and for what?

Opening account is not an end itself, but is an instrument to enable the poor households to achieve better livelihoods. And it is the banks that can make these accounts as real instrument for better livelihoods and poverty reduction. Besides, as mentioned earlier, almost half of the total households were unbanked, those are expected to be covered under PMJDY. If these households are really enabled through banking services and linked to their livelihood, not only the poor households will be benefited but also the banks will grow further by taking the leverage of banking transaction with such a huge section of population. However, these transactions have to ultimately be linked to the livelihood requirements of the poor with a clear and systematic follow up action points by the bank. This responsibility may be taken up by the banks along with the costs as mentioned above. It is proposed that the banks need to bear the costs as they will, in the process, take the leverage of such a huge transaction.

3.4 How will this cost be covered?

The above mentioned cost may be covered within a stipulated period by pulling a proportion of the corporate social responsibility (CSR) components of the banks and may be operated at the respective state or district level. The operational details may be worked out by context accordingly. To minimise the operational costs particularly related to BCs, one BC for different banks of a particular geographical area may be initiated.

With this, it is concluded that opening account is not an end itself, but it has to be an instrument to enable the poor households to achieve better livelihoods and banks to take leverage of huge banking transactions through the process.

References

Dasgupta, R. (2009). "Two Approaches to Financial Inclusion", Economic and Political Weekly, Vol. XLIV, Nos. 26 & 27, pp. 41-42.

FFIFS (2015). "Approach Paper on the Conference Series – Transacting Jan Dhan", Conference approach paper of the conference *Transacting Jan Dhan Yojana: A Quest for Deepening Financial Inclusion*, organised by Forum for Inclusive Financial System (ffifs) in collaboration with SAHAJ, Bhubaneswar held at Mayfair Convention Centre, Bhubaneswar on 13 February 2015.

Government of India (n.d.). "Swabhiman'-Transforming Rural India through Financial Inclusion", http://www.webcitation.org/6XKf3IPlg.

Krishna, A. (2005). "Pathways Out of and Into Poverty in 36 Villages of Andhra Pradesh, India", *World Development*, Vol. 34, No. 2, pp. 271-288.

Planning Commission of India (2009). "Broadening Access to Finance" (Chapter 3) in *A Hundred Small Steps: Report of the Committee on Financial Sector Reforms*. New Delhi: Sage Publications.

Rangarajan, C. (2008). *Report of the Committee on Financial Inclusion*, Ministry of Finance, Government of India, http://www.babard.org/report_comfinancial.asp.

RBI (2009-12). *Payment Systems in India: Vision 2009-12*, Mumbai: Reserve Bank of India.

RBI (2012-15). *Payment Systems in India: Vision 2012-15*, Mumbai: Reserve Bank of India.

Role of Commodity Derivative in Financial Inclusion: with Special Reference to Indian Agricultural Sector

Shradhanjali Panda [1]
Ananya Mitra [2]

As per the Memorandum of Understanding signed in 2010 between India and US, both countries decided to focus on farm-market linkages and private investment in agriculture, food security, cooperation and nutrition. Seventy seven such MoUs have been signed by India with 63 countries. All these have mostly focused on heavy dependence on monsoon and inadequate finance as the two factors behind slow progress of Indian agriculture. The first one is beyond human control, but the second issue can be dealt with. NABARD has taken many steps to provide financial assistance to agriculture and allied sectors. But to put up with the burden of financing the world's second largest farm output nation might be too much even for NABARD. Private-Public Partnership is the need of the hour. Concepts like corporate farming, agro-derivative and agricultural insurance should be openly encouraged. By allowing PPP, India can achieve the dual objectives of reducing poverty as well as widening coverage of financial inclusion. In this context the paper tries to create a link between agro-derivative and financial inclusion. The paper makes a modest attempt to suggest the need of commodity derivative in the agriculture sector by focusing on its advantages. Once the need has been confirmed then the paper relates the reason for highlighting agriculture as the focal point of financial inclusion. It also makes a connection between contribution of commodity derivatives and financial inclusion.

Key Words: Financial Inclusion, Indian Agriculture, Commodity Derivative

JEL: G11,G12, G23, Q11, Q13.

1. Introduction

In India the contribution of agriculture and allied sectors to national income has declined from 51.9 % in 1950-51, to 13.7% in 2012-13 at 2004-05 prices, because of the shift from a traditional agrarian economy to industry and service. But agriculture is still important as it provides livelihood to millions of small and marginal farmers and ensures food security. Hence there is a need to boost agriculture. Finance is needed starting from buying seeds to preparing land and in post harvest activities like processing, grading and transporting. It also enables the

[1] *Shradhanjali Panda can be reached at shradha313@yahoo.co.in*
[2] *Ananya Mitra can be reached at ya.lubalu.dibya@gmail.com*

farmer create and access support infrastructure such as irrigation, warehouses and processing units. Despite several policy measures for financial inclusion, inadequate financial resources and non availability of appropriate risk management tools constrain small and marginal farmers.The demand for food is inelastic, small changes in supply (higher output) can lead to big changes in prices and generate higher risk (farmer suicide cases). The smartness lies in selecting a risky project like agriculture and yet making profit out of it. Here comes the role of risk management. Price risk management is very critical to the success of agriculture, and yet there is a lack of tools to manage risk as well as of understanding of the tools itself.

Through the supply chain, from the stage of production to marketing, agricultural performance is highly dependent on many exogenous variables. Crop output and productivity are highly susceptible to uncontrollable factors like climatic disruptions, natural hazards and pest attacks among others. Physical risks such as pilferage and quality deterioration can result in a considerable loss of value during storage and transportation. Trading risks of non-delivery and counterparty default also reign high. In many countries, faulty and complex government policy incentives have resulted in agriculture planning being highly unresponsive to market demand. This paper tries to focus on how commodity derivative as a risk management tool can help the small and marginal farmers and simultaneously contribute to achieving financial inclusion.

The paper is structured into four sections. Section-I introduces the subject with a brief review of literature and objectives. Section-II highlights the need for and forms of commodity derivations. An analysis of the role of commodity derivatives in agriculture in achieving financial inclusion is presented in section-III and section-IV identifies the problem areas and concludes with some suggestions.

1.1 Literature Review

Volatility of primary commodity market puts the marginal farmers, government, traders, consumers, and financial institutions financing agricultural commodities to greater risk (Larson et al., 1998). FAO's food price index shows extreme variability of world agricultural prices over the last 40 years. Volatility was at its peak when index rose from 122 in 2006 to 214 in June 2008, then falling to 140 in March 2009 thus creating food price crisis. After a severe drought in Russia, the index climbed up to a new high of 215 in December 2009. Petroleum prices, crop yields, food stock levels, exchange rates, trade policies, bio-fuel production, investment, authentic data, growing population, income, Havala Market, risk in production (weather, pesticides, irrigations), marketing (uncertainty about price of inputs and outputs), political forces, legal factors (government) rules and actions), financial situation (methods) of) financing, rate of interest, cost) and personal factors (uncertain) life) events) are cited as some causes (Deaton and Laroque, 1992; Abbott and Battisti, 2009; Cashin and McDermott, 2002; Matthews, 2010; Gilbert, 2010; Gilbert and Morgan, 2010). In India agricultural price volatility exists mainly due to unpredictable climate condition (Kumar and Parikh, 2001; Hansen, 2002), unavailability of credit (Binswanger et al., 1987) and high interest rate charged by local Havala Market.

Empirical results indicate that appropriate tariffs, support price and open-market sales of public stocks may reduce divergences, contain volatility and maintain price stability in the market (Bathla, 2013) for a short while the impact of these fade out quickly. Every method tried in India has been proved less and less effective with time. Minimum Support Price is highly inflationary in nature, distorts the market mechanism and brings about demand-supply imbalances (Chand, 2009). Exchange rate is market determined and it affects agriculture adversely. Food price volatility is inversely related to the level of food stocks. Now that public and private sectors have lowered their stocks the risk of price volatility has gone up. Before 1990, buffer stocks, buffer funds, government intervention in commodity markets and other measures were used, but all of them proved futile as they were highly expensive, had slow penetration, low coverage and were mostly under corrupt officials. Tariffs were imposed post-2000, that too specifically on wheat and this resulted in slight decrease in domestic price and import of wheat.

Innovation in financial market can help the agriculturalists to defend themselves against market risk depending on their risk bearing ability (Ibarra and Skees, 2007). They might choose multi-peril crop insurance coverage to stabilize income and join a marketing cooperative (Barnett et al., 2006). India may be considered as the pioneer of derivative future market for agricultural goods. The first derivative market was set up in 1875 in Mumbai for cotton, followed by edible oilseeds, raw jute and jute goods and bullion (gold bars, silver bars, and other precious metals). Defence of India Act, 1935 restricted future derivative on certain essential food articles to maintain government control. During the 1950s India had to suffer from food scarcity along with growing population because of which Forward Contracts Regulation Act (FCRA) further restricted future trade on food items. At this time the Forward Markets Commission (FMC) was set up which believed that future markets were based on speculation which shall trigger price rise through increasing cost. Thus once a pioneer in derivative future market India was left behind compared to all other countries.

During the 1970s agricultural output increased by about 4 per cent of due to well regulated market in India (Binswanger et al., 1989). But unfortunately, now a days players of regulated financial market want to play safe by opening branches near the water bodies avoiding the drought prone areas. Because of this during the 1990s there has been huge market volatility in agricultural sector. Post-1990 very few developing countries started using commodity derivatives to hedge their commodity price risks (Larson et al., 2004). G20 members in November 2010 requested FAO, IFAD, IMF, OECD, WFP, the World Bank and the WTO "to develop options for G20 consideration on how to better mitigate and manage the risks associated with the price volatility of food and other agriculture commodities, without distorting market behavior, ultimately to protect the most vulnerable."

1.2 Objectives

Keeping in view the importance of emerging risk management tool in agriculture, the objectives of the study are set as follows.

- To focus on different features of Commodity Derivative along with its trading process.
- To establish link among financial inclusion, agriculture sector and commodity derivative.
- To study the contribution of commodity derivative in achieving financial inclusion.
- To analyze the problems faced by Indian farmers for participation in derivative trading and suggest corrective measures.

II. Commodity Derivative Need and Forms

Price volatility leaves a farmer uncertain as to whether he will receive a high price or a low price at the time of sale. The problem is, however, not limited to how much cash a farmer receives for his harvest. Every investment decision a farmer makes during the crop cycle is a difficult one because he does not know whether he will be able to pay back the loan for the investment (i.e. labor, fertilizer, equipment and repairs). The expected commodity price, prices of competing crops and government programs play important roles in determining the area (and the commodity) to be planted. Uncertain prices pressurise a borrower's ability to repay and thus make agriculture financing a risky proposition for lenders. In the absence of appropriate risk management instruments, financiers are reluctant to finance traders given the uncertainty in cash-flow. Often, they will raise interest rates to cover uncertain risks, or simply refuse to provide credit. Therefore lack of price risk management merges as one of the major reasons for which poor farmers stay poor.

Commodity derivatives in agriculture are justified on the following grounds (i) poor knowledge about the market farmers have and being the original producers have less access to market mechanism for which they cannot predict the future price to their produce at the time of harvest, (ii) The absence of a good quality assessment system, often result in lower price realization for the seller (farmer), which the buyer take advantage of the situation to buy at lower prices. (iii) the absence of a good grading system makes farmers unaware of the quality requirement of agricultural produce at the user end, making farmers neglect the quality aspect of the their produce, (iv) lack of a post-harvest guidance system and of any extended system of guide farmers on post harvest care results in substantial losses of value of the agriculture produce, (v) the practice of poor handling of agriculture product in the market results in large losses of the farm produce. Poor handling also results in substantial loss in quality during marketing of the produce, putting if far below international standards, (vi) lack of price information in respect of other markets compels farmers to rely mainly on the price quoted by local traders for which they have to sell at lower prices, (vii) absence of access to warehouse receipt financing pushed farmers to distress sales and lower price realization, (viii) limitation of selling options emerging from the system of marketing with only a few registered traders who often by in collusion among themselves means that farmers have restricted selling options, (ix) lack of effective information transmission leaves very high information arbitrage possibilities among the markets.

Price risk management instruments introduced in this paper can be categorized under the umbrella of "**Commodity Derivatives**". A derivative is defined as an instrument whose value depends on the value of an underlying variable. While this definition may not be fully comprehensive at this stage, derivatives can perhaps be better understood as financial instruments based upon a common forward pricing strategy which involves setting the price, or a limit on price, for a product to be delivered in the future. As a basic example, a commodity derivative is an instrument that permits one to buy or sell the commodity at a future time, at a price tentatively fixed today. Common underlying products in derivatives are stocks, currency, bonds and commodities. Further, derivatives could also be classified on the basis of the markets where they are available. There are two broad categories (i) the standardized instruments that are traded on commodity exchanges (the key derivative instruments are futures and options) and (ii) over-the-counter (OtC) instruments which are privately negotiated (the key derivative instruments are forward contracts and swaps).

Commodity exchange involves a financial market where different groups of participants trade commodity-linked contracts, with the underlying objective of either trading the commodity or transferring commodity price risks. Organized commodity futures exchanges have existed for more than a century. Exchanges have traditionally been defined by "pit" trading through an open outcry environment where traders and brokers shout bids and offers in a trading pit or ring. More recently, most exchanges have adopted electronic trading platforms where market participants post their bids and offers on a computerized trading system. In its original and simplest form, the OtC market resembles the traditional forward trade in commodities-a direct interaction between two parties, in this case, buyer and seller.

There are 4 forms of commodity derivatives such as forward contract, future contract, option contract and swap contract

Forward contracts allow the seller or buyer of a commodity to set the price of a given quantity in advance through privately negotiated mechanisms. Forward contracts are customized giving the negotiator flexibility over the quality, quantity and time of the transaction. Key among the various types of forward contract is the price-to-be-fixed (PTBF) contract, where the seller has the ability to fix the prices at the moment deemed most opportune. Deferred pricing contracts allow the seller to deliver a commodity at one period of time but permit the price to be fixed at a later date. One type of deferred pricing contract is the basis contract, which fixes the basis at the time of delivery but leaves the futures price open. The hedge-to-arrive contract works in the opposite manner; it fixes the futures price leaving the basis open. Deferred payment contracts allow delivery and pricing to occur at one period of time, but actual payment to take place at a later date. This is especially advantageous for tax purposes. The minimum price contract guarantees a minimum price with an opportunity to participate in future price gains.

Futures contracts are similar to forward contracts but standardized and exchange traded. There are two ways in which they could be used for risk management. In the first mechanism, firms planning to buy or sell in the physical market can instead trade on the commodity exchange. Upon expiration of the contract they would have to either give or take delivery, thus locking in a tentative price. They are subject to the risk of price movements between the period when the contract is entered and closed. In the second and more commonly used mechanism, the buyer or seller in the physical market takes an opposite position in the futures market. As cash and futures prices move in the same direction, the losses/gains in the physical market get compensated by the gains/losses in the futures position.

Options are a useful price risk management tool for agricultural producers. Their function is similar to insurance. They can limit the option buyer's downside while assuring gains from any favorable price movements. There are two basic types of options: puts and calls. A put option provides a commodity seller protection from falling prices. In the eventuality of falling prices, the option buyer has the right to sell the commodity at the higher-than-market price. Similarly, a call option provides a commodity buyer with protection from increasing prices. In the eventuality of increasing prices, the option buyer has the right to buy the commodity at the lower-than-market price.

Swaps are multi-period, price-fixing contracts. A commodity swap is an agreement whereby a floating price for a commodity is exchanged for a fixed price for the same commodity over a specified period for a defined volume. The floating price is normally the prevailing market (spot) price for the asset and the fixed price is the price, which is negotiated and agreed before the initiation of the swap contract. Swaps are pure financial instruments where no exchange of physical goods takes place. This feature distinguishes swaps from futures and options contracts, where making or taking delivery of the physical commodity is always an option before the farmers.

Insurance in agriculture has essentially been concerned with providing protection from perils of crop failures. Revenue insurance, which provides protection against both falling prices and crop yields, offers farmers a comprehensive solution. Price insurance is also being applied under contract farming arrangements.

III. Financial Inclusion through Commodity Derivatives in Agriculture Sector

Financial inclusion aims at providing all kinds of financial services at affordable prices to every section of the society, mainly the poorer, deprived and scattered population. The primary/ agriculture sector covers a large population of deprived people who need to be brought under the umbrella of financial inclusion through risk management products. In terms of risk, out of the three sectors, agriculture sector is most prone to financial bottleneck. Financial risks in agriculture can arise because of increase in interest rates, previous backlog loans, lack of liquid cash reserves to meet current and future need, increase in input costs, lower than expected profits due to over production, loss of net worth and changes in exchange rates. In today's cutting edge era, when different innovative financial instruments are offered to manage risk, derivative stands apart with its unique features to hedge the future price risk and to provide a safe future trading option.

Centuries ago the risk management benefit of derivatives has been recognized. The primary use of derivatives is to hedge one's positions i.e., to reduce or eliminate the risk inherent in commodities, foreign currencies and financial assets. Farmers who want to guarantee the prices of their future crop can sell them at any time in the futures or forward market. Talking about how it manages risk, the following example can be taken into consideration. Here, two players are involved in negotiation of risk management products. The buyer of a derivative contract buys the right to exchange a commodity for a certain price at a future date. Although this person is a contract buyer, he may be buying or selling the commodity. He does not have to pay the full value of amount of the commodity that he is investing in. He only needs to pay a small percentage, known as the margin price. The contract seller is the person who accepts a margin. He agrees that on a certain date he will buy or sell the commodity stated in the contract at a certain price. Both parties are generally required to honor the agreement despite losses. To finalize the contract it requires a step by step pre-planned methodical approach. Initially, a comprehensive plan is created by both parties identifying the reason of having a contract at all. The derivative is to be such that under the assumption of rational forecast values both the parties stands to gain. For this continuous monitoring of financial ratios, standard rates and a farm's own financial records can help in evaluating the liquidity, profitability and solvency from the contract and thus lower financial risk by maintaining adequate liquidity and increasing the solvency of the farming operation.

A trend analysis to farm income and net worth over time along with expected future market values is to be calculated using appropriate forecasting techniques (Matani, 2007). By having a good farm records, a farmer can evaluate where he has been, where he is now and whether or not he is moving in the right direction. The importance of data in fighting against volatility has been greatly highlighted by Intergovernmental Group on Grains and Rice (IGGR) post-Russian drought of 2009. An official meeting with suppliers and lenders regarding renegotiation of any existing contracts and loan terms or negotiation to draw a new one is to be held. Then all practicable cost control and cost reduction ways like leasing and rental options rather than purchasing machinery, equipment or land are to be used to reduce risk of loss. Proper care is to be taken to control unnecessary family and household expenditures using money meant for production.

To connect agro-derivative to financial inclusion, it is necessary to know about the beneficiaries of agro-derivative schemes. For this one has to take into consideration the less understood, rural population with their complex occupational structure. Even though structural transformation in GDP has taken took place rapidly, such transformation in labor markets failed to cope up. Increased educational levels, cultural shocks, higher returns and wages are major drivers of occupational diversification in any area. Occupational diversification plays a key role in reducing rural poverty. Increased inequality in earnings, employment, education, resources and people has left village population to be the poorest of the poor who are mostly rural, less literate, orthodox, fearful and religious. MGNREGA has attracted many farm workers to non-farm work and thus has reduced the load on agriculture to some certain extent. The increased focus on UEE has increased the wage related expectation of rural youth. People with little manageable knowledge have left villages (agriculture). According to 2012-13

Economic Survey, there is a gender gap in employment and salaries, making women more vulnerable towards inequality. Indian agriculture is experiencing faminisation requiring immediate attention. Increased rural-urban linkages and widening gap in wage rates between rural and urban sectors have increased migration of rural people to cities. Upliftment of agricultural sector can include this section to come under financial inclusion. The introduction of derivatives trading in agri-market leads to a reduction in the price volatility of the underlying product, especially in case of developing countries like India that have remained commodity-dependent with a large proportion of dependent population. To increase the strength of farm workers it is essential to use different risk management tools in agriculture to get maximum benefit. A successful agro-derivative market helps in price discovery, hedging, liquidity, and arbitration. The future prices may be able to pull Indian agricultural workers from the cobweb effect. All these benefits help the small and marginal farmers to make profit from agriculture and remain financially included. Commodity derivatives can also encourage business in various agro related business to come under various financial inclusion schemes. Successful farming may motivate R&D wings to work towards technologies like micro-irrigation, nano-technology and geographic information systems to reduce biotic issues and to design and develop farmer-oriented natural resource management strategies abiotic issues.

III. Challenges for Indian Farmers and Suggestive Measures

It is estimated that less than two per cent of the volume of futures and options instruments is attributed to developing countries. The issues involved in the low participation of agricultural producers are as follows. (i) There is a lack of awareness among farmers about commodity derivative and the technicalities of these instruments and further there may be communication barriers which hinder further access. Lack of whole hearted support from the government because of the fear of speculation has brought down the participation rate. Traditional medium of propagation is not likely to work for agricultural commodity derivative market. Small pilot experimental projects need to be undertaken to give a practical idea of its success to the grass roots level farmers- who are basically illiterate, introvert and risk avoiders. (ii) There is a lack of awareness about the trading process of Commodity derivatives among Indian farmers. The role of margin deposit and option premium should be made clear to the farmers. (iii) The minimum size of contracts traded on organized exchanges often far exceeds small and medium-sized producers' annual quantity of production. Big business houses prefer offshore commodity exchanges with lager turnover than national commodity exchanges. In India poor and marginal farmers constitute a larger portion of the total farmers. These farmers live on subsistence yield. The main target of the derivative market should be to create a profitable market condition for this section. Regional exchanges should be given freedom in selecting agricultural commodities based on local market condition. (iv) Sellers of such instruments, generally international banks and brokerage houses, are often unwilling to engage with a new and unfamiliar customer base of small-scale farmer producers. Governments can play a significant role in providing a healthy environment for the instrument providers and their customers (farmers, traders). It can provide its backing by being directly and indirectly involved in the process. and can create monitoring and supervising wings at the block level to enhance the level of confidence in the farmers. (v) Misguided fear of speculation and inflationary tendency spread by speculators is the primary reason for low participation of hedgers (original producers/ farmers) in derivative trading. High volatility reduces the chance of accuracy in forecasting. But by following scientific methods of calculation of the future price and fixing the contract price accordingly will do away with the fear of speculation (vi) Long gap from pioneering till now diversified the participants into other security market. Registration of brokers under Forward Contracts Act can bring back the traders who have left. (vi) Time consuming procedures discourage dealers of perishable goods to have trade relation with derivative market. The farmers should be made aware of the viabilities of the contract even before he begins the cultivation. Every change in the market should be informed immediately through various means to the players involved. A database of all the participants should be maintained at the time of signing contract for future correspondence.

One specific policy recommendation to governments for encouraging the widespread use of price risk managements may be made while passing. Wishing Commodity Derivative market to work successfully at present economic situation based on 1950s Act is meaningless. The market is ripe with opportunities for both farmers as well as financial institutions; all it needs is a green signal and a proactive policy direction.

Commodity Derivative can help farmers, producers, dealers and processing industry to widen risk diversification zone and at the same time to take advantage of both rising and falling price developments in the markets to stabilize profits and yields independently of the capital market development. Agro derivative can be more useful to marginal farmers because at the time of entering the forward contract, farmers do not have to pay any price and they can fix a future price for their crops. This will help discover a new price for the agricultural products and future price volatility can be avoided. Farmers can get crop production credit and marketing credit through insurance, forward selling and warehousing. At present, crop production loan is available, but credit limits are low. Farmers will still have the option of going for crop loan in the existing arrangements, without going for forward contracting. However, farmers should be able to get more credit through forward contracting. Farmers can cover the yield risk through crop yield insurance and the market risk through forward contracting. This provides comprehensive revenue insurance to farmers. As systems develop and reach a steady state, the transaction costs in this mechanism are likely to be low. A large volume of handling in grading, warehousing, forward transaction and insurance will facilitate transactions at a lower rate. With the forward contracting arrangements, there will be a better estimate of the supply of commodities that would be used in the futures market as forward contract sellers hedge in the futures market to cover their risks. The additional information flow into the system will lead to stability in the prices. This integrated system will work well if each one of its components is made to work efficiently and this will require participation of both the public and private players as well as government support. Low income countries like ours with strong banking and insurance markets (which has been proved during the economic crisis of 2008) with little effort can enjoy very high economic growth. If financial Inclusion means bringing the side lined and neglected ones into the mainstream, then commodity derivative does the same act only in an indirect way. Agricultural price volatility doesn't only affect agriculture but also spreads to other sectors. In USA many developmental projects were held back because of this reason (Janvry, 2010). The solution to excessive volatility is to invest more in agriculture by reducing the risk factor and choosing more market-friendly approaches. Instead of waiting for the farmers to walk to the bank, it would be much novel for the exchange market to stand beside them, in their way to successful implementation of upliftment of Indian agriculture and its farmers from the system of 'gamble in the monsoon' to the one 'protected 'under the umbrella of commodity derivative'.

Reference

1. Barnett, B. J., Barrett, C. B., and Skees, J. R. (2008). Poverty traps and index-based risk transfer products. *World Development*, *36*(10): 1766-1785.
2. Bathla, S. (2013). Volatility in agriculture commodity prices in India: Impact and macroeconomic and sector-specific policy responses. *Indian Journal of Economics and Development,* 9(4): 291-304.
3. Binswanger, H. P., Khandker, S. R., and Rosenzweig, M. R. (1989). *How infrastructure and financial institutions affect agricultural output and investment in India*. Latin America and Caribbean Country Department II, World Bank.
4. Binswanger, H., Yang, M. C., Bowers, A., and Mundlak, Y. (1987). On the determinants of cross-country aggregate agricultural supply. *Journal of Econometrics*, *36*(1): 111-131.
5. Cashin P.C. and McDermott C.J. (2002). The long-run behavior of commodity prices: small trend and big variability. *IMF Staff Papers,* 49 (2):175-199.
6. Chand, R. (2009).The Wheat Market: Distortions caused by government interventions. *Economic and Political Weekly,* 46(12):41-46.
7. Cohen, J. I. (2005). Poorer nations turn to publicly developed GM crops. *Nature biotechnology*, *23*(1): 27-33.
8. De Janvry, A. (2010). Agriculture for development: New paradigm and options for success. *Agricultural Economics*, *41*(S1): 17-36.
9. Deaton A. and Laroque G. (1992). On the behavior of commodity prices. *Review of economic studies*, 59: p,1-23.
10. Feder, G., Just, R. E., and Zilberman, D. (1985). Adoption of agricultural innovations in developing countries: A survey. *Economic development and cultural change,33:* 255-298.
11. Hansen, J. W. (2002). Realizing the potential benefits of climate prediction to agriculture: issues, approaches, challenges. *Agricultural Systems*, *74*(3): 309-330.
12. Ibarra, H., and Skees, J. (2007). Innovation in risk transfer for natural hazards impacting agriculture. *Environmental Hazards*, *7*(1): 62-69.
13. Jodha, N. S. (2001). *Life on the edge: sustaining agriculture and community resources in fragile environments*. Oxford University Press.
14. Just. R, and Silberman, D. (Eds.), (1981). *Adoption of agricultural innovations in developing countries: a survey*. Development research center. DC.

15. Larson, D. F., Varangis, P., and Yabuki, N. (1998). *Commodity risk management and development* (No. 1963). World Bank, Development Research Group, Rural Development.

16. Larson, D. W., Jones, E., Pannu, R. S., and Sheokand, R. S. (2004). Instability in Indian agriculture—a challenge to the Green Revolution technology. *Food Policy*, *29*(3): 257-273.

17. Mahul, O., and Skees, J. R. (2007). Managing agricultural risk at the country level: The case of index-based livestock insurance in Mongolia. *World Bank Policy Research Working Paper*, (4325).

18. Manuamorn, O. P. (2007). *Scaling up microinsurance: the case of weather insurance for smallholders in India*. World Bank, Agriculture and Rural Development Department.

19. Matani, A. G. (2007). Information technology improving retail marketing in agriculture.

20. Matthews A. (2010). Perspectives on addressing market instability and income risk for farmers. Joint AES and SFER conference on The Common Agricultural policy post 2013, Edinburgh.

21. Menand, L., and Vickery, I. (2012). Micro insurance: a case study of the Indian rainfall index insurance market. *The Oxford Handbook of the Indian economy*, 167.

22. Mohan, R. (2006). Agricultural credit in India: Status, issues and future agenda. *Economic and Political Weekly, 41* (11): 1013-1023.

23. OECD (2008). *Biofuel Support Policies – An Economic Assessment.* OECD, Paris.

24. Overton, M. (1996). *Agricultural revolution in England: the transformation of the agrarian economy, 1500-1850* (Vol. 178). Cambridge: Cambridge University Press.

25. Ramaswami, R., Ravi, S., and Chopra, S. (2008). Risk management in agriculture. *Discussion papers*, (03-08): 03-08.

26. Reardon, T., and Timmer, C. P. (2007). Transformation of markets for agricultural output in developing countries since 1950: How has thinking changed? *Handbook of agricultural economics*, *3*: 2807-2855.

27. Schluter, M. G., and Mount, T. D. (1976). Some management objectives of the peasant farmer: an analysis of risk aversion in the choice of cropping pattern, Surat district, India. *The Journal of Development Studies*, *12*(3): 246-261.

28. Sinha, S. (2004). Agriculture insurance in India: scope for participation of private insurers. *Economic and Political Weekly*, 39(25): 2605-2612.

29. Sivakumar, M. V., and Motha, R. P. (Eds.). (2007). *Managing weather and climate risks in agriculture* (Vol. 503). Heidelberg/Berlin: Springer.

30. Skees, J. R. (2008). Challenges for use of index-based weather insurance in lower income countries. *Agricultural Finance Review*, *68*(1): 197-217.

31. Skees, J. R., Barnett, B. J., and Hartell, J. (2005, May). Innovations in government responses to catastrophic risk sharing for agriculture in developing countries. In *workshop on Innovations in Agricultural Production Risk Management in Central America: Challenges and Opportunities to Reach the Rural Poor, Antigua, Guatemala* (pp. 9-12).

32. Turvey, C. G. (2001). Weather derivatives for specific event risks in agriculture. *Review of Agricultural Economics*, *23*(2): 333-351.

33. Sen, A. K. (1962). An aspect of Indian agriculture. *Economic Weekly. 14*(4-6): 243-246.

34. Kumar, K. S., and Parikh, J. (2001). Indian agriculture and climate sensitivity. *Global environmental change*, *11*(2): 147-154.

Rural Infrastructure: Emerging Trends and Perspectives

Digambar Chand[1]

Rural infrastructural development measures the pulse rate of economic growth and economic development of a state. Tele density, road connectivity, electrification households and permanent houses are changing the landscape in rural areas. Net sown area is diminishing. Percentage utilization of net irrigated area is declining. Power used by irrigation and agriculture is showing a declining trend. Tele density as well as total subscribers in rural areas are less in Odisha compared India. In this paper, a time series analysis has been conducted to study the trends of net sown area, net irrigated area, power sold to other states, power consumption by irrigation sectors over the years. Regression technique has been used to estimate nature of curves and parameters of the models. Analysis of variance technique has been used to test the significance of regression and that of each parameter in the model. Findings suggest that due emphasis be put to social forestry, dairy, low cost warehouse, cold storage and market yard.

Key Words: Rural infrastructure, Time Series Analysis, Regression Analysis, Analysis of Variance Technique

1. Introduction

Rural Infrastructural development measures the pulse rate of economic growth and economic development of any region of a state. Tele density, road connectivity electrification and permanent houses are changing the landscape in the rural areas in Odisha. Rural income has diversified from traditional sources of farming to non-farm sector. At least one person from farming sector has been employed in service sector by earning regular monthly income and does planned expenditure. Expenditure on food and beverages, housing, health, transport and leisure travel, education, clothing and durables and others are important factors determining growth. Bharat Nirman was the flagship programme to boost rural infrastructure like telephony, electrification, roads, housing, water and irrigation facilities. Village public telephone has been covered under the 'Bharat Nirman Programme'. The government has also amended the Indian Telegraph Act 1885 in December 2006 to enable the use of the Universal Service Obligation Fund (USOF) to support mobile telephony in rural and remote areas. In the case of rural electricity the Rajiv Gandhi Grameen Vidyutikaran Yojna(RGGVY) was the main programme, which targeted to cover 175 lakh BPL households in one lakh villages. Moreover, the government plans to provide all weather roads. Under the rural housing scheme Indira Awas Yojana (IAY) is the main flagship programme to provide houses

[1] *Bamra Trust Fund College, Bamra, Sambalpur, Odisha-768221, Email: digambarchand@gmail.com*

to the rural poor. The banking sector is another instrument of economic development. Odisha plans to introduce a mobile banking service in 20 blocks in 10tribal districts in the current financial year. Commercial banks do not venture into remote areas because that is not viable as a business. Central cooperative banks that cater to the needs of farmers in rural areas have expanded, but even these have no branches in 72 of the state's 314 blocks, mostly in the tribal districts. Through mobile ATMs the government is planning to pay MGNREGS beneficiaries, give scholarships to the children of Kishan Credit Card holders, disburse old age pensions and compensate farmers for losses due to natural calamities. The new banking system will also facilitate direct cash transfer to subsidized gas users. The project is being run as a pilot scheme under the Rastriya Krishi Vikash Yojana. Mobile ATM also stops proliferation of chit fund companies that have targeted Odisha's rural areas.

2. Review of Literature

The cost-risk-return structure of farming is becoming adverse. Indebtedness is growing in rural areas. Consequently, both human security and national sovereignty are at stake. Overall economic growths have little meaning if we do not look after the economic health and survival of over 60 per cent of our population. Improving small farm productivity, as a single step, will make the largest contribution to the eradication of hunger and poverty, (Swaminathan, 2006).

Rural Infrastructure is not only a key component of rural development but also an important ingredient in ensuring success of any sustainable poverty reduction programme. The proper development of infrastructure in rural areas improves rural economy and quality of life. Provision of Urban amenities in Rural Areas (PURA) as propagated by Dr. A.P.J Abdul Kalam in his Vision 2020 argues in favour of (i) Physical connectivity (roads, transport facilities etc.) (ii) Economic Connectivity (banks and commercial organizations etc.) (iii) Knowledge Connectivity (school, college, vocational education etc.) (iv) Societal Connectivity (hospital, recreation facilities, place of worship etc.) (v) Electronic Connectivity (phone, internet and cable. PURA would be considered as a model of infrastructure development in rural areas for developing modern habitat having high quality of water supply and sanitation, full range of connectivity, provision of future expansion (Kumar, 2006).

Rural Infrastructure Development Fund (RIDF) is having favourable impact on projects in terms of employment generation, number of irrigation projects executed and construction of rural roads and bridges. It is noticed from the results that the RIDF concentrated more on construction of roads and bridges. Rural roads, particularly rural feeder roads, are considered as a base to the whole process of rural development. The disbursement and sanctioned amounts have also increased but the benefits and employment potential over the years have gone down. In order to increase the lentil of the RIDF scheme the productive policies need to be formulated and implemented.

The fast growth of the economy in recent years has placed increasing stress on physical infrastructure such as rural electricity, roads, irrigation, health, rural water supply and sanitation, all of which already suffer from a substantial deficit from the past in terms of capacities and efficiencies in delivery. The agriculture sector needs well functioning markets to drive growth, employment and economic prosperity in rural areas. The absence of roads in rural areas leads to stagnation of socio-economic conditions of the villagers (Rao, 2009)

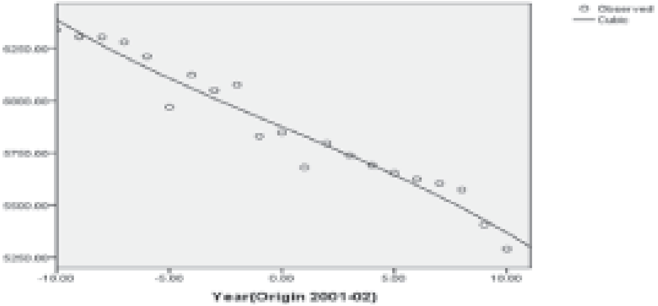
3. Objectives, data and methods of the Study

The primary objective of this study is to assess the trend in net sown area, utilization of net irrigated area and the use of power by irrigation and agriculture and to compare the tele density of Odisha with that of India. The study is based on secondary data collected from different published sources. SPSS 16.0 package, MS Excel, regression and Anova have been used.

4. Results and Discussion

Trend in next sown area in presented in Figure-1

Figure-1: Net Sown Area



Source: District Statistics at a glance 2012

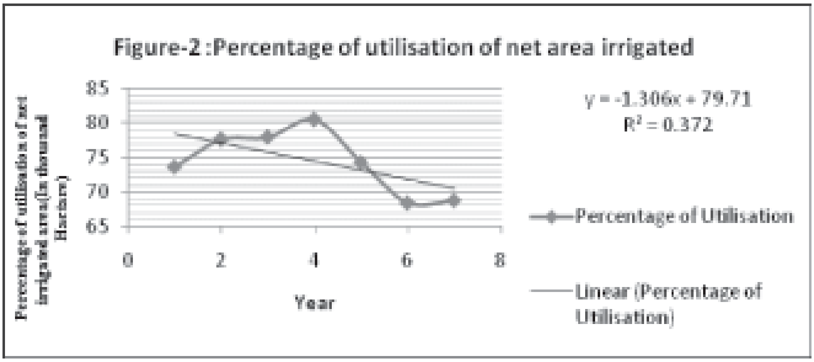
It is quite clear that net sown area is declining. It is shrinking cubically as is clear from regression estimates.

***NSA*= 5874.347- 44.641*Y*+0.026*Y*²-0.062*Y*³ (*R*²=0.949)**

$$NSA = 5874.347 - 44.641Y + 0.026Y^2 - 0.062Y^3 \quad (R^2 = 0.949)$$

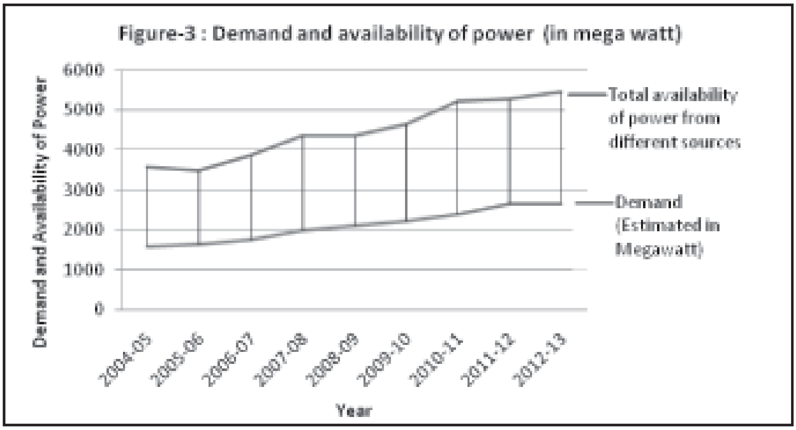
where NSA = Net Sown Area, Y= Year (Origin = 2001-02).

It is also noted that the estimated constant(5874.347) and $\hat{a}_1$-coefficient(**-** 44.641**)** are significant in the regression model. However the estimated ($\hat{a}_2$=**0.026** and $\hat{a}_3$=**-0.062**) coefficients are statistically insignificant. The cubic regression model of *NSA* is highly significant at 5% level of significance with F=104.739.



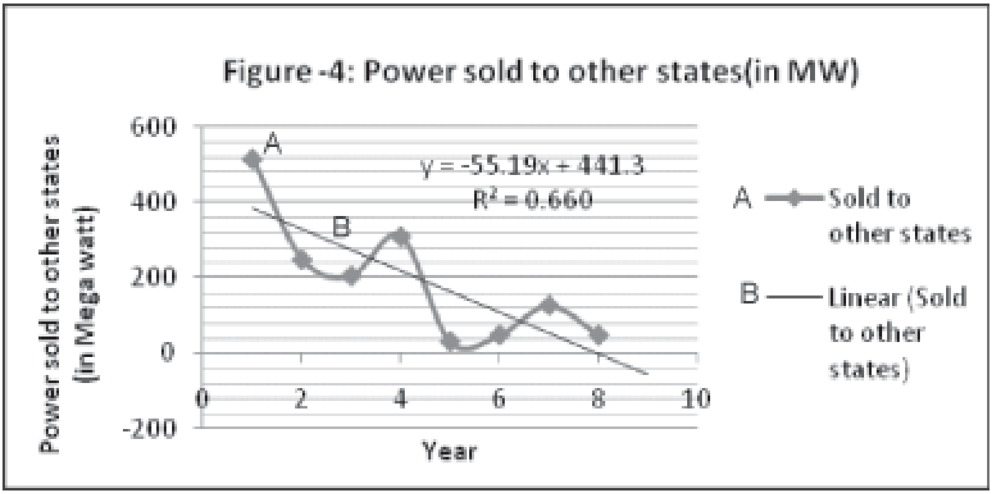
Source: Statistical Abstract of Odisha 2012,P-229

Figure-2 above depicts the percentage of utilization of net area irrigated for the study period (1991-92 to 2011-12) which is declining by1.306 thousand hectares every year.



Source: Odisha Economic Survey 2013-14,P-257

It is quite evident from Figure-3 that the availability of power from different sources is much more than that of the demand. Still there is power cut in Orissa on usual basis .It is estimated that 31.44 per cent of power was consumed by domestic sector, 11.16 per cent by commercial and 45.36 per cent by industrial sectors whereas irrigation and agriculture used only 1.20 per cent of the total power consumption.

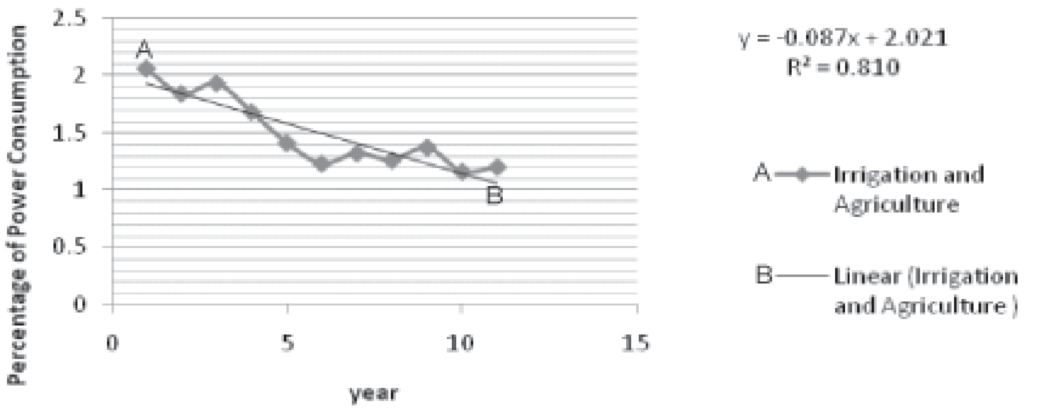


Source: Odisha Economic Survey 2013-14,P-257

Figure -4 shows that the power sold to other state is declining at a rate of 55.19 mw per year.

The power used by irrigation and agriculture shows a declining trend. by 0.087 percentage every year as shown below in Figure- 5. In modern age agriculture is to be developed with modern equipments. Vast tracts of land are unutilized due to lack of irrigation facilities. Lift irrigation requires more power. In developed states, percentage of power consumed by irrigation and agriculture is more compared to Odisha.

Figure-5 : Power consumption by Irrigation and Agriculture(in %)



Source: Odisha Economic Survey 2013-14,P-256

Table-4: Tele tendency of Odisha and India as on March2013

Particulars	Odisha	India	Particulars	Odisha	India
Overall Teledensity			Total Subscribers		
Rural	38.72	41.02	Rural	24.60	867.80
Urban	164.01	146.96	Urban	0.37	30.21
Total	60.71	73.16	Total	24.97	898.01
Source: Economic Survey of Odisha 2013-14					

Tele density as well as total subscribers in Odisha is less in comparison to India in rural areas as mentioned in above Table-4. Low use of telephone mean that farmer get less information about market price (wholesale or retail) for which they get lower price and income for their produce.

5. Conclusion

Infrastructure holds the key to economic development. But spread of infrastructure is very limited in rural areas in Odisha. Since infrastructure is characterized by huge positive externalities, it is suggested that government should be more proactive in this sphere and should increase public investment on education, health, irrigation, power, roads and communication.

References

1. Das, S. (2012). Child labour and child work :Pattern ,Deprivation and Determinants. (A. N.Sharma, Ed.) *The Indian Journal of Labour Economics* , 55 (2), 307-322.

2. Kumar, P. (2006). Rural Infrastructure. *Yojna* , 83-87.

3. Loganathan, P. .. (2005). Rural Infrastructure Development Fund. *Kurukshetra* , 54 (217), 14-.

4. Mohanty, D. (2013, 3 7). In rural Orissa,it's the bank that will come visiting . *Article* . Bhubaneswar, Odisha, India: Indian Express.

5. Rao, K. (2009). Rural infrastructure :An impetus to economic growth. *Kurukshetra* , 57 (12), 3-7.

6. Swaminathan, M. (2006). Agricultural Renewal and Prosperity. *Yojna* , 7-16.

Pradhan Mantri Jan - Dhan Yojana: A great leap towards Financial Inclusion

Biswaranjan Parida[1]

1. Introduction

Financial Inclusion is a buzzword in the new age of economic policy and planning and it plays a key role in the inclusive growth of a developing economy like India. The most vital aspect of financial inclusion is to extend financial services to the large hitherto un-served and vulnerable population of the country to unlock their growth potential. It also provides a major contribution to poverty alleviation by setting up financial structures and improving accessibility. As per the United Nations the objectives of financial inclusion is four fold in nature. Firstly, financial services including savings or deposit services, payment and transfer services, credit and insurance have to be accessed by all households. Secondly, financial institutions should be sound and safe to the customers and governed by clear regulation and industry performance standards. Thirdly, they should be financially sustainable in order to ensure continuity and certainty of investment. And lastly, there should be prevalence of competition among them to ensure choice and affordability for clients.

Keeping this in view, the UN aims to increase financial inclusion of the poor by developing appropriate financial products for them and increasing awareness on available financial services and strengthening financial literacy, particularly amongst women. In partnership with the National Bank for Agriculture and Rural Development the UN's financial inclusion product is financed by the United Nations Development Programme

Keeping the importance of the subject, currently, 250 million odd people worldwide make use of microfinance. There is a steady growth of number of borrowers over the years in India, which has increased from 3,00,000 in 2001 to 28 million in 2013. Further, the announcement of the flagship Pradhan Mantri Jan Dhan Yojana, on 15th august 2014 added another feather to the financial inclusion with addition of 15 million new bank accounts on the launch day of 28th August 2014. The objective of the scheme is not confined with opening of account but to convert cash economy into cashless and digital economy as each account holder will get a RuPay debit card with accident insurance cover of Rs1,00,000 and will get life insurance cover, pension products and overdraft up to Rs. 5,000 after satisfactory operation in the

[1] *Faculty, ASBM, Bhubaneswar*

account for six months. The most important aspect of the scheme is that it will cover payment of subsidies as well as wages under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). By this, it benefits substantially to the PSBs as they will have substantial float funds in the accounts they have opened, thereby compensate their high operational costs and will act like low cost deposits.

Moreover, the programme has got two major aspects that it is one of the 'big bang' reforms of the government towards flagging economic growth and secondly, the accomplishment of financial inclusion through public sector Banks

The study has the following objectives

- To highlight the scope of Pradhan Mantri Jan Dhan Yojana
- To find out the effectiveness of PMJDY programme
- To throw light on the challenges to be faced on the scheme

2. Current status of Financial Inclusion in India

The Reserve Bank of India and the Government of India have undertaken various initiatives like nationalization of banks, expansion of banks branch network, establishment & expansion of cooperative and RRBs, introduction of PS lending, Lead Bank Scheme, formation of SHGs and state specific approach for Government sponsored schemes to be evolved by SLBC etc, for ensuring financial inclusion in India. In order to expedite the financial inclusion, the RBI in its Mid-term Review of Annual Policy Statement for the year 2005-2006, advised Banks to align their policies with the objective of financial inclusion. They were advised to make available a basic banking 'No frills' account either with 'nil' or very minimum balances as well as charges that would make such accounts accessible to vast sections of population. Apart from this, it has been emphasized upon by the RBI for deepening and widening the reach of financial services so as to cover a large segment of the rural & poor sections of population. Therefore, it decided, in public interest, to enable the banks to use the services of NGOs/SHGs, MFIs and other Civil Society Organizations as intermediaries in providing financial and banking services through use of "Business Facilitator and Business Correspondent Model".

As a result, in the year 2011, through the "Swabhimaan" scheme, banks covered 74,351 villages, with population more than 2,000 (as per 2001 census), with banking facilities with Business Correspondents. Moreover, as on 31.03.2014, there were more than 1.4 lakh Business Correspondents (BCs) of Public Sector Banks and Regional Rural Banks. Though, there was a good result from the scheme, yet the programme was not that successful and had a very limited reach to the target group and large number of accounts opened remained dormant, resulting in costs incurred for banks and no benefits to the beneficiaries.

Taking these factors into account, the government thought of a comprehensive plan i.e. **'Pradhan Mantri Jan-Dhan Yojana (PMJDY)'** with the core development philosophy of "*Sab Ka Sath Sab Ka Vikas*". The objective of PMJDJY is to ensure access to various financial services like availability of basic savings bank account, access to need based credit, remittances facility, insurance and pension to the excluded sections i.e. weaker sections & low income groups. . Along with this, there are some other objectives which are as follows;

1. Universal access to banking facilities
2. Providing Basic Banking Accounts with overdraft facility and RuPay Debit card to all households
3. Financial Literacy Programme
4. Creation of Credit Guarantee Fund
5. Micro Insurance
6. Unorganized sector Pension schemes like Swavalamban

The deep penetration of the scheme at affordable cost is possible only with effective use of technology. Initially, every account holder gets a RuPay debit card with a 1, 00,000/- accident cover. Further, they will be covered by insurance and pension products. There is need to enrol over 7.5 crore households and open their accounts. It is believed that the new scheme is much better that than of its earlier scheme i.e. 'Swabhimaan'.

3. Monitoring Mechanism

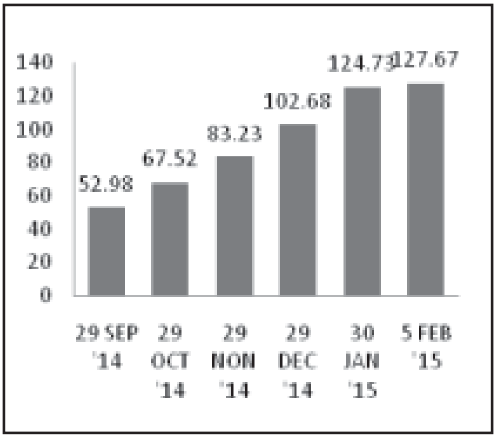
Though there are significant differences between the two schemes, yet the success of any project depends on its administrative structure and monitoring mechanism.

1. In order to ensure proper coverage of villages and for online monitoring of the Bank Mitra (Business Correspondent) a web portal shall be created by DFS at 'financialservices.gov.in'.
2. District and state wise report have to be generated which will include the information like opening of fresh account or at least one fully enabled account per family or reactivation of earlier account in uncovered villages and urban areas. It will also include the number of new Business Correspondents set up in rural and urban areas.
3. Each Bank would have a structured System generated MIS system to monitor the function of Bank Mitra which shall be uploaded regularly on the Portal created by DFS for this purpose. Again all the banks have already been provided with the necessary ID and password to access this portal.
4. IBA will have a monitoring committee which shall review the progress on weekly basis. The information for monitoring shall be extracted from the DFS portal and a Project Management Group would be set up in DFS comprising of sector experts to do a day to day monitoring.
5. SLBCs will have a Toll Free Number connected to a call centre. Citizens facing difficulty in opening of account may call on this number where his/her complaint shall be registered. The same shall then be forwarded to the concerned for necessary action within 15 days.

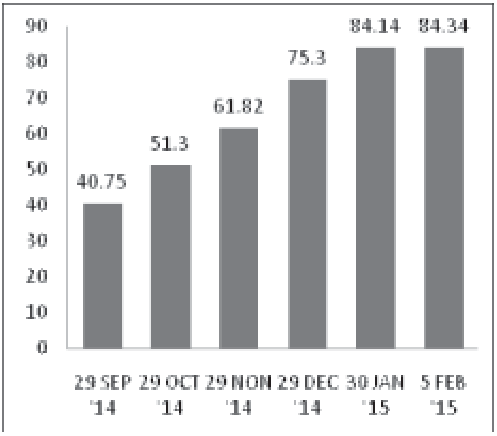
4. Effectiveness of PMJDY

The recent data reveal that there is an overwhelming response from all states which seems that the primary objective of the programme will likely to be accomplished in near future. According to the PMJDY website, a little more than 127 million new bank accounts have been opened since launch of the scheme on august 28, 2014.With this, the overall number of households in the country with at least one individual bank account has been touched to 210.5 million. Interestingly, if we look at the scale of coverage, the number of people added to the country's banking system in the past five months is higher than that in the period from 2001 to 2011. Some of the top most economists like Ashok Gulati, argues that the government is working by a plan. The real benefit of the scheme will be obtained in the second stage when the government will link these accounts with Aadhar numbers and in the final stage, the Direct Cash Transfer will be initiated by linking Aadhar numbers and bank accounts as the government has better coordination with the Unique Identification Authority of India which issues Aadhar numbers. The following are the recent statistics so far as the progress of the programme is concerned.

Number of accounts (mn)



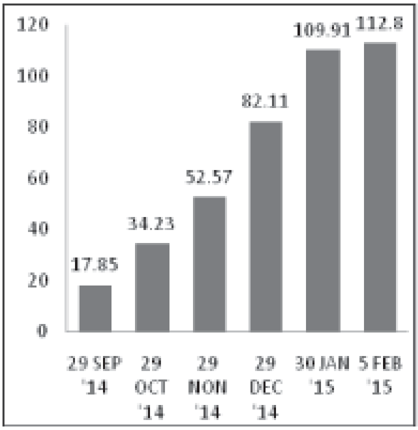
Number of accounts with zero balance (mn)



Source: PMJDY website

The above graphs show that both number of accounts and number of accounts with zero balance are increased from 29th September 2014 to 5th February 2015. Even the number of accounts has been doubled within six months of the scheme. Again, the speed of linking the accounts with Aadhar numbers to ease the process of direct transfer of cash subsidies in beneficiaries' bank accounts had been done for 35 percent of all new bank accounts.

Number of RuPay cards issued (mn)



Source: Pradhan Mantri Jan Dhan Yojana website

So far as digitalization of banking is concern, the number of Rupay card has been issued to almost 113 million out of 127 million bank accounts which is a remarkable achievement in this regard. Although there is a substantial growth in the opening up of new accounts and Rupay card, yet the successful implementation of the scheme lies on the education and infrastructural development of the rural economy.

Challenges for implementation of the scheme

The greyest area of the scheme is large scale operational inefficiency. Until the end of January 2015, 67 per cent of the new accounts opened were without any balance. However, due to operation bank linked cooking gas subsidy it has reduced to 61 per cent. So the real challenge for the government is ensuring people to feel that they have a great future by using the accounts regularly and keeping the account alive. Or else, it will be a repeat of the 1960s, when large numbers of post office accounts were opened under pressure but only a few of those were ever used. Moreover, the RBI governor Mr. Raghuram Rajan cautioned against targeting just numbers as per him, the system will be going to be a waste if there will be generation of duplicate accounts.

- Telecom Connectivity- As per the view of the bank, in the tribal and hilly areas of north east of the country, the telecom network is not reliable and therefore setting up Bank Mitr (Business Correspondent) in these areas and ensuring opening of bank accounts is going to be difficult. So the banks are required to utilize the National Optical Fibre Network (NOFN) when it reaches to the Panchayat level.
- Huge Transaction Cost- The banks spend huge amounts for opening accounts under the PMJDY. So they are sceptical to recover the huge amount from a low profitable and welfare scheme like this.
- Coverage of difficult areas- Apart from telecom connectivity, some Parts of North East, Himachal Pradesh, Uttarakhand, J&K and 82 Left Wing Extremism (LWE) districts face

challenges of infrastructure. All households in such areas may not be fully covered under the campaign. So, due care should be taken to implement it in all parts of the country.

- Last but not the least the government should go for branding and awareness generation on business correspondent model and also recruit the correspondents through proper recruitment process so that they will not able to cheat the innocent people. Financial literacy centres and village knowledge centres should be opened for creating awareness of the programme.

6. Conclusion

It is a known fact that, the success of any project hinges on two things i.e. a positive mind set with a practical approach and good governance with an able leadership with a passion and vision to do something. It is not a new phenomenon in case of India as the similar kind of steps have been undertaken earlier. One of the practical examples is the nationalization of Indian banking by Mrs. Indira Gandhi in 1969 when 14 banks were nationalized. Though the objective of the bank nationalization has not been accomplished, yet it was a great steps towards banking reform. In the same manner way, the Prime Minister Jan Dhan Yojana is one big bang reform on financial sector undertaken by the Prime Minister Mr. Narendra Modi and will likely to deliver good result in coming years and will prove as the best means of financial inclusion of the vulnerable sections of the society.

References:

1. Chakrabarty K.C. (2011), "Financial Inclusion and Banks: Issues and Perspectives", RBI Bulletin, November, 2011.
2. NABARD Status of Microfinance in India: 2010-11
3. www.financialservices.gov.in
4. Business Standard Bhubaneswar12 February 2015
5. Global Financial Development Report 2014
6. Economic Times Bureau Aug 27, 2014
7. www.rbi.gov.in
8. Chattopadhyay, S.K. (2011) RBI Working Paper Series (WPS (DEPR):8/2011)
9. Sarkar, A.N (2013) "Financial Inclusion: Fostering Sustainable Economic Growth in India", The Banker, Vol. VIII, No.4, pp.44-53, No. 5, pp. 32-40

Inter State Disparity in Financial Inclusion in India

Sudhakar Patra[1]

The objectives of the paper are to analyse the present status of India's financial inclusion and its interstate variations with the help of financial inclusion indicators like number of bank branches per lakh of population, ATMs, Deposit, Credit and Financial inclusion Index. The study has used secondary data from RBI database, IMF survey reports and research publications and finds low financial inclusion and wide interstate variations in financial inclusion. An essential prerequisite for financial inclusion is financial literacy and the central bank has a unique leverage in providing financial literacy.

Key Words- *Banking, Credit, Deposit, Financial Inclusion, Index*

1. Introduction

Banking and financial services play a very crucial role in the growth and development of an economy. It is more essential in case of economy like India, which is a rural based economy. This concept gained popularity from the year 2000. Financial inclusion is the delivery of banking services at an affordable cost to the vast sections of the poor, the disadvantaged and the low-income groups (Rangarajan, 2008). It refers to universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance and equity products. Easy access to public goods and services, especially banking services, is the need of the hour for India. Financial inclusion can be a great weapon to overcome the financial backwardness as well as the establishment of good governance (Suryanarayana,2008). The Reserve Bank of India has been talking about widening financial inclusion as one of the objectives in granting licenses to new private sector banks which is being mulled. There is also a correlation between social development levels and financial inclusion. In India, the focus of the financial inclusion at present is confined to ensuring a bare minimum access to a savings bank account without frills. Financial inclusion is no less important than social inclusion. In India, millions of people are not considered for fair treatment either from the social institutions or from the financial institutions. It is commendable that, of late, the policy makers and banking institutions have come forward to address the issue of banking exclusion. Financial inclusion is a complex issue, not simple. Credit is one of the very important inputs of economic development. The timely availability of

[1] *Department of Economics, Ravenshaw University, Cuttack , Email: Sudhakarpatra65@gmail.com*

credit at an affordable cost has a big role to play in contributing to the well being of the weaker sections of the society. Proper access to finance to the rural people is a key requisite to employment, economic growth and poverty alleviation. Financial inclusion broadens the resource base of the financial system by developing a culture of savings among large segments of rural population and plays its own role in the process of economic development. Further, by bringing low income groups within the perimeter of formal banking sector; financial inclusion protects their financial wealth and other resources in exigent circumstances. Financial inclusion also mitigates the exploitation of vulnerable sections by the usurious money lenders by facilitating easy access to formal credit (Chakravarty, 2011). The Government of India and the Reserve Bank of India have been making concerted efforts to promote financial inclusion as one of the important national objectives of the country. Some of the major efforts made in the last five decades include - nationalization of banks, building up of robust branch network of scheduled commercial banks, co-operatives and regional rural banks, introduction of mandated priority sector lending targets, lead bank scheme, formation of self help groups, permitting BCs/BFs to be appointed by banks to provide door step delivery of banking services, zero balance BSBD accounts, etc. The fundamental objective of all these initiatives is to reach the large sections of the hitherto financially excluded Indian population. In this context, the objectives of the paper are to understand the present status of India's financial inclusion and it's interstate variations

2. International Comparison of Financial Inclusion

In our country, financial exclusion measured in terms of bank branch density, ATM density, bank credit to GDP and bank deposits to GDP is quite low as compared with most of developing countries in the world. Number of bank branches and ATM per 1000 KM is 30.43 and 25.43 in India whereas they are 1428.98 and 2975.05 in China, 41.81 and 35.72 in Sri Lanka.(Table-1). Similarly number of bank branches and ATMs per 0.1 million is also less compared to China, Brazil, Sri Lanka, Korea and many other countries. Bank deposit and credit as percentage of GDP is 68.43 and 51.75 in India which is 433.96 and 287.89 in China. So India has lagged behind in indicators of financial inclusion compared to China and Sri Lanka.

Table -1: Select Indicators of Financial Inclusion, 2011

Sl. No.	Country	Number of Bank Branches	Number of ATMs	Number of Bank Branches	Number of ATMs	Bank Deposits	Bank Credit
		Per 1000 KM		Per 0.1 Million		as % to GDP	
1	**India**	**30.43**	**25.43**	**10.64**	**8.9**	**68.43**	**51.75**
2	China	1428.98	2975.05	23.81	49.56	433.96	287.89
3	Brazil	7.93	20.55	46.15	119.63	53.26	40.28
4	Indonesia	8.23	15.91	8.52	16.47	43.36	34.25
5	Korea	79.07	...	18.8	...	80.82	90.65

6	Mauritius	104.93	210.84	21.29	42.78	170.7	77.82
7	Mexico	6.15	18.94	14.86	45.77	22.65	18.81
8	Philippines	16.29	35.75	8.07	17.7	41.93	21.39
9	South Africa	3.08	17.26	10.71	60.01	45.86	74.45
10	Sri Lanka	41.81	35.72	16.73	14.29	45.72	42.64
11	Thailand	12.14	83.8	11.29	77.95	78.79	95.37
12	Malaysia	6.32	33.98	10.49	56.43	130.82	104.23
13	UK	52.87	260.97	24.87	122.77	406.54	445.86
14	USA	9.58	...	35.43	...	57.78	46.83
15	Swtzerland	84.53	166.48	50.97	100.39	151.82	173.26
16	France	40.22	106.22	41.58	109.8	34.77	42.85

Source: Financial Access Survey, IMF

3. Extent of Financial Inclusion in India

Performance of Financial inclusion Programme(FIPs) on an average basis in different states of India is representing good results. Excepting few states like Assam, Bihar, UP, Daman & Diu, Manipur, Mizoram and Nagaland, all other states FIPs are performing well. Few States like Goa, Kerala, Puducherry, Sikkim and Tripura are the best performers in FIPs(Table-2).

Table-2: State-wise Progress of Financial Inclusion in India

Sl. No.	Name of the State	Total Villages (1)	Villages Covered (2)	Percentage of covered villages (3) = (2)/(1)*100	Total Bank Branches	Average Population Per Bank Branch (In 1000)
1.	A & N Islands	9	8	88.89	37	11
2.	Andhra Pradesh	6640	5389	81.16	6520	13
3.	Arunachal Pradesh	11	6	54.55	76	16
4.	Assam	2327	892	38.33	1377	22
5.	Bihar	9213	4877	52.94	3825	25
6.	Chhattisgarh	1050	682	64.95	258	4
7.	D & N Haveli	30	18	60.00	1217	20
8.	Daman & Diu	7	3	42.86	24	11
9.	Delhi	110	63	57.27	18	11
10.	Goa	41	41	100.00	407	4
11.	Gujarat	3502	2409	68.79	4339	13
12.	Haryana	1838	1508	82.05	2149	11
13.	Himachal Pradesh	48	37	77.08	950	7
14.	J&K	795	643	80.88	973	13

15.	Jharkhand	1541	1135	73.65	1705	18
16.	Karnataka	3395	2836	83.53	5759	10
17.	Kerala	12	12	100.00	4053	9
18.	Lakshadweep	0	0	0.00	11	6
19.	Maharashtra	4292	3330	77.59	3958	18
20.	Manipur	186	36	19.35	7551	14
21.	Meghalaya	39	21	53.85	80	33
22.	Mizoram	14	3	21.43	201	13
23.	MP	2736	1609	58.81	93	11
24.	Nagaland	196	47	23.98	86	26
25.	Orissa	1877	1419	75.60	2689	15
26.	Puduchery	42	42	100	124	9
27.	Punjab	1576	1181	74.94	3240	8
28.	Rajasthan	3883	3055	78.68	3900	17
29.	Sikim	43	41	90.35	71	8
30.	Tami lnadu	4452	3874	87.02	5890	11
31.	Tripura	419	369	88.07	213	17
32.	UP	16270	9236	56.77	9658	20
33.	Uttara khand	216	159	73.61	1083	9
34.	West Bengal	7486	4348	58.08	5023	18
35.	Total	74404	49437	66 44	79735	15

Source: SLBC BANKS

Assam, Manipur, Mizoram, Nagaland are bad performers as percentage of villages covered under bank services is less than 30 percent. In India, 51.4% of farmer households are financially excluded from both formal/ informal sources. Of the total farmer households, only 27% access formal sources of credit; one third of this group also borrowed from non-formal sources. Overall, 73% of farmer households have no access to formal sources of credit. Across regions, financial exclusion is more acute in Central, Eastern and North-Eastern regions. All three regions together accounted for 64% of all financially excluded farmer households in the country. Overall indebtedness to formal sources of finance of these three regions accounted for only 19.66%. However, over the period of five decades, there has been overall improvement in access to formal sources of credit by the rural households. As per census 2011, only 58.7% of households are availing banking services in the country (Census of India, 2011). However, as compared with previous census 2001, availing of banking services increased significantly largely on account of increase in banking services in rural areas.

It is estimated that, globally, over two billion people are excluded from access to financial services, of which one third is in India. "The Report of the Committee on Financial Inclusion" (January 2008) stated that 72.7 percent of India's 89.3 million farmer households are excluded from formal sources of finance (Table-3). To be specific, those excluded are marginal farmers who happen to be women, who are further excluded right from the first stage of perception.

The highest percentage of farmer households excluded from formal source of finance is 95.91 % in the North-Eastern States followed by Eastern States. Financial exclusion is less in southern and western states. A larger part of India suffers from financial exclusion which restricts the inclusive growth of our nation.

Table -3: Regional distributions of Financially Excluded Farmer Households in India

Region	Name of States	% of Farmer HH without Formal Finance
Eastern States	Bihar, West Bengal, Orissa, Jharkhand	81.26
Western States	Maharashtra, Goa, Gujarat	56.02
Central States	Madhya Pradesh, Uttar Pradesh, Uttarakhand, Chhattisgarh	77.59
Northern States	Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Rajasthan	74.95
North-Eastern States	Sikkim, Assam, Arunachal Pradesh, Manipur, Meghalaya, Tripura, Mizoram, Nagaland	95.91
Southern States	Karnataka, Andhra Pradesh, Tamil Nadu, Kerala	57.25

Source: The Report of the Committee on Financial Inclusion, January 2008

In recent years, financial inclusion has assumed public policy relevance. Many countries like India (Government of India 2008) and the United Kingdom (UK) (2006) and International organizations like the United Nations (2006), World Bank (2008, 2009) have set up task force/ committees to understand financial inclusion and to improve its scope. These studies throw light on various aspects of financial inclusion. Some financial inclusion indicators in terms of saving accounts, per capita deposit and credit are shown in table-4.

Table-4: Commercial Banks and average population per Bank office as on March 2011

State/UT	No. of Bank Offices	pop^n. per Bank(in '000)	C-D Ratio	Saving A/C	Credit A/C	Per Capita	
						Deposit	Credit
Chandigarh	337	5117	119.8	2457216	229544	265188	342893
Delhi	2629	7407	80.8	30920716	2255705	347403	302580
Haryana	2690	9698	85.6	21452633	2084642	50993	36469
Him. Pradesh	1077	6408	48.6	6640304	628278	48585	19218

Jammu & Kas	1041	11545	35.7	9099470	593969	34457	12801
Punjab	3895	7328	92.9	29961307	2309169	55545	42960
Rajasthan	4507	15586	95.8	31998632	4046950	18914	17024
Arun Pradesh	86	14430	27.4	667235	65833	43691	9831
Assam	1546	20324	38.9	14729086	1643562	19334	6887
Manipur	83	29506	36.6	700539	91437	14443	4733
Meghalaya	221	12078	29.6	1204583	137561	37379	8970
Mizoram	100	10141	49.8	411568	69508	26185	11265
Nagaland	95	24183	27.5	648501	98945	23410	5985
Tripura	247	15130	33.2	2147614	278101	24145	7575
And & Nicob	42	11762	39.1	318201	27872	36377	13745
Bihar	4323	23250	31.6	33758144	4724892	12193	3537
Orissa	3029	13730	55.7	22260468	3794085	25331	12984
Sikkim	82	7463	62.4	390470	37289	53938	20343
West Bengal	5678	16281	65.1	56465841	4263233	35011	22300
Madhya Prad	4453	16732	60.1	35066520	3566277	19332	11538
Uttar Pradesh	11040	18646	48.2	116258080	10171493	18611	8114
Goa	470	3962	31.1	3619735	225698	181239	52643
Gujarat	5073	12062	74.4	42418349	3630969	44304	29385
Maharashtra	8816	13391	75.0	85351042	24536456	130631	106217
Andhra Prad	7571	11505	114.9	73614383	14395731	34493	37927
Karnataka	6518	9445	76.3	53580133	9055892	58737	42599
Kerala	4690	7635	73.8	33860495	6394907	49344	35536
Puducherry	159	9151	63.7	1368486	277715	49971	30633
Tamil Nadu	6864	10217	119.4	62503282	17615071	50951	58141
Chhattisgarh	1423	17553	56.1	11215598	1045072	23614	12360
Uttarakhand	1278	7954	39.1	8484784	804614	49462	17399
Jharkhand	1984	16332	35.6	15951505	1604345	24211	8483
Dadra & Nag	34	10412	56.2	286419	7870	35028	12203
Daman & Diu	24	11739	43.8	256811	6440	62519	13074
Lakshadweep	12	6333	---	61203	4970	69211	5658
All India	92117	13147	75.6	810129353	120724095	46321	34800

Source : Reserve Bank Statistics, 2011 & 2012

The credit deposit ratio is more than 100 in only 2 states, Andhra Pradesh and Tamil Nadu and one Union Territory, Chandigarh. For India, being a very well diversified economy and society, it is imperative to give adequate attention to measurement of financial inclusion by policy makers and researchers. Measurement of financial inclusion implies to evaluate the extent of accessibility, availability and usage of financial services like saving, credit, insurance, remittance facilities among many other such services. As shown in table-4, the All-India C-D ratio was at 75.6 per cent in 2011 compared to 73.3 per cent in2010.The population group-wise C-D ratio in respect of rural centers at the end of March2011 was at 60.0 per cent as per place of sanction of credit compared to 59.3 per cent in the previous year. In the case of semi-urban and urban centers, the C-D ratios were53.2 per cent and 61.6 per cent respectively in 2011 compared to 52.1 per cent and 59.1 per cent in the previous year. The C-D ratios as per place of utilization for rural, semi-urban and urban centers were79.6 per cent, 63.1 per cent and 70.2 per cent, respectively, compared to 91.6 percent, 59.9 per cent and 62.8 per cent, respectively, in the previous year. The C-D ratio recorded in metropolitan centers as per place of sanction and utilization was 88.4 percent and 79.9 per cent respectively in 2011 (compared to 85.9 per cent and 77.4 percent, respectively, in 2010). The C-D ratio of SBI & associates was at 77.3 per cent in 2011 compared to 75.9 percent in the previous year while C-D ratio of nationalized banks was at 75.9 per cent (compared to 73.5 per cent). The C-D ratios of foreign banks (85.0 per cent), regional rural banks (59.9 per cent) and Private sector banks (74.7 per cent) have increased in 2011 from their levels in the previous year (72.9 per cent, 58.3 per cent and 72.7 per cent respectively).

4. Index of Financial Inclusion (IFI)

In the index of financial inclusion presented here, we consider three basic dimensions of an inclusive financial system: banking penetration (BP), availability of the banking services (BS) and usage of the banking system (BU). These dimensions are largely motivated by two factors -- data availability for a large number of countries and recent development in the literature.

4.1 Banking penetration

An inclusive financial system should have as many users as possible; that is, an inclusive financial system should penetrate widely amongst its users. The size of the "banked" population, i.e. number of people having a bank account is a measure of the banking penetration of the system. Thus, if every person in an economy has a bank account, then the value of this measure would be 1. In the absence of the data on "banked" population, we use number of bank accounts as a proportion of the total population as an indicator of this dimension.

Table- 5: Index of Financial Inclusion for the States of India

State	D1 (Penetration)	D2 (Availability)	D3 (Usage)	IFI	IFI Rank	PNSDP at current price
Chandigarh	0.002	0.638	0.455	0.311	2	128634
Delhi	0.136	1.000	0.294	0.356	1	150653
Haryana	0.192	0.094	0.142	0.142	23	94680
Himachal Pradesh	0.118	0.085	0.153	0.118	27	65535
Jammu &Kasmir	0.222	0.137	0.108	0.105	28	37496

Punjab	0.111	0.156	0.201	0.156	28	69737
Rajasthan	0.341	0.080	0.067	0.153	21	42437
Arunanchal Pradesh	0.424	0.113	0.050	0.179	13	55789
Assam	0.494	0.042	0.055	0.170	16	30569
Manipur	1.000	0.005	0.002	0.186	12	29684
Meghalaya	0.315	0.075	0.062	0.142	23	50427
Mizoram	0.244	0.056	0.018	0.101	29	48591
Nagaland	0.599	0.017	0.000	0.158	18	52643
Tripura	0.537	0.028	0.069	0.178	14	44965
Andaman & Nicobar	0.230	0.055	0.186	0.154	20	76883
Bihar	0.746	0.092	0.047	0.226	5	20708
Orissa	0.304	0.087	0.054	0.141	25	40412
Sikkim	0.147	0.178	0.076	0.132	26	81159
West Bengal	0.378	0.120	0.94	0.187	11	48536
Madhya Pradesh	0.568	0.095	0.051	0.203	6	32222
Uttar Pradesh	0.503	0.092	0.086	0.203	6	26355
Goa	0.019	0.202	1.001	0.270	4	168572
Gujurat	0.246	0.098	0.098	0.145	22	75115
Maharastra	0.275	0.485	0.127	0.281	3	83471
Andhra Pradesh	0.257	0.143	0.140	0.178	14	62912
Karnataka	0.172	0.262	0.168	0.200	8	60946
Kerala	0.127	0.154	0.198	0.159	17	71434
Poduchery	0.239	0.112	0.242	0.195	10	98719
Tamil Nadu	0.213	0.214	0.174	0.200	8	72993

Source: Handbook of Statistics, Reserve Bank of India

4.2 Availability of banking services

The services of an inclusive financial system should be easily available to its users. Availability of services can be indicated by the number of bank outlets (per 1000 population) and/or by the number of ATM per 1000 people, or the number of bank employees per customer. In the absence of comparable data on the number of ATMs, we use the number of bank branches per 1000 population to measure the availability dimension.

4.3 Usage

This dimension is motivated by the notion of "under banked" or "marginally banked" people. They have observed that "in some apparently very highly-banked countries, a number of people with bank account are nonetheless making very little use of the services on offer". In incorporating the usage dimension in our index, we consider two basic services of the banking system, credit and deposit. Accordingly, the volume of credit and deposit as proportion of the country's GDP has been used to measure this dimension.

Thus, considering the above three dimensions –penetration, availability and usage– we can represent a country i by a point (pi, ai, ui) in the three dimensional Cartesian space, such that 0 = pi, ai, ui= 1, where pi, ai and ui denote the dimension indexes for country i computed using formula (1).

In the three dimensional Cartesian space, the point (0, 0, 0) will indicate the worst situation (complete financial exclusion) and the point (1, 1, 1) will indicate the best or ideal situation (complete financial inclusion). The IFI for the country i is measured by the normalized inverse Euclidean distance of the point (pi, ai, ui) from the ideal point (1, 1, 1). Algebraically,

$$\sqrt{\frac{(1-P_i)^2+(1-a_i)^2+(1-u_i)^2}{3}}$$

States are categorized into three types on the basis of following values of IFI

0.5 = IFI = 1 – High financial inclusion

0.3 = IFI = 0.5 – Medium financial inclusion

0 = IFI = 0.3 – Low financial inclusion

Observations from table-5 indicate a shocking note that no state in India belongs to high IFI group. The first two states namely Chandigarh and Delhi belong to medium IFI and rests of the states have low IFI values.

5. Conclusion

Financial inclusion plans are the important plans for the growth and development of the Indian economy. Enhancement in growth rate can be realised through expansion of financial and banking facilities. RBI, the central body of Indian banking system, is playing a very dominant role for the successful implementation of the FIPs. RBI is the main governing body of FIPs success and maintenance. Governance is the main focus for the success of any system. On the basis of findings of the study, it can be stated that governance of RBI is really good and RBI is playing an important role for the success of FIPs. Financial inclusion broadly means the provision of affordable financial services, viz., access to payments and remittance facilities, savings, loans and insurance services by the formal financial system to those who tend to be excluded. However, access to financial services is in a very dismal state in the country. The key components of the 'inclusive growth' strategy includes a sharp increase in investment in rural areas, rural infrastructure and agriculture; spurt in credit for farmers; increase in rural employment through a unique social safety netand a sharp increase in public spending on education and health care. There is a pressing need for making banking and financial services available to every part of the country. Also, in a country like India with diverse social and economic profile, financial education is particularly relevant for people who are resource poor and who operate at the margin and are vulnerable to persistent downward financial pressures. The RBI clearly stated that an important criterion for processing the applications from private sector for entering the banking field would be their business model which should provide for financial inclusion. Banks still regard financial inclusion as an obligation and not as a business opportunity and, therefore, the reach of inclusion has been less than desired. Banks should be asked to take up financial inclusion as a business opportunity to help the poor come under the banking operation net. A part, indeed an important part, of the mandate of central banks is financial stability and an essential prerequisite for financial stability is financial literacy and the central bank has a unique leverage in providing financial literacy.

References

Sinha, A. (2012). "Financial Inclusion and Urban Cooperative Banks", edited transcript at the launch of the financial inclusion program of COSMOS Bank at Pune.

Banerjee, A. and Duflo, E. (2005). "Growth theory through the lens of development economics," In: Handbook of Economic Growth, Vol. 1, 473–552

Banerjee, A. V. and Newman, A. F.(1993). "Occupational choice and the process of development," Journal of Political Economy,101(1), 274-98

Chakrabarty K.C. (2011). "Financial Inclusion: A Road India Needs to Travel", RBI Bulletin, November, 2011.

(2012) "Empowering MSMEs for Financial Inclusion and Growth – Role of Banks and Industry Associations", address at SME Banking Conclave 2012.

(2013) "Financial Inclusion in India: Journey So Far And the Way Forward", Key note address at Finance Inclusion Conclave Organised by CNBC TV 18 at New Delhi.

Radhika Dixit, R. and Ghosh M. (2013). "Financial Inclusion For Inclusive Growth of India – A Study", International Journal of Business Management & Research, Vol.3, Issue 1, pp. 147-156.

Rajan R.G. (2009). "A Hundred Small Steps - Report of the Committee on Financial Sector Reforms".

Rangarajan, C. (2008) "Report of the Committee on Financial Inclusion" Reserve Bank of India

Chattopadhyay S.K. (2011) "Financial Inclusion in India: A Case- study of West Bengal". RBI Working Paper Series, WPS (DEPR): 8/2011.

Suryanarayana, M.H. (2008). "What is Exclusive about 'Inclusive Growth'?", Economic and Political Weekly, Vol. 43, Issue No. 43, pp 93-101.

Financial Inclusion in India – Finding the Sustainable Approach to Reaching the Unreached

Sujata Pati[1]
Anjana Satpathy[2]

Financial inclusion is the access to financial services at an affordable cost by all sections of the society. As financial services are in the nature of public good, it is essential that banking and payment services are available to the entire population without discrimination. In order to achieve this goal, it should be the prime objective of public policy to ensure that banks and service providers find financial inclusion to be a scalable and viable business. This paper is an attempt to understand the needs and requirements of the financially excluded population of India and based on the current status of financial inclusion and upcoming policies recommend a sustainable way of broadening financial access and meeting the needs of people in the inaccessible nooks and corners of India with the right mix of financial services and technology.

Keywords: Financial inclusion, social inclusion, growth, financial system, millennium development goals

1. Introduction

Financial Inclusion refers to universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance and equity products. (The Committee on Financial Sector Reforms, Chairman: Dr.Raghuram G. Rajan). According to the United Nations, three billion people around the world do not have access to formal financial services like savings accounts, credit, insurance, and payment services. More than half the population in developing countries and more than 80 percent of households in most of Africa is financially excluded. Financial inclusion is the stepping stone towards inclusive development. This concept behind the importance of inclusive development dates back to Adam Smith (1776): "*What improves the circumstances of the greater part can never be regarded as inconveniency to the whole. No society can surely be flourishing and happy, of which by far the greater part of the numbers are poor and miserable*". Financial inclusion is beneficial for both the supplier and the customer. It broadens the resource base of the financial system by developing a culture of savings among large segments

[1] *Reader in Economics, S.C.S. College, Puri*

[2] *Corporate Banking, The Royal Bank of Scotland N.V*

of rural population, thereby promoting economic development. When a financial market functions well, it is more likely that funds will be allocated to the most productive users, contributing to economic growth and poverty reduction. Financial inclusion also protects the financial wealth and other resources of low income groups, by bringing them within the perimeter of formal banking sector. By facilitating easy access to credit, financial inclusion also mitigates the exploitation of vulnerable sections by money lenders.

By having access to financial services, poor households obtain reliable tools in the form of savings accounts, insurance products for managing their money. Since the incomes of poor households are unstable, their needs for reliable financial services are greater than those of richer households. By borrowing and saving, poor households can meet basic consumption needs, such as having food on the table every day. Furthermore, they can save money for education, business expansion and emergency funding. Poor households also benefit from higher income from financial investments and better employment opportunities generated as a result of economic growth achieved through financial inclusion. Firms are likely to grow faster when they have access to external finance. Small and Medium sized firms have expanded their operations after becoming eligible to borrow from a bank at subsidized interest rates. By having access to finance, small firms can allocate assets more efficiently, and can increase innovation. In this regard, the World Bank's report, "Finance for All," emphasizes the need to broaden the focus of financial inclusion from poor households to all excluded households and firms, including non-poor micro and small-and medium-sized entrepreneurs. Improving access to finance for the poor has been emphasized as an effective tool for achieving the Millennium Development Goals (MDGs). The way in which access to financial services can help achieve the MDGs is explained below.

Goal 1: Eradicate extreme hunger and poverty. Access to financial services shall help the poor build financial security, diversify sources of income and reduce vulnerability to economic cycles. **Goal 2**: Achieve universal primary education. With access to financial services, poor people are less likely to depend on their children's labour and are more likely to send their children to school. **Goal 3**: Promote gender equality and empowering women. Micro Finance Institutions (MFIs) and Self Help Groups (SHGs) have helped enhance the status of poor women in their homes and the community by giving them ownership of assets. **Goals 4, 5, and 6**: Reduce child mortality, improve maternal health and combat HIV/AIDS, malaria and other diseases. Access to health insurance and health education programs help clients become more aware of health issues, take preventive actions and receive timely treatment. **Goal 7**: Ensure environmental sustainability. MFIs have been supporting the purchase of "sustainable energy products" such as solar powered lamps. Also, MFIs can promote environmentally sustainable practices in agriculture.

2. Current Status and Reasons for Financial Exclusion

As per Government of India Population Census 2011, only 58.7% of households are availing banking services in the country. As per World Bank 'Financial Access Survey' Results it can be observed that in our country, financial exclusion, measured in terms of bank branch density, ATM density, bank credit to GDP and bank deposits to GDP, is quite low as compared with most of the developing countries in the world (Table -1).

Table - 1: World Bank 'Financial Access Survey' Results (Country wise analysis)

S.No	Country	Number of Bank Branches	Number of ATMs	Number of Bank Branches	Number of ATMs	Bank Deposits	Bank Credit
		Per 1000 KM		Per 0.1 Million		as % to GDP	
1	India	30.43	25.43	10.64	8.9	68.43	51.75
2	China	1428.98	2975.05	23.81	49.56	433.96	287.89
3	Brazil	7.93	20.55	46.15	119.63	53.26	40.28
4	Indonesia	8.23	15.91	8.52	16.47	43.36	34.25
5	Korea	79.07	...	18.8	...	80.82	90.65
6	Mauritius	104.93	210.84	21.29	42.78	170.7	77.82
7	Mexico	6.15	18.94	14.86	45.77	22.65	18.81
8	Philippines	16.29	35.75	8.07	17.7	41.93	21.39
9	South Africa	3.08	17.26	10.71	60.01	45.86	74.45
10	Sri Lanka	41.81	35.72	16.73	14.29	45.72	42.64
11	Thailand	12.14	83.8	11.29	77.95	78.79	95.37
12	Malaysia	6.32	33.98	10.49	56.43	130.82	104.23
13	UK	52.87	260.97	24.87	122.77	406.54	445.86
14	USA	9.58	...	35.43	...	57.78	46.83
15	Swtzerland	84.53	166.48	50.97	100.39	151.82	173.26
16	France	40.22	106.22	41.58	109.8	34.77	42.85

Limited financial inclusion does not simply result from unfair discrimination against the poor, but is also due to low demand for financial services from the disadvantaged sections of the society. Financial education, financial inclusion and financial stability are three elements of an integral strategy. While financial inclusion works from supply side of providing access to various financial services, financial education feeds the demand side by promoting awareness among the people regarding the needs and benefits of financial services offered by banks and other institutions. Going forward, these two strategies implemented together promote greater financial stability.

The main reasons behind financial exclusion are lack of information about the role and function of banks, banking services and products and interest rates. Affordability of products and services is also an issue for the disadvantaged sections of the society. People living in geographically isolated areas are excluded because they do not have access to brick and mortar bank branches and lack information on ways of using technology to access financial products. Complicated banking procedures and documentation also dissuade people from approaching financial service providers.

According to Kempson and Whyley (1999) there are six types of financial exclusions namely

- physical access exclusion,
- access exclusion,

- condition exclusion,
- price exclusion,
- marketing exclusion, and
- self exclusion

Access exclusion refers to the restriction of access through the processes of risk assessment; condition exclusion is where the conditions attached to financial products, making them inappropriate for the needs of some people while price exclusion occurs where some people can only gain access to financial products at prices they cannot afford. Marketing exclusion is the process of excluding people by not targeting them with marketing and sales initiatives and self-exclusion refers to people not applying for a financial product because they believe they would be refused access to it.

3. Reserve Bank of India and Financial Inclusion

In view of the same, Financial Stability Development Council (FSDC) has explicit mandate to focus on financial inclusion and financial literacy simultaneously. Reserve Bank of India (RBI) has also taken the following steps to promote financial inclusion.

- Advised all banks to open ***Basic Saving Bank Deposit (BSBD)/ no frills*** accounts with minimum common facilities such as no minimum balance, deposit and withdrawal of cash at bank branch and ATMs, receipt/ credit of money through electronic payment channels, facility of providing ATM card.

- ***Relaxed and simplified KYC norms*** to facilitate easy opening of bank accounts, especially for small accounts with balances not exceeding Rs. 50,000 and aggregate credits in the accounts not exceeding Rs. one lakh a year. Banks are advised not to insist on introduction opening bank accounts of customers. In addition, banks have been allowed to use Aadhar Card as a proof of both identity and address.

- ***Simplified Branch Authorization Policy*** has been formed to address the issue of unevenly spread bank branches. Domestic Scheduled Commercial Banks (SCBs) are permitted to open branches in Tier 2 to Tier 6 centers with population of less than 1 lakh under general permission, subject to reporting. In North-Eastern Sates and Sikkim domestic SCBs can open branches without having any permission from RBI. With the objective of further liberalizing, domestic SCBs (other than Regional Rural Banks (RRBs)) have general permission to open branches in Tier 1 centres, subject to certain conditions.

- ***Compulsory Requirement of Opening Branches in Un-banked Villages:*** Banks have been directed to allocate at least 25% of the total number of branches to be opened during the year in un-banked (Tier 5 and Tier 6) rural centers.

- ***Opening of intermediate brick and mortar structure***: For effective cash management, documentation, redressal of customer grievances and close supervision of BC operations, banks have been advised to open intermediate structures between the present base branch and BC locations. This branch could be in the form of a low cost simple brick and mortar structure consisting of minimum infrastructure with a core banking solution terminal linked to a pass book printer and a safe for cash retention for operating larger customer transactions.

Public and private sector banks had been advised to submit board approved three years Financial Inclusion Plan (FIP) from April 2010. These policies aim at keeping self-set targets in respect to rural brick and mortar branches opened, BCs employed, coverage of un-banked villages with population above 2000 and as well as below 2000, BSBD accounts opened, KCCs, GCCs issued and others. RBI has been monitoring these plans on a monthly basis.

- In June 2012, based on revised guidelines on ***Financial Literacy Centres (FLCs)***, it was advised that FLCs and all the rural branches of scheduled commercial banks should scale up financial literacy efforts through conduct of outdoor Financial Literacy Camps at least once a month and facilitate financial inclusion through provision of two essentials i.e. 'Financial Literacy' and easy 'Financial Access'. Accordingly, 718 FLCs have been set up as at end of March 2013. A total of 2.2 million people have been educated through awareness camps / choupals, seminars and lectures during April 2012 to March 2013.

- The RBI is also in the process of giving new bank licenses and licenses for small and payment banks, which shall help in increasing the reach of financial services.

- RBI also set up a committee of 13 members headed by Nachiket Mor, member on the RBI's Central Board of Directors, to frame for Comprehensive Financial Services for Small Businesses and Low–Income Households. The 'Committee on Comprehensive Financial Services for Small Businesses and Low–Income Households' has developed a comprehensive monitoring framework to track the progress of financial inclusion and provide recommendations to deepen efforts nationwide.

The India Post has also been addressing the primary building block in the process of financial inclusion by storage of cash through Post Office Savings Bank (POSB) accounts and payments through money orders. However, India Post does not yet deliver credit. Government of India has established Debt Recovery Tribunals ("DRTs") to speed up a debt recovery procedure. Under this system, banks can recover loans faster by filing claims in DRTs without going through court proceedings that may involve delays. This new mechanism has contributed to increasing loan recovery rates and lowering loan interest rates. The private sector has been proactive in providing innovative and profitable responses. Large private corporates have undertaken projects such as E-Choupal/ E- Sagar (ITC), Haryali Kisan Bazaar (DCM Shriram Consolidated Ltd.), Project Shakti (HUL) which have been successful in bringing about vast improvement in the lives of the participants and set the tone for economic development; which is a pre-requisite for Financial Inclusion efforts to be undertaken by the banking system.

As an outcome of these initiatives, the banks in Odisha have made provision for banking facilities in 1,877 unbanked villages having population of more than 2000. Of these, 54 villages are covered through brick and mortar branches, 7 villages through ultra small branches, 1,740 villages through appointment of business correspondents and 83 through mobile vans. In addition to the above, 1,502 villages with population between 1,600 and 2,000 have been identified for banking facilities by March 2013. Over 6 lakh no-frill accounts have been opened and 24 financial literacy counseling centres (FLCCs) have been established. More than 10 lakh Kissan Credit Cards (KCCs), 8,000 Swarozgar Credit Cards (SCCs) and over 1,000 Artisan Credit Cards (ACCs) have been issued and over 58,000 self help groups have been credit linked to facilitate financial inclusion.

4. Global Policies to Improve Access to Finance

Governments, donors and intermediaries can contribute to improving access to finance through coordinated efforts to assemble data and encourage sound impact evaluations comparable across countries and time by implementing appropriate policies and legislation. In developed economies like the UK, the Financial Inclusion Task Force plays a key role for deepening financial inclusion. UK has also established a Financial Inclusion Fund to promote financial inclusion and assigned responsibility to banks and credit unions for removing financial exclusion through no frills accounts and other relevant products. An enhanced legislative environment for credit unions has been established, accompanied by tighter regulations to ensure greater protection of investors. For those who are unable or unwilling to have a basic bank account an option of a Post Office Card Account (POCA) is also available. The concept of a Savings Gateway has been piloted. This offers those on low-income jobs, £1 from the state for every £1 they invest, up to a maximum of £25 per month. In addition, the Community Finance Learning Initiatives (CFLIs) have been introduced with a view to promoting basic financial literacy among housing association tenants. In the USA, a civil rights law, namely Community Reinvestment Act (CRA) prohibits discrimination by banks against low and moderate income neighborhoods. The CRA imposes affirmative and continuing obligations on banks to serve the needs for credit and banking services of all the communities in which they are chartered which has been found to be profitable to banks too. The State of New York Banking Department has made it mandatory for banking institutions to offer basic banking accounts and basic share draft accounts to give customers access to low cost banking services. Recent experiences in developing countries like Mexico, Brazil and Colombia also show that governments play a decisive role in coordinating financial inclusion initiatives and supporting innovative bank outreach strategies without engaging directly in credit allocation.

The proactive involvement of international organizations, such as the IDB, World Bank, USAID and others is also an invaluable external catalyst for reforms and market development. It facilitates learning from other parts of the world to be implemented wherever required. Policymakers in developing countries formed a global network called “Alliance for Financial Inclusion” in 2008 to share successful policies and avoid ineffective ones. AFI uses a “polylateral development” model to contrast and compare successful financial inclusion policies, focusing on a peer-to-peer system rather than a top-down or North-to-South learning model.

4.1 Case Study from Kenya

The Kenya government was successful in promoting financial inclusion by combining technology and financial services and helping in the success of M-PESA, which a payment system using mobile phones. It is an excellent example of public private partnership working towards tackling the problem of financial exclusion.

First, the Government created a favorable environment to expand the mobile phone market. Although, mobile phone penetration rates in Kenya were very low in 1990s compared to some countries in Africa, the number of mobile phone users rose sharply from 15,000 in 1999 to 16 million in 2008 after the government facilitated reforms in the telecommunication sector by enacting "the Kenya Communication Act." The government also provided an efficient tax system and a stable legal structure and encouraged innovation. Second, the government engaged the private sector in its policy-making process to make sure that government will provide support for service providers and to evaluate possible risks to financial stability (e.g., possibility of fraudulent movement of funds). In introducing M-PESA, the private sector's contribution was especially effective, since it was well supported by research and evidence. Third, the government strategically chose to allow technological innovations before enacting appropriate legislation in order to expand access to finance. Allowing new products into the market in the absence of relevant legislation may compromise financial stability. However, the government successfully balanced access with stability by carefully monitoring the market and enhancing oversight capacity to ensure the financial stability.

4.2 Learning

It is important to note that governments can improve access by providing legislation and regulations that would allow market participants to use technologies in the form of internet and cell phones to reduce the cost of providing financial services significantly. While banks invest substantial amounts of money for infrastructure and personnel under the traditional branch-banking approach, mobile banking allows banks to provide financial services at reduced costs. Governments can also improve access by facilitating competition. As competition intensifies, incumbent financial institutions are likely to extend services to a new market and try new, cost-effective technologies in an effort to find new ways to increase profits. However, it is also important to make sure through regulatory measures that intense competition would not result in reckless and improper lending practices. One of those measures is setting a ceiling on interest rates. Although many governments have used this measure, clients are still vulnerable to abusive lending practices because banks tend to require higher fees and additional charges to offset lower interest rates. While governments' role in creating an appropriate environment to facilitate access is important, the scope of their direct intervention is limited, and direct intervention programs require careful monitoring. In most cases, providing direct credit through government-controlled financial institutions has not worked well in part because the lending decisions are likely to be distorted by political influences. By initiating the public private partnerships, governments can play a role in starting new financial services and facilitate widening of access to finance using the skills of private players.

5. Conclusion

The key factors affecting the success of Financial Inclusion initiatives are technology, reach and coverage, delivery mechanism, and customized business models to meet varied demands of the excluded population. Delivering financial services to all sections of the population is going to be challenging around the world over the next few years.

Based on our learning from case studies across the world both in developed and developing economies, we understand that it is necessary to use non financial interventions like social intermediation, financial literacy programs, marketing and promotion of financial services, to develop a deeper understanding of the needs of unreached customers. This shall help in creating an environment for economic development in the unreached, relatively less developed areas of the world including India.

The Government of India should facilitate financial inclusion by promoting collaborations among financial service providers like banks and MFIs with post offices, mobile operators and other technology service providers, thereby increasing the reach of various initiatives.

One of the major reasons why private sector banks avoid working towards financial inclusion is the lack of incentive to promote financial inclusion as a viable business opportunity. Imposition of priority sector lending (PSL) targets and efforts by state run banks has definitely helped the cause however the way they are implemented by the bank has a significant impact on its performance as a whole. There should be proper acknowledgement of risk and cost-to-serve considerations and all policies like loan waivers etc. need to be integrated in discussions on financial inclusion with banks to prevent banks from being reluctant participants in financial inclusion. Bank regulatory agencies should include ability to serve low income communities as a parameter while rating banks.

Products need to be tailor made with affordable rates to cater to the requirements of the target customers. Staff like business correspondents involved in the last phase of banking the unreached population should also be properly incentivized and adequately supported by bank branches to take care of customer grievances. As we are dealing with people who are new to the banking system, processes should also be simplified to facilitate easy access and use. Existing infrastructure and channels like post offices should be used to facilitate agency banking in rural India. To help the huge migrant population in urban areas, financial service providers should not insist on a current address proof if the person has a permanent Indian address.

In addition to the infrastructure required, it is extremely important to have legislations which regulate the interest rates charged to end user. It is under the fiduciary responsibility of the financial service providers to educate their customers/ potential customers about the benefits of each product the customer is interested in and sell products that meet the needs of the customer. The fine print in the form of hidden charges, fees, and interest rates should be clearly communicated and any miscommunication should be avoided. Laws to this effect shall help in building the trust of the customers and bring them into the formal financial sector for the long term.

To help the suppliers and increase the willingness to payback among customers, national registers should be maintained to keep a track of payment defaults, bankruptcies and court judgments so that a customer's entire credit history is available at the click of a button. Fast track courts should be set up in remote areas to address grievances of both financial service providers and vulnerable customers.

The challenge to financial inclusion is not only bringing the unbanked population into the formal fold but also keeping them in the system and helping them enjoy the benefits of being a part of the formal finance sector. Government, private and public sector service providers need to move from focusing on the poor just doing basic financial transactions like saving, borrowing and paying to enabling them to use financial services to their full potential so as to protect their families while at the same time raising their standard of living. The sector needs to innovate and evolve to serve the poor in a better and produce easier to measure benefits. Initiatives to this regard shall lead to development of financial inclusion into a viable and sustainable business and encourage bankers and financial service providers to look at Financial Inclusion as an opportunity instead of treating it as a drag on profitability.

Savings as a Fulcrum for Financial Inclusion

Santosh Mohapatra[1]

The imperative of financial inclusion, based on the principle of equity and inclusive growth, has been engaging the attention of policy makers internationally as well as within India. However, while financial inclusion appears as a noble goal in itself, recent history shows that efforts to drive financial inclusion can be counterproductive unless handled well. Amazingly, policy makers do not give same emphasis in inculcating greater savings habit among poor people through financial inclusion as they give for augmentation of credit. Inadequate financial literacy also serves as an important impediment to demand for services. Hence, step should be taken to bolster financial literacy and encourage savings habit among people especially poor, which will enhance investment and spur growth.

Key words: *Financial Inclusion, Financial Literacy, Financial services, Savings*

1. Introduction

Financial inclusion and financial literacy have been important policy goals for quite some time. Achieving universal financial inclusion is, indeed, a global objective and has multiple dimensions. The imperative of financial inclusion, based on the principle of equity and inclusive growth, has been engaging the attention of policy makers internationally as well as within India. Financial inclusion is emerging as the new paradigm of sustainable long-term economic growth. It is fast emerging as a contender for being a mainstay driver of reducing poverty and has drawn the attention of central bankers and various global developmental and financial institutions. The Reserve Bank India's developmental initiatives rest on five pillars, one important pillar is financial inclusion i.e., expanding access of finance to small and medium enterprises, the unorganized sector, the poor, and remote and underserved areas of the country through technology, new business practices, and new organizational structures. However, ever since Prime Minister Narendra Modi launched the Pradhan Mantri Jan Dhan Yojana (PMJDY) on 28 August 2014, financial inclusion has become hotbed of discussion and has assumed gargantuan priority by banks.

2. What is Financial Inclusion?

Traditionally financial inclusion has been understood to mean opening new bank branches in rural and unbanked areas. Nowadays, however, financial inclusion is seen to be something

[1] *Financial Columnist*

more than opening bank branches in unbanked areas to take formal financial services across the length and breadth of the country. It refers to the delivery of financial services and products to the disadvantaged and low-income sections of society, at affordable cost, and in a fair and transparent manner, by regulated institutions. It is just contrary to 'financial exclusion' i.e. not having access to a bank account and exclusion from formal credit markets requiring the excluded to approach informal and exploitive markets.

The United Nations define the goals of financial inclusion as follows:

- access at a reasonable cost for all households to a full range of financial services, including savings or deposit services, payment and transfer services, credit and insurance;
- sound and safe institutions governed by clear regulation and industry performance standards;
- financial and institutional sustainability, to ensure continuity and certainty of investment; and
- Competition to ensure choice and affordability for clients.

According to Joshi (2013), "Though, the basic concept of financial inclusion is having a saving or current account with any bank, in reality it includes loans, insurance services and much more. The main features of the approach involve 'connecting' people with the banking system and not just credit".

The Rangarajan Committee on Financial Inclusion defines it as "the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost." Financial Services include the entire gamut of services provided by financial institutions such as savings, loans, insurance, payments etc. In this context the financial system virtually does the function of transferring resources from one who has surplus to the needy, the latter being poor and low-income persons or groups.

Similarly, the Raghuram Rajan Committee on Financial Sector Reforms, refers 'Financial Inclusion', broadly, to universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance and equity products. The Rajan Committee had categorised this access into contingency planning, credit and wealth creation. While contingency planning encompasses Retirement savings, Buffer savings and Insurable contingencies, Credit implies business livelihood, emergency loans, Housing loans, consumption loans. However, wealth creation entails savings and investment based on household's level of financial literacy and risk perception.

3. Imperatives of Financial Inclusion

The imperative of financial inclusion stems from the fact that it mitigates the exploitation of vulnerable sections by the usurious moneylenders by facilitating easy access to formal credit.

According to the RBI Governor Raghuram Rajan (2014), "Simplicity and reliability in financial inclusion in India, though not a cure all, can be a way of liberating the poor from dependence on indifferently delivered public services and from venal politicians".

In India, the scenario of financial inclusion in no better than it is in other parts of the world. In spite of a plethora of banks and banking has still not reached a large section of the population. The extent of financial exclusion is staggering. The magnitude of challenge under financial inclusion assumes gigantic proportion from the fact that only 58.7 per cent of estimated 246.7million households (i.e., 144.8 million) have access to banking services in the country (Census 2011). In rural areas 44 per cent of the households and in urban areas 33 per cent of them still do not have a bank account and out of the formal banking system, and has to depend on money lenders for meeting their credit needs. According to a World Bank estimate, just 35 per cent of the adults in India had a bank account in 2011. Odisha is lagging behind national average. Assuming that one person has only one account, just a little over one-third — about 34 per cent of the population, has access to banking services.

In view of pervasive 'financial exclusion', a large proportion of the rural population in India is dependent on unofficial channels, mainly the moneylenders for credit, and often is caught in a debt trap. Less than 20 per cent of the population has life insurance coverage, while access to other financial services is restricted mainly to the metropolitan areas, to SEC A and B towns, and is quite intermittent in rural areas (Nitiin A. Khandkar,2013). This necessitates the need of financial inclusion.

4. Financial Literacy and Financial Inclusion

Financial development is widely recognized as an important determinant of economic growth (Levine, 2005). Financial literacy is considered an important adjunct for promoting financial inclusion, financial development and ultimately, financial stability. Financial literacy has been defined as "a combination of awareness, knowledge, skills, attitude and behaviours necessary to make sound financial decisions and ultimately achieve individual financial wellbeing" (Atkinson and Messy, 2012). It can broadly be defined as the capacity to have familiarity with and understanding of financial market products, especially rewards and risks in order to make informed choices. It refers to the ability to make informed judgments and to take effective decisions regarding the use and management of money.

However, inadequate financial literacy serves as an important impediment to demand for services. As individuals are not familiar or comfortable with products, they do not demand them and sometimes demand wrong products. As a result, financial inclusion comes with impending dangers. The recent spate of chit fund/ Ponzi frauds in Odisha, among others, is pointer to abysmally low financial literacy. Unless financial literacy goes hand in hand with financial inclusion, the poor and credulous depositors will be put into more snags. Financially educated consumers, in turn, can benefit the economy by encouraging genuine competition, forcing the service providers to innovate and improve their levels of efficiency. Raising financial literacy supports social inclusion and enhances the wellbeing of the community.

5. Savings as Fulcrum for Financial Inclusion

It is now widely understood that savings have great potential impact. Savings lead to investment that spurs growth. Wide-scale savings mobilization is fundamental to building inclusive financial systems *(Martin, Nisha Singh,* David *Myhre,* 2013). Savings can be considered as the creation of assets of all types. Perhaps the most frequent conception of savings is as a tool for cash flow management, helping the saver bridge gaps of consumption and income with extra liquidity. Savings can be thought of as a buffer against risk, a resource— resembling an insurance claim—that can help mitigate the effects of unpredictable crises. People with savings are better able to weather economic shocks such as a loss of income, to build assets for the future, and are less reliant on credit to cover unexpected expenses. Saving plays a vital role in building up the individual economy as well as national economy (Mohapatra, 2014)

This insight is grounded in evidence that the poor do save in cash and in kind -whether as a way to build assets, manage household cash flow, or effectively cope with risk. However, much of their savings remain informal and outside the financial system. The World Bank's Global Findex reports that only 16 per cent of adults in the bottom two-income quintiles (lowest 40 per cent) of low-income countries have an account at a formal financial institution, compared with 86 per cent of adults in the bottom two income quintiles of high-income countries. Closing this savings gap is central to any strategy of financial inclusion and equitable economic development. Financial institutions benefit from mobilizing savings to the extent that deposits can constitute a significant and relatively inexpensive source of funds to finance lending and other financial services. Additionally, saving services can help institutions to build a relationship with their customers, possibly leading to greater demand for credit and other products, such as insurance and payment services.

Surprisingly, planners do not emphasize the importance of inculcating greater savings habit among poor people through financial inclusion as they concentrate on intensification of credit through financial inclusion. The subprime mortgage crisis in US that wrecked havoc on the global financial system had its origins in the forced drive for inclusion. Whereas lending can enable one to have access to much-needed capital, savings have the potential to help the poor regardless of their occupation, entrepreneurial abilities, age or capital needs. Loans may assist in the short term, but only if a borrower has the capacity to become more productive over time in order to service debts weighed down by high interest rates loans can promote long run benefits. In this background, the financial inclusion can broaden the resource base of the financial system by developing a culture of savings among large segment of rural population and plays its own role in the process of economic development. Further, by bringing low-income groups within the perimeter of formal banking sector; financial inclusion protects their financial wealth and other resources in exigent circumstances.

6. Impediments to Financial Inclusion

There are impediments to financial inclusion in both demand and supply sides. Demand side barriers are (a) Low literacy levels, lack of awareness and/or knowledge/understanding of financial products; (b) Irregular income; frequent micro-transactions; (c) Lack of trust in formal banking institutions; cultural obstacles (e.g., gender and cultural values).

Supply side barriers are (a) Outreach (low density areas and low income populations are not attractive for the provision of financial services and are not financially sustainable under traditional banking business models); (b) Regulation (frameworks are not always adapted to local contexts), (c) Business models (mostly with high fixed costs); Service Providers (limited number and types of financial service providers) (d) Services (non-adapted products and services for low income populations and the informal economy); (e) Age Factor (Financial service providers usually target the middle of the economically active population, often overlooking the design of appropriate products for older or younger potential customers. (f) There are also various socio-cultural, economic issues that hinder the process of financial Inclusion.

However, recently, hasty and reckless opening of bank accounts for record purpose under the Pradhan Mantri Jan Dhan Yojana (PMJDY) has proved to be a saddle for banks. The bulk of accounts are now found in defunct/ dormant stage, which belies the very purpose of touting this scheme as game-changer. According to Department of Financial Services, Ministry of Finance, Government of India, (as on February 2, 2015), out of above 125.8 million accounts, around 84.6 million have no balance. Tragically, private banks have opened only 5.26 million accounts from which 3.02 million accounts are non-operational.

7. Conclusion

Financial inclusion can be a worthy goal only if as it helps in enhancing savings not simply augmenting credit facilities. The very objective of opening of accounts should be to instil the habit of savings in all citizens. The mainstream financial institutions like banks have a significant role to play in this effort not as a social obligation but to spur financial inclusion and financial deepening. Achieving this vision, a broader range of financial services should be available to most low-income people, especially safe and accessible places to deposit savings. While enhancing financial inclusion, government should open more bank branches and other financial institution in rural areas so that people have easy accessibility to banks and other financial institutions. The reckless opening of bank accounts for only record purpose under the camouflage of financial inclusion should be stopped. Steps should be taken to enhance financial literacy and savings should be incentivised so that people especially poor will prefer to save more than they borrow. If savings are to be considered a cornerstone of effective financial inclusion strategies, then various new, innovative and inflation beating savings products should be made available in market. There should be strong regulatory mechanism to prevent depositors being swindled by fraudsters or charlatan companies. Finally, a degree of realism and pragmatism should be adhered, if financial inclusion is to benefit India's poor.

References:

1. *Bhaskar P.Vijaya(2013):"Financial Inclusion in India-An assessment"(speech delivered as Executive Director,* Reserve Bank of India at the MFIN and CCESS- Assist Summit organised in New Delhi on December 10,2013).Retrieved on February2,2015 from http://www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=862

2. Chakrabarty, K. C. (2012): "Financial Literacy and Consumer Protection – Necessary Foundation for Financial Inclusion", *RBI Bulletin*, May 2012. Retrieved on February 5, 2015 from http://rbidocs.rbi.org.in/rdocs/bulletin/pdfs/03spc090512.pdf

3. *Chakrabarty, K.C. (2012): "Financial Inclusion-Issues in Measurement and Analysis" (keynote address as RBI Deputy governor* at the BIS-BNM Workshop on *Financial Inclusion Indicators at Kuala Lumpur on November 5,2012.Retrievd on February 6,2015 from* http://www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=749

4. Han, R., Melecky, M. (2013): "Financial Inclusion for Financial Stability". Background Paper to the 2014 World Development Report.

5. Joshi, Deepali Pant *(2013): "Financial Inclusion - Journey so far and Road Ahead*". (Speech delivered as Executive Director, Reserve Bank of India on November 29, 2013. Retrieved on February1, 2015 from http://rbidocs.rbi.org.in/rdocs/Speeches/PDFs/DPJ281113SM.pdf

6. Khandk, Nitiin. A (2013): "Financial Inclusion in India: Panacea or Mirage?" Breaking mail, July15, 2013.Retrieved on January25, 2015 from http://www.breakingcall.com/index.php/blog/india-insight/85-india-blog/130-financial-inclusion-in-india-panacea-or-mirage

7. Khaitan,Rachit (2014): "The Role of Financial Inclusion and Financial Deepening", IFMR Finance Foundation. Retrieved on February 7, 2015 from

   http://www.ifmr.co.in/blog/2014/04/29/the-role-of-financial-inclusion-and-financial-deepening/

8. Livemint Editorial (2013): "The challenge of financial inclusion," December, 25.

   Retrieved on Janury 12,2015 from

   http://www.livemint.com/Opinion/fW274vQsZPjnDFUz2egjiL/The-challenge-of-financial-inclusion.html?utm_source=copy

9. Martin, Josh, David Myhre and Nisha Singh (2013): "Savings as a Cornerstone Laying the Foundation for Financial Inclusion." Retrieved on February 3, 2015 from http://www.seepnetwork.org/filebin/pdf/resources/Savings_report_web_final.pdf

10. Mohapatra ,S.K(2014): "Jana Dhan Yojana: A lofty idea, but hard to achieve", Orissa POST:powerpost ,Page.8

11. Rajan, Raghuram G. (2009): "A Hundred Small Steps - Report of the Committee on Financial Sector Reforms",Retrieved on January 20, 2015 from

    http://planningcommission.nic.in/reports/genrep/rep_fr/cont_fr.pdf

12. Rangarajan,C.(2008):"Report of the Committee on Financial Inclusion" ,Retrieved on January 20, 2015 from http://sksindia.com/downloads/Report_Committee_Financial_Inclusion.pdf

13. Reserve Bank of India (2014). Report of the Committee on Comprehensive Financial Services for Low Income Households and Small Businesses Retrieved on January 10, 2015 from http://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=727

14. Savings: A gate way to Financial Inclusion (2014): Women World banking in partner with Credit sui, Retrieved on January30, 2015 http://www.womensworldbanking.org/wp-content/uploads/2014/01/Womens-World-Banking-S avings-Gateway-Financial-Inclusion-new.pdf

15. Tara pore, S.S. (2014): "Nuts and Bolts of financial inclusion". January 26, 2014: The Hindu business line, Retrieved on January 20, 2015 from

http://www.thehindubusinessline.com/opinion/columns/s-s-tarapore/nuts-and-bolts-of-financial-inclusion/article5620559.ece).

16. Ugwumadu,Judith(2013): "World Bank pushes 2020 financial inclusion target", Public Finance International news letter, October15 2013 ,Retrieved on February 2, 2015 from

http://www.publicfinanceinternational.org/news/2013/10/world-bank-pushes-2020-financial-inclusion-target/#sthash.p404X9dD.dpufA

17. World Development Report (2014) ,Retrieved on February 3,2015 from

http://issuu.com/world.bank.publications/docs/9780821399033/238

Pradhan Mantri Jan Dhan Yojana: A Critique

Ranjan K Nayak[1]
Ratna Binodini A P Das[2]

The broad objectives of the paper are to highlight the different aspects and to give a critique of the Pradhan Mantri Jan Dhan Yojana (PMJDY) scheme which is a key strategy for the Finacial inclusion in general. Our study period is confined to 31 Aug 2014 to 17 Jan 2015. The data have been collected from Department of Financial Services, Ministry of Finance, Government of India. Financial inclusion is generally defined as the availability of banking services at an affordable cost to disadvantaged and low-income groups. The scope of financial inclusion includes the services like opening of bank accounts, immediate credit facilities, insurance facilities and financial advisory services. Financial inclusion can be termed as a quasi-public good because it satisfies the two criteria of non-rivalry and non-excludability to a large measure. In general there are two sides of financial inclusion, demand side and supply side.The demand side is education (which includes skill development) and health, irrigation, power, roads, transport, marketing arrangement etc. and the supply side includes availability of timely finance at affordable rate of interest.

The **Pradhan Mantri Jan Dhan Yojana (PMJDY)** aimed at improving the lives of millions of India's poor by bringing them into the financial mainstream. The target is to open 7.5 crore bank accounts by January 2015. To attain this goal, the programme will help people to open zero-balance accounts with any bank, either public or private, with simple Know-Your-Customer rules and nominal documentation. At least one account for every household with RuPay Debit card will be given. Focus will be on financial literacy and no Branchless banking through the Bank Mitra. Accident insurance (Rs. 1 lakh) and Life Insurance (Rs.30,000) would be covered in this important scheme.

The progress of account opening under PMJDY from 30 Aug to 17 Jan 2015 indicates that throughout the last five years it has been increasing. It was 21.6 mn in 30 Aug 2015 and has increased to 115.0 mn, which is a Genesee Book of record in opening accounts. Again the rural account holders are 68.4 mn whereas the number is 46.6 mn in urban areas in India. Besides, Public Sector Banks (PSB), Regional Rural Banks (RRB), Private Banks (Pvt. Banks) have opened 91.2 mn, 20.0 mn and 3.8 mn accounts respectively. The number of accounts under female and male category are 51 percentage (58.2 mn) and 49 percentage (56.8 mn) respectively.

1 *Research Scholar, School of Economics, University of Hyderabad, Email:ranjankumarnayak5@gmail.com*
2 *Economist In Commercial Taxes, Cuttack, Odisha, PhD Scholar, Utkal University*
Email: ratna.bapdas@gmail.com

The females are ahead of males by 2 percentage in opening accounts. Further, total accounts in rural and urban areas are 59 percentage (6.84 cr) and 41 percentage (46.6 mn) respectively. The rural area having 18 percentage more accounts than urban area. It is clear that the disadvantaged section and the disadvantaged area are doing well in opening the accounts in this scheme. But this is no surprise because close to 75 per cent of population is in the rural areas. The number of RuPay Card Issued from 30 August 2015 to 17 Jan 2015 has touched100 mn. The PSB, RRB and Pvt. Banks have issued 84.5 mn., 12.5 mn and 3.0 mn cards respectively. As regards the progress of the deposits, the amount of the balance in the accounts is Rs.91880 mn. But it is no surprise that only 32.3 mn accounts are having balance. Only 28.08 % accounts are having balance. It may be due to that the people are very poor and have no/very little surplus income. The PSB, RRB and Pvt. Banks have opened 25.8 mn 5.2 mn and 1.3 mn respectively. Pvt. Banks and RRB have not shown much interest in opening accounts may be because of no assurance by Government regarding the payment of over draft. The other cause may be due to very easy Know Your Customer Rule.

The scheme has been criticized by many from the banking sector as an effort to please voters that has created unnecessary work-burden on public-sector banks. As stated by the scheme, a very few people are eligible to get the life insurance worth Rs 30,000 with a validity of just five years. Nevertheless, these 'secret' conditions are not made explicitly known to people. The claimed overdraft facility has been absolutely left upon the decision of bank officials. As per the government notice, only those people would get the overdraft facility whose transaction record is satisfactory in the eyes of bank officials. It is quite unlikely that many people would get this facility as the bank officials would avoid potential NPAs. The declared accidental insurance has also proved to be a non-existing proposal as the Rupay card holders have got no official paper for any such accidental insurance. Again, one of the major limitations that Prime Minister Jan Dhan Yojana may come across is the retrieval and collection of loans. The borrowers are primarily going to be low amount borrowers and would often come from unorganised sections of society and profession. It might be difficult for the banks and the system to keep a track of the borrowers and thus they may finish up in losses. It is however hitherto to be seen how banks cope up with this opportunity and still be a source of the right financial transform, as aspired by the Yojana.

The Reserve Bank also cautioned the banks to be more careful while opening accounts under the Jan-Dhan Yojana, saying that a particular individual could open several accounts in the attract of Rs 1 lakh insurance cover. Further, the banks should have a lone information sharing system by which this possible misuse could be stopped. Another possible threat was 'smurfing'. In this case, hawala operators would split the whole amount into several small units beyond the threshold using several bank accounts and send money overseas. The last was 'money mules' by which an individual would operate through another person's bank account. Besides, there is no clear cut guideline to the banks about providing Rs.5000 of over draft in the account opened under PMJDY scheme.

Credit Requirements of Small Farmers and Their Credibility: An Analysis

Babilata Shroff[1]

Agriculture is the mainstay of the Indian economy, is associated with poverty, livelihood insecurity, inequality, indebtedness, distress sale and migration. Most of the agriculturists in our country are small, marginal and semi-medium farmers. We also find a large number of landless agriculturists. Credit is an essential requirement for agricultural development. Even after 40 years of bank nationalisation these people do not find themselves as credible customers of the organised financial sector and many have no access to formal credit. This paper is an attempt to study the credit needs of small farmers of Bolangir district of Odisha, their sources of credit and the extent of financial inclusion. The study is based on primary data collected from 3 villages of Bolangir district of Odisha and secondary data obtained from Economic Survey of Odisha 2013-14; District Profile of Bolangir, 2009; Disaster Management Plan for Odisha (Agriculture Sector), Results-Framework Document 2013-14 of Agriculture Department, and Agricultural Input Survey, 2013-14, Government of Odisha.

Bolangir is one of the KBK districts of Odisha. Three villages have been randomly selected as sample villages for the study. All the villages are dominated by SC, ST OBC people and agriculture is their main occupation. The socio-economic condition of the villagers is very poor. Most of the villagers/farmers are leading a miserable life and are not able to having the minimum basic amenities of life. Paddy and cotton are the main crops. A major portion of cultivable land in this area is upland. Since the last 15 years the farmers have diversified themselves from the cultivation of low valued coarse cereals like suan, gurji, maize, etc to cotton. After diversification their income has increased.

Being poor, the farmers need credit to purchase agricultural inputs like seeds, fertilisers, ploughs, cattle, etc and for repair of the agricultural tools and implements; houses and to meet consumption expenditure in the lean season.

None of these villages is having any bank branch. Even none of the villagers has bank accounts before the implementation of Pradhan Mantri Jan Dhan Yojana. Obviously none has access to any institutional credit or insurance. All the farmers who cultivate cotton are financed by the Dalals in terms of seeds, fertiliser and pesticide. The Dalal purchases the cotton from them. With the introduction of the PMJDY bank accounts are being opened but most of

[1] *Rayagada Autonomous College, Rayagada*

these are zero balance accounts. The job card holders are getting their money through their bank accounts. Some farmers have started taking agricultural loans. Gradually other benefits of financial sector reform are expected to reach the excluded people.

In the recent years the government and RBI have been pushing the concept and idea of financial inclusion. Financial inclusion has the following advantages.

1)To create a platform for inculcating the habit of saving. 2) To provide formal credit avenues and to extend financial services to the excluded. 3) To have greater financial literacy. 4) To plug gaps and leaks in public subsidies and welfare programmes. With financial inclusion, the under privileged can go ahead and the problems of poverty, unemployment and migration can be addressed.

Financial Inclusion In India: Key to Socio-economic Development and Inclusive Growth

Jyotirmayee Acharya[1]

Financial inclusion has been instrumental in shaping up major policy decisions directed towards achievement of an all-inclusive society. Access to finance by the poor is a prerequisite for poverty reduction and sustainable economic development. Financial inclusion is a process which tries to secure the availability of financial products and services for the low-income groups and weaker sections in an unbiased manner by organized financial institutions. The basic idea is to expand the reach of financial services and connect the larger sections of the society to banks with consequential benefits.

According to the 2011 census, 55 per cent households of India have No access to banking facilities. Reasons for low financial inclusion in rural and hilly areas are unemployment and low income, relatively high level of consumption expenditure, financially illiterate, and lack of awareness, long distance to approach bank branches, stipulated banking hours, cumbersome documentation and procedures, unsuitable financial products, language barrier and non-availability of independent documentary proof of identity and address. Reserve Bank of India (RBI) defines Financial Inclusion as "a process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low income groups in particular, at an affordable cost in a fair and transparent manner by regulated mainstream institutional players". Hence the sole aim of financial inclusion is to bring the people at the grassroots under one umbrella of financial services.

[1] *Associate Professor, Faculty of Management Studies, Sri Sri University, Cuttack- 754006, Email: ja1@srisriuniversity.edu.in*

Undoubtedly the issue of financial inclusion poses challenges from the viability/sustainability perspectives and appropriate business models are still evolving and various delivery mechanisms are being experimented with government agencies at the central and state level (NABARD, 2008). But somehow the efforts taken are not good enough to counter the challenges. Financial literacy and level of awareness continue to remain an issue with regard to usage of financial services/products. It calls for coordination of all the stakeholders like sectoral regulators, banks, governments, civil societies, NGOs, etc. to achieve the objective of financial inclusion. Challenges of financial exclusion are faced by most of the states of the country and in order to solve it states have to develop its own customized solutions drawing upon its own experiences and features and those of its peers cross the country.

Financial education, financial inclusion and financial stability are considered as the three elements of an integral strategy. While financial inclusion works from supply side of providing access to various financial services, financial education feeds the demand side by promoting awareness among the people about the needs and benefits of financial services offered by banks and other institutions. Going forward, these two strategies promote greater financial stability.

Financial sector reforms have indeed had a positive impact on reduction of rural poverty and hence in achieving inclusive growth. However, Micro-finance services for livelihood promotion, if supported collectively by the government, NGOs and corporates and linked to markets are more likely to bring significant changes in the quality of life of people at the lower rungs of the economic ladder.

The acceptance of financial inclusion and social innovation framework as a business model by bankers, business leaders, social entrepreneurs, NGOs and Governments and other private sector players would facilitate convergence. Using social innovation and incubating community led social business could well promote inclusive growth. Policy initiatives for reducing dependency on informal financial sources and spreading out financial literacy programmes – may be through school level curriculum, and by other direct means - are the prerequisites.

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