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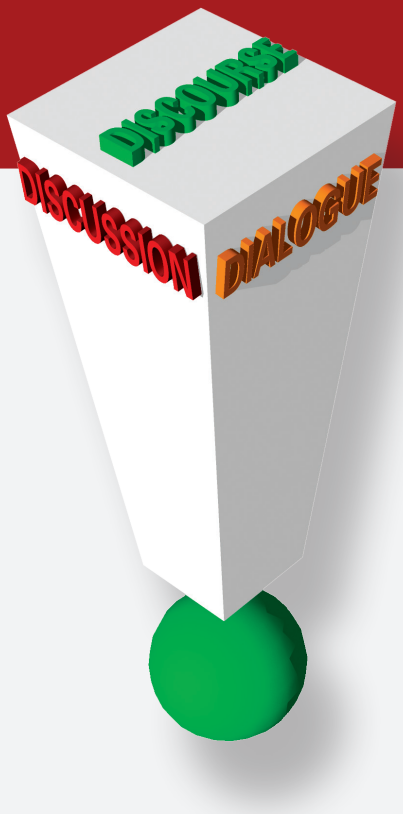

3D... IBA JOURNAL OF MANAGEMENT & LEADERSHIP

Theme:
Infrastructure & Economic Development

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Guest Editor's Note

International studies on the relationship between the Infrastructure and Economic development / growth are aplenty; among these the most important studies by Aschauer (1989a, 1989b, 1989c) and Munnell (1990) of Calderón and Servén (2004) and Estache, Speciale and Veredas (2005) finds a strong positive relationship between infrastructure and Economic Development / Growth. Further these along with the basic economic logic reinforces the nature of forward and backward linkages that infrastructure creates for achieving higher economic performance[s].

Presently in India we are at a critical juncture, of having somewhat completely reaped the benefits of first generation reforms and for quite sometime now, almost 6 years that the industry [India Inc.] is yearning for second generation reforms, to take the economy back to high economic growth phase. The finance minister around the same time is clamoring to respond to the India Inc. and has already made it clear that he would announce the second generation reforms in the Indian economy during the budget. Both investment in infrastructure and capacity building play a significant role in any script detailing second generation reforms. So the issues of infrastructure and capacity building assume all the more significance now than anyother time and are going to make topics of debate over at least the next few months; we could not have asked for a better time to present to you a bunch of articles in this issue of IBA's 3D Journal of Management and Leadership on Infrastructure - both hard and soft.

In the paper, "A 'Block Rate' approach to fuel pricing policy for Urban Traffic congestion reduction in India", the authors – Vijay Shekhawat et. al, look at the problem of Urban Traffic Congestion in India and have tried providing solution through one of the interesting pricing mechanisms used for utilities across the world – Block Rates. Block Rates in India have been in vogue for Electricity and Gas Utilities so are the block rates almost across the world for these two utilities; but employing this for fuel pricing would have its own challenges that too in a country such as India. However, the proposal that the authors make is interesting and definitely would be an inevitable solution during the time that we are about of run-over all our oil reserves.

In an important paper concerning the overarching theme of this issue, "Financing Infrastructure Development Projects in India", Narendra Nath Dalei and Anshuman Gupta provide a rather comprehensive summary of the state of Infrastructure funding in India. This article particularly in the context that funding models such as funding by external agencies for Infrastructure, PPP and private funding for public projects, gaining more currency during the present times, given the lack

of funding with the state, assumes significance. The authors very adeptly discuss the future roadmap of funding requirements by various arms of public sector.

One of the back bones of Rural Incomes in the recent times and scheme that almost single handedly won the UPA regime its second term is the Mahatma Gandhi National Rural Employment Guarantee Act [MNREGA]. This Scheme in addition to doing what was said in the previous sentence also gave birth to a similar program aimed at employment generation through Providing loans to educated unemployed Youths in general and Unemployed youth particular in Andhra Pradesh called the Rajiv Yuva Shakthi Program the authors Balaji Naik and Ranganatham show through their empirical study that this program has a rather thin spread and at present it is only about 50% effective in accomplishing its objectives.

The most important among the softer infrastructure that India needs at the moment, considering more than 70% of its population is still rural and the there is a huge need to bring the marginalized in the Rural India to bear the economic benefits is undoubtedly, the Social Entrepreneurship. Uday Kumar in his article on, "An Approach to Social Entrepreneurship in India" very lucidly theorizes the emergence of Social Entrepreneurship in the world and very well traces it back to the Indian context. He also analyses the contextual framework in which the Social Entrepreneurship has arrived in India.

The exchange rates between the USD and INR have been and would continue to give Indians, Indian Policy makers and the Economy as whole one or the other major causes of concern as more than 80% of the oil requirements[for maintenance of the economy and society] of the country are to be imported paying for by US dollars. Panduranga and sailasri have tried to get behind the causes of the Exchange rate volatility by estimating the volatility of exchange rates for the 14 year period [1999-2013]. Their results applying ARCH and GARCH models show that the volatility in the exchange rates were not only significant during the 14 year period but also persistent.

As part of the overarching theme we talked about the PPP model of financing Infrastructure in India; Sumeet Gupta and Manish Yadav provide an assessment of capital expenditure of one such proposed PPPs for the Idukki Airport. They find that the project's grand total cost including construction cost, land cost, pre-construction cost and contingency would be 10,015 lakhs.

Continuing with the financial infrastructure and going beyond India into our neighboring Pakistan, it would of interest to note the financial infrastructure there. Syed Umar Farooq and Ghyur Ahmad have tried to understand and compare the performance of the conventional and the Islamic Banking in the Peshawar area; and conclude that significant increase in the Islamic banking units in the study area [Peshawar] reflects that the Islamic banking system is contributing handsomely in terms of easy access to credit and financial products, towards the cause of economic development of the area and uplift of the economy compared to conventional banking.

In the last of the contributions to the present volume Hardik Shah and Byra Reddy try to understand the challenges of Rural Electrification project in India and conclude that one of the concrete ways out to achieve rural electrification are power sector reforms including tariff rationalization.

V.J. Byra Reddy
Guest editor

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A 'Block Rate' approach to fuel pricing policy for Urban Traffic congestion reduction in India

Vijay Shekhawat[1], A.K. Saini[2], Hiranmoy Roy[3], R. Jayaraj[4]

Petrol has been one of the major sources of fuel for the Indian vehicles. Since 1947, various policy level changes were made for the effective pricing of the petrol but as the crude oil prices soared up, all these policy shifts went neutral. The current situation demands a better mechanism to minimize the under-recovery burden. This paper talks about a regime named "Block Rates" for the petrol distribution, using "Information Technology", which will help to decide the rate of the petrol based upon the vehicles engine size. The main motive behind this regime is to discourage single ridership & facilitate a modal switch towards public transport.

Thus through a new methodology we can address the twin issues of minimizing petrol consumption and reduction of traffic congestion in cities.

Introduction

At present due to burgeoning crude oil prices, the oil marketing companies are facing huge under recoveries. The Kirit Parikh committee suggested complete deregulation of petrol & diesel and even LPG. Petrol was deregulated in July 2010, completely but diesel and LPG are still being subsidized, however, the subsidies have been reduced.

Diesel and LPG are being continued to be subsidized due to socio-economic reasons. "Under-recoveries are likely to increase to up to Rs.67,500 crore and Rs.75,000 crore in 2010-11 and 2011-12, respectively, from Rs 46,000 crore in last fiscal".(Business Standard, Jan 2011) This is close to half of the total subsidy budget of Rs.1,46,300 crore, for this fiscal year.

Keeping in mind the continuous increase in prices of petrol, as controlling the prices

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of petrol is not possible under deregulated regime and directly linked to international oil prices. This paper aims to address the problem of traffic congestion and to study an alternative mechanism through RFID technology which would help to reduce the consumption of petrol. If we can minimize the consumption of petrol, subsequently we will be able to address the twin issues of minimizing petrol consumption and traffic congestion in urban cities.

Issue and Need for Change

The current situation of our urban cities is miserable in terms of mobility and congestion. According to World Bank's paper on "Urban transport Development in India", the average speed of travel within the Bengaluru city is just 14 Km/hr. Earlier, whenever there was congestion on city roads, Govt. used to build a highway or flyover but at present, when the threshold limit of developing roads has been reached, it is no longer a feasible alternative. The maximum traffic on the metro city roads consists of the office going employees who prefer their own vehicles, both due to distant locations and inefficiency of public transport. This promotes single ridership, a car with one person travelling is considered more expensive to the society, in terms of road space occupied per passenger, fuel consumed etc. The situation calls for a modal shift, from individual cars to more efficient public transport like Mass Transit system, metro rail etc.

But to make this modal shift happen, at the policy level, there is no such incentive for a motorized travel user to switch to the public transport. Even though using own vehicle is far expensive than travelling through public transport, the daily commuters continue to use their own vehicles to travel because of lack of efficient public transport system.

The costs associated with the vehicle usage are parking costs, pollution costs, fuel costs etc. In this paper, we will only talk about the pricing of petrol & diesel. Effective way of subsidizing these fuels would compel the users to switch from their own vehicles to public transport system. On the other hand, Govt. should invest in the public transport to make it more hi-tech, effective & acceptable to the working population of the metro cities.

The public transport has to be developed in following aspects of usage:

- The public transport service, especially bus transport, has to be more predictable so that the commuters can know about the traffic in their route, exact travel time, frequency of buses, waiting time etc. This can only be accomplished with the availability of real time information about the public transport.
- Availability of public transport service could be an important factor which makes it more acceptable to the users. Effective commuter forecasting can minimize the waiting time & attract more traffic.
- Distance travelled by any commuter on foot, before boarding any of the public transport, has to be minimized.

Urban Traffic and Congestion in Indian Cities

There has been a tremendous increase in the income levels of Urban India. According to Uddin, Azeem (2009), in 2007, Indian bought 1.47 million cars compared to 0.75 million in 2003- a twofold increase in a span of just four years. The cumulative growth of the Passenger Vehicles segment during April 2007 – March 2008 was 12.17 percent. Passenger Cars grew by 11.79 percent, Utility Vehicles by 10.57 percent and Multi Purpose Vehicles by 21.39 percent in this period. (Uddin, Azeem, 2009).

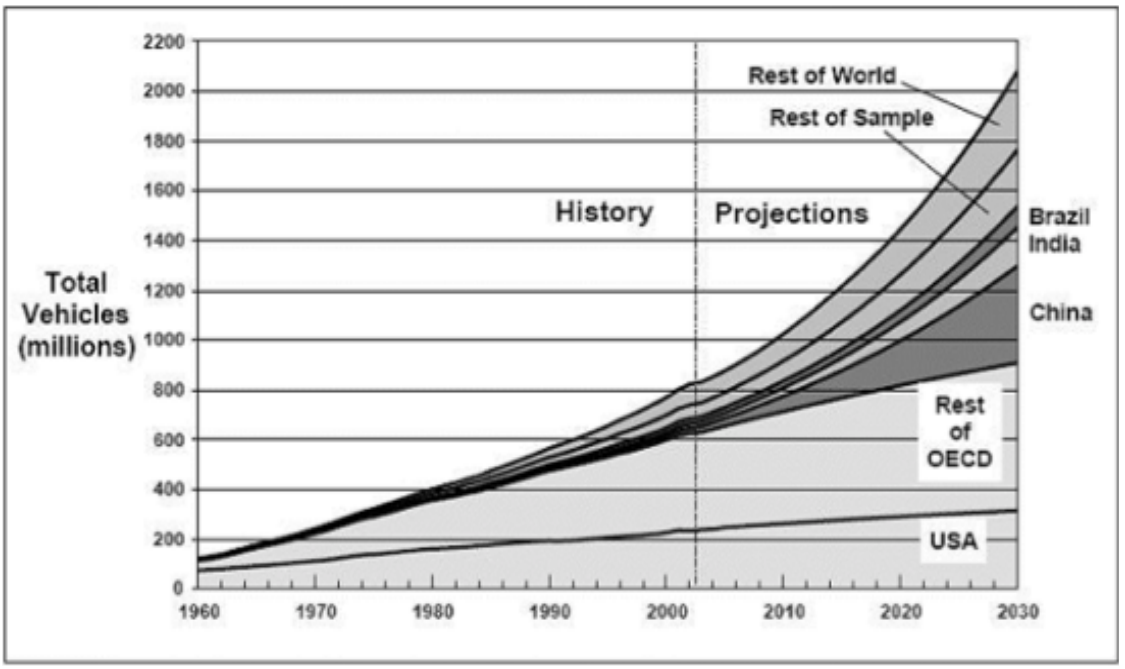
Although, the earnings are not enough to maintain a personal vehicle, an urban inhabitant is forced to do so due to the inefficiency of the public transport system.

There are 4,000 cities and towns in India. About 400 cities have population over 0.1 million Eight cities have population more than 3

million. City centric economic growth has led to an uneven distribution of vehicular population in the country. Delhi, Mumbai, Kolkata and Bengaluru have 5% of India's population but 14% of its registered vehicles (Kumar. Ashok, 2006).

There has been a staggering hundred fold increase in the population of motorized vehicles; however, the expansion in the road network has not been commensurate with this increase (CBO, 2008). While the motor vehicle population has grown from 0.3 million in 1951 to over 30 million in 2004, the road network has expanded from 0.4 million km to 3.32 million km, only eight fold increase in terms of length during the same period (Lee, D. 1995). However, upgrading of roads by way of widening of carriage- ways, improved surface quality, strengthening/ reconstruction of old/ weak bridges and culverts, etc. also has been carried out.

Fig 2. Historical and projected regional values of total vehicles (1996-2030) (Pradhan, R.P, 2010)



The above graph shows the projected vehicle population in India in comparison to the world vehicle population.

A piece of statistic from the Mumbai Traffic Police web site illustrates the magnitude of the problem: While length of roads in Mumbai increased two times between 1951 and 2007, the population increased 5.4 times and the number of vehicles a whopping 43 times. (Pradhan, R.P, 2010).

Methodology: This study uses the qualitative and quantitave methodology. We explored various literatures relevant to the research problem of the study. Sample survey was conducted in Gurgaon as it is one of the traffic congested cities, to see the perception of the people regarding this problem and the new modal shifting from single rider to public transport system. We have surveyed 450 respondents based on simple random sampling method. 200 vehicle riders were surveyed for ascertaining the travel time and another 250 vehicle riders surveyed to know their opinion regarding modal shift towards public transport.

Fig 3. Number of cars & two wheelers by 2030 (Pradhan, R.P, 2010)

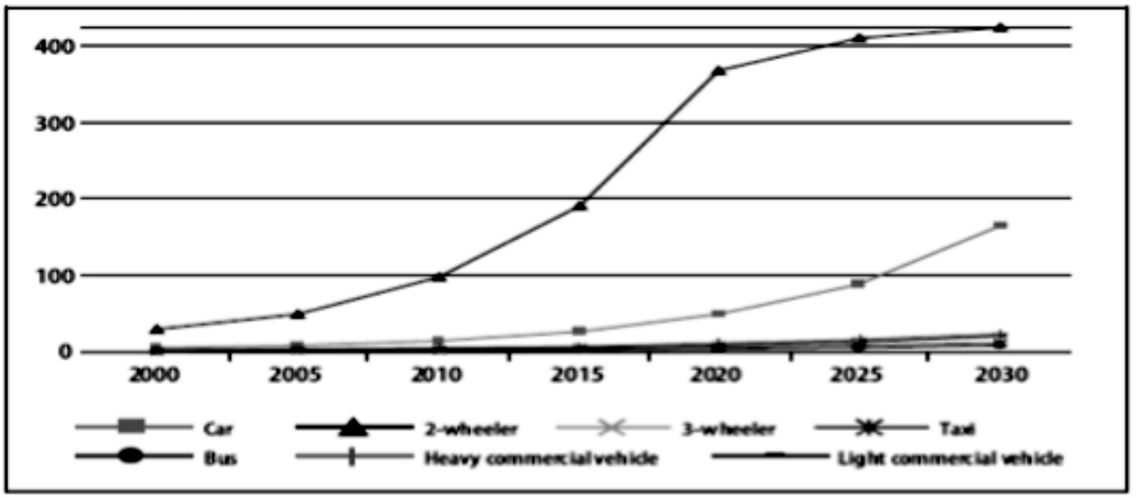


Fig 3 gives the projected increase in the number of cars and two wheelers by 2030. However the development plans for road infrastructure do not match with the projections. A survey of 200 car riders was conducted keeping city of Gurgaon as the centre of attraction and riders were among those who travel to Gurgaon taking various routes for job and other concerns to ascertain the average waiting time per trip made by them; the results are shown in table below.

Table 1. Difference between travel times between the two major trips (Survey Research)

Category of trip based upon route length	Travelling time (mins.)	
	Minimum (Average)	Maximum (Average)
South Delhi to Gurgaon (32 Kms)	36	100
Connaught place to Gurgaon (28 kms)	35	95

Proposed Mechanism for Petrol Pricing

The mechanism which we are talking about here is similar to one which has been applied in the power sector i.e. "Block Rates". In power sector, there exists a consumption based pricing; the rate for electricity varies in accordance to the unit of electricity consumed. The same mechanism can be applied in the oil sector, wherein, a specific vehicle should be allowed to purchase a certain liters of fuel at a subsidized price, and after this limit, the user should be charged a price of fuel equivalent to its actual price in the market, hence, not giving any subsidy. This policy will compel the users to use their own vehicles for necessary purposes only or where it is inevitable. Once this regime comes into action, the office going population will look for other alternatives like Public Transport, Carpooling etc.

This is where Govt.'s support will help the most to make this transition, possible; the government has to make investments in Public Transport sector so that it could be made more acceptable for the commuters who are assumed to switch.

Table- 2 shows, the subsidy for vehicles with heavy engine can be reduced to almost half with the use of the suggested mechanism. In the above table, it has been assumed that the subsidized limit for petrol is 5 ltrs. However, the limit has to be carefully drafted, while, keeping in mind the interest of consumers & automobile manufacturers. But determining an optimum limit of subsidized petrol is an onerous task. Also the fuel efficiency of the

vehicle holds an inverse relationship with the subsidy per kilometer so; the vehicle manufacturers will have to work on the fuel efficiency so that more customers buy their product.

Table 2. Comparison of subsidy per kilometer (Author's Research, values are an assumption)

	CAR 1 (800 CC)	CAR 2 (2000 CC)
Distance Travelled (Km)	100	100
Fuel Efficiency (Km/l)	20	10
Fuel required to cover 100 km distance (Ltrs)	5	10
Subsidized price of Petrol (Rs./l)	60	60
Actual price of the Petrol (Rs./l)	70	70
Subsidy Per Kilometer (Rs.)	= ((100/20) * 70 – (100/20) * 60)/100 = 0.50	= ((100/10) * 70 – (100/10) * 60)/100 = 1
According to new regime (suppose the subsidized petrol limit is 5 ltrs)		
Subsidy Per Kilometer (Rs.)	((100/20) * 70 – (100/20) * 60)/100 = 0.50	=((5 * 70) – (5 * 60))/100= 0.50

Table- 3 shows a high negative correlation between mileage of the vehicle and the subsidy on per vehicle. The Govt. might have simply given direction to the automobile manufacturers to work on fuel efficiency but that would not have fostered the modal shift with this proposed mechanism aims for. The analysis has been done for only petrol vehicles and same can be conducted for the diesel powered vehicles. However, the proposed mechanism can be used for both petrol & diesel.

Table 3. Mileage Vs Subsidy per vehicle (Assumptions- Distance=100Km, Subsidized rate of petrol=Rs 60/l, Market rate of petrol= Rs 70/l)

Mileage (Km/Lt)	Subsidy/Km (Rs.)
6	1.67
7	1.43
8	1.25
9	1.11
10	1.00
11	0.91
12	0.83

We have conducted a small survey of 250 personal vehicle riders, they were told about this new regime and when asked for the reviews most of them said if this will come then the public will surely retaliate. However, they also said that if public transport system is also improved side by side then, they would be happy to make a modal shift towards means of public transport like buses and rail metros. The sample also constituted people belonging to elite class, who said, if this regime comes into action then there would be hardly any effect on their petrol consumption. It can be assumed that the middle class families, which use personal vehicles just to complete important trips every day will surely switch to public transport alternatives. The limit of subsidized petrol and diesel in the proposed mechanism has to be based on the city or state

because the travelling pattern, needs and distances vary.

To chalk out a limit: We can find out the average trips based on their nature i.e. fun trips, medical trips, office trips etc, wherever the whole family of more than a single person would go. This can be done by surveying a proper sample of the whole population. Once samples are collected, we can obtain the data and form various factors based on average distance to different points/purposes or likewise. Based on these factors we will define the limits for each city or state. So we need to identify all the trips which could be generated and then classify them to include them in the model to define the limit of subsidized petrol. In this case an issue of inter-city or inter-state filing of fuel may arise. This may problem be solved in the following way.

How can we stop inter- city or inter-state refuelling?

We can simply bring the regulation to stop inter- city or inter-state refuelling on subsidized basis. This can be achieved through Information Technology. There is a need to make the registration process easier, to facilitate easy transfer of vehicles from one state to another. There would be agitation from taxi business community, as most of their trips are out of state and hence, this would have to pay full market price affecting the business and long haul trips.

The above said regime has to be supported with Information Technology for its implementation. This paper also talks about the use of Radio Frequency Identification (RFID) technology which will help to implement this regime in an effective way. Next section talks about the technology framework required for this regime to get working.

RFID Technology

Radio-frequency identification (RFID) is a technology that uses communication through the use of radio waves to transfer data between a reader and an electronic tag attached to an object, for the purpose of identification and tracking. RFID tags can be used to maintain a unique identity of each object. RDIF tags can be scanned from a larger distance up to 20 meters and at a higher speed of 300 Kmh. Most RFID tags contain at least two parts: one is an integrated circuit for storing and processing information, modulating and demodulating a radio-frequency (RF) signal, and other specialized functions; the other is an antenna for receiving and transmitting the signal.

RFID can be passive (using no battery), active (with an on-board battery that always broadcasts or beacons its signal) or battery assisted passive (BAP) which has a small battery on board that is activated when in the presence of an RFID reader. Passive tags in 2011 start at $ .05 each and for special tags meant to be mounted on metal, or withstand gamma sterilization go up to $5. Active tags for tracking containers, medical assets, or monitoring environmental conditions in data centers all start at $50 and can go up over $100 each. BAP tags are in the $3–$10 range and also have sensor capability like temperature and humidity.

Memory Size

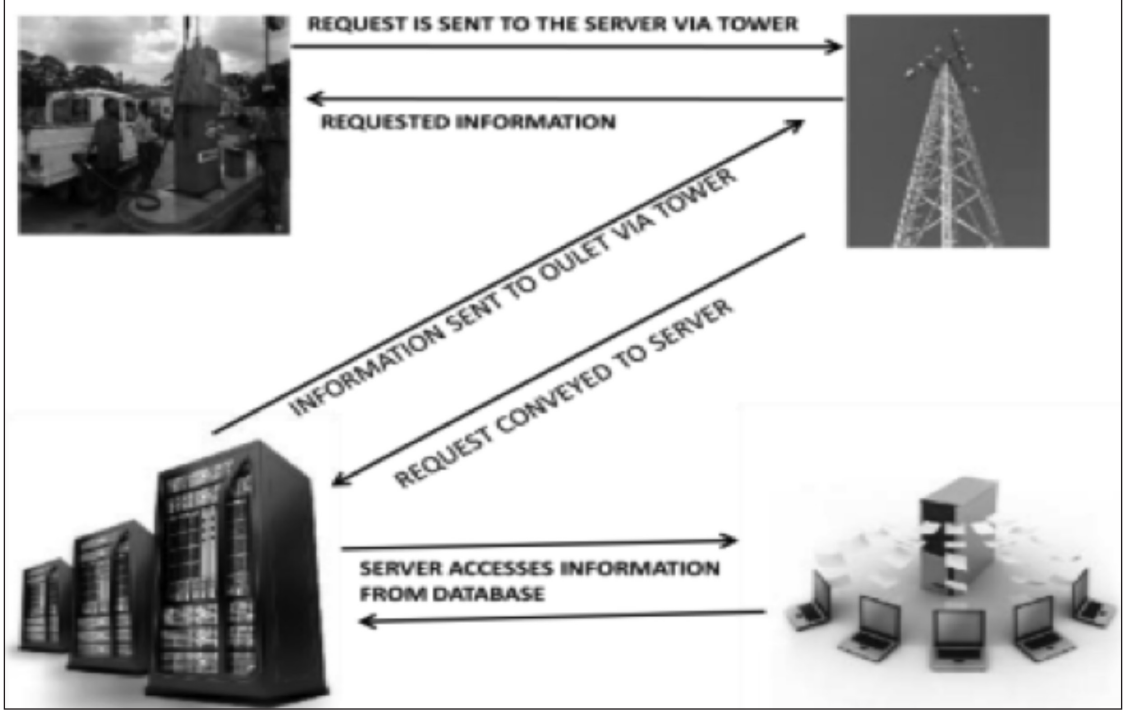
EEPROM memories are primarily found in inductively coupled systems. Memory capacities of 16 bytes to 8 Kbytes are available. SRAM memory devices with a battery backup, on the other hand, are predominantly used in microwave systems. The memory capacities on offer range from 256 bytes to 64 Kbytes.

As the vehicle arrives at the retail outlet the petrol pump employee will scan the number plate of the car with help of a hand held scanner. The number plate of the car would actually be an RFID tag which is unique in nature. The moment the car ID gets scanned and is found valid, the information would be requested via towers from the servers located centrally, to ascertain whether the limit of subsidized petrol has been reached or not and accordingly, the price of petrol would be charged. If the limit has not been exceeded, the price charged would be a subsidized one and if the limit has been crossed then the price

charged would be fully fledged market price. At the same time the fuel purchased would be credited in the national account of the vehicle.

The database will store all the national accounts of all the registered vehicles in the country. Which means, if a vehicle is unregistered, it will not get the petrol or diesel and on the other side, the retail outlets are not allowed to sell the fuel to a non-vehicle customer or, a vehicle with no or invalid ID. Also, hundred percent billing of the fuel would be done, which can be cross checked with the data recorded in the national account of the vehicle.

Fig 5. Technological framework for RFID



Thus in the above stated framework an effective method of petrol or diesel distribution can be brought into effect thereby reducing petrol consumption by the single rider as well as modal shift by them towards public transport.

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Financing Infrastructure Development Projects in India

Narendra Nath Dalei[1], Anshuman Gupta[2]

Infrastructure being the backbone of a country plays an important role in shaping its economy's growth and overall development. Economic growth cannot be augmented without infrastructure development. Primarily, infrastructure development has been undertaken by the public sector. But in country like India several factors are there because of which it is a big challenge for public sector to undertake infrastructure development. Given the scarcity of public resources, and the need to shift scarce public resources into health and education, efforts have been made to promote private sector participation in the development of infrastructure. So in this backdrop we tried to analyze various funding sources to identify their potentiality to meet the requirement of financing infrastructure projects in the country.

We also discussed various steps undertaken by Government of India for private participation in infrastructure projects. The supporting data for this analysis is compiled from various secondary sources and web sources like Planning Commission of India and website of various infrastructure funding agencies etc. Our findings suggest that fiscal support will continue to be dominant for infrastructure development in India but equally important would be the enabling policies that could lead to encourage private participation in infrastructure sector.

Introduction

Infrastructure being the backbone of a country plays an important role in shaping its economy's growth and overall development.

Primarily, infrastructure development has been undertaken by the public sector. But in country like India several factors are there because of which it is a big challenge for public sector to undertake infrastructure development. Given the scarcity of public resources, and the need to shift scarce public resources into health and education, efforts have been made

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to promote private sector participation in the development of infrastructure. As of 31 March 2012, 390 Public Private Partnership (PPP) projects were approved involving an investment of Rs.3,05010 crore (12th FYP). More than 900 projects with total project cost (TPC) of Rs.5,43,045 crore in the infrastructure sector have been initiated till December, 2012, as compared to over 600 projects with TPC of Rs.3,33,083 crore as on 31st March, 2010 through PPP mode (PIB,2013). India has been the top recipient of private investment since 2006 and has implemented 43 new PPP projects which have attached a total investment of US$20.7 billion in 2011 (WB, 2012).

The investment requirements in infrastructure were about Rs.20.5 lakh Crs. at 2006-07 prices as was projected by 11th FYP. Although the physical capacity targets would not be met, the overall financial investment would be close to the original projection (MTA, 2011). The initial estimates of infrastructure investment for the Twelfth Five Year Plan are presented in Table 1.

We observe from Table 1 that in order to sustain a real GDP growth rate of 9 percent an investment of Rs.41 lakh Crs. is required over the duration of the Twelfth Five Year Plan. The Working Sub-Group on Infrastructure (WSI), 12th FYP have taken this investment requirement as a starting point and converted these estimates into nominal terms considering expected inflation of 5 percent per annum, which has yielded a target investment of about Rs.65 lakh Crs for the 12th FYP. *Source: (i) Mid-Term Appraisal Eleventh Five Year Plan, Planning Commission, GOI (ii) Working Sub-Group on Infrastructure, Working Group on Savings Formulation of the Twelfth Five Year Plan, GOI.*

India's estimated infrastructure investment was pegged at US$ 1 trillion in the 12th five year plan of which approximately 40 percent was expected from the private sector. The share of private investment in the total investment in infrastructure rose from 22 percent in the 10th FYP to 36.61 percent in the 11th FYP. However it will have to increase to about 48 percent during the 12th FYP if the infrastructure investment target is to be met. While this implies large potential opportunities for private sector investment, both the government and the private sector need to address the issues of achieving efficiency in the execution of projects on time and within budget and provide affordable services to the population.

The Working Sub-Group on Infrastructure (WSI, 2012-17) opines that the total investment need is not likely to be as high in the telecom sector as seen in the past, given the large investments made in recent years. Second, large-scale power sector investments may not be possible until the urgent issues of fuel supply and state distribution companie's finances are resolved. As a result the share of the private sector may not be as high as envisaged in the 12th FYP and the target of 40 percent from the private sector may be difficult to achieve. WSI in its report also indicate that urban infrastructure needs are huge. Urban infrastructure investments, together with the need for investing in rural infrastructure, will entail a greater reliance on budgetary resources. Thus, 50 percent of the total funding needs are assumed to be met from budgetary allocations.

[1] Financing, repairing and *maintenance, revenue collection etc. are the factors*

[2] For example financial crisis of power sector in Delhi

Table 1: Projected Investment in Infrastructure during the 12th FYP

Year	GDP at FY07 Prices (Rs. Crs.)	Infrastructure Investment as percent of GDP	Infrastructure Investment (Rs. Crs. in FY07 prices)	Infrastructure Investment (Rs. Crs. in current prices)
Base Year FY12	6,314,265	8.37	528,316	721,781
FY13	6,882,549	9.00	619,429	888,572
FY14	7,501,978	9.50	712,688	1,073,470
FY15	8,177,156	9.90	809,538	1,280,315
FY16	8,913,100	10.30	918,049	1,524,526
FY17	9,715,280	10.70	1,039,535	1,812,581
Total	**41,190,063**	**9.95**	**4,099,239**	**6,579,463**

At the outset of this review, we touch on some background details and highlight the scarcity of resources for infrastructure finance. The next section presents objectives, methodologies and data source of the study. Section three presents an evaluation of identified financial sources for infrastructure funding. Fund availability, requirement and funding gap is highlighted in section four. Section five presents steps taken by Government to promote private investment in infrastructure in India followed by some concluding remarks of how to meet huge financial requirement in infrastructure sector is discussed in section six.

Objective, Methodology and Data Source

Public sector resources are limited in meeting the finances of infrastructure projects. These resources are primarily used to develop health and education sector. After considering available resources from public sector, the remaining deficit amount of resources can be met from other sources to finances infrastructure projects in the country. Therefore, in this context our objectives are:

To identify various sources of fund available for financing infrastructure projects.

To discuss the potentiality of financing the infrastructure projects by various sources.

To study the steps taken by Government to promote private investment in infrastructure projects.

The methodologies adopted for the above objectives are quantitative and qualitative analysis of various funding sources to meet the requirement in financing infrastructure projects in the country. The supporting data for this analysis is compiled from various secondary sources and web sources like Planning Commission of India and website of various infrastructure funding agencies etc.

Analysis of Sources of Financing Infrastructure Projects in India

There was no major demand from the financial system to fund infrastructure investment until the middle of 2000 as it was fairly low being 3-5percent of GDP. So infra investment was financed largely by budgetary allocations and through the internal resources of public sector enterprises engaged in infrastructure. Infrastructure spending picked up substantially with an important role played by the private sector during the Eleventh Five Year Plan. Infrastructure spending relied upon the financial system significantly during this period. Most of the debt financing came from banks, non-bank finance companies (NBFCs), and external commercial borrowing (ECB),

mutual funds, private equity funds, venture capital funds, micro finance institutions followed by insurance companies. Along with the above mentioned sources domestic savings can also be considered as one of the major sources of financing infrastructure projects in India.

3.1 Domestic Savings

Domestic Savings has been playing an important role in financing infrastructure projects. The domestic savings rate in India is very high and projected to grow consistently as presented in Table 2. Though infrastructure investment targets are ambitious, much of it can be financed domestically. The WSI (2012-17) has estimated that such high rates of infrastructure investment constitute over one-third of India's financial savings and would entail as much as 21percent of the incremental financial savings being directed to infrastructure.

Table 2: Savings and Infrastructure Investment Needs (as percent of GDP)

Year	Infra Investment	Gross Domestic Savings	o/w financial savings	Incremental Infra Investment	Incremental Financial Savings	Infra Investment as percent of Financial Savings	Percent share of incremental infra in incremental financial savings
FY10	7.5	33.7	22.0	0.3	2.8	34	NA
FY13	9.0	37.8	24.8	0.6	NA	36	NA
FY14	9.5	40.6	27.2	0.5	2.4	35	21
FY15	9.9	42.9	29.1	0.4	1.9	34	21
FY16	10.3	45.5	31.1	0.4	2.0	33	20
FY17	10.7	48.2	33.4	0.4	2.3	32	17

Source: (i) Mid-Term Appraisal Eleventh Five Year Plan, Reports submitted by Sub-Groups on Household Savings, Private Sector Corporate Savings & Public Sector Savings for 9percent p.a. real growth and 5 percent p.a. inflation scenario.

(ii) Working Sub-Group on Infrastructure, Working Group on Savings Formulation of the Twelfth Five Year Plan, GOI

Again, The WSI (2012-17) has opined that it is not just the adequacy of domestic financial savings that matters. These savings have to be intermediated into infrastructure to achieve these targets.

Funding Infrastructure Projects through Debt Financing

Debt financing is also one of the important sources for financing infrastructure projects. The infrastructure funding requirement has broadly been met from the sources mentioned in Table 3 during the first three years of the 11th five year plan. The major funding for the infrastructure projects was through budgetary support which constituted 45 percent of the total infrastructure spending. The debt from Commercial banks, NBFCs, Insurance Companies and the external commercial borrowings (ECB) constituted 41 percent of the funding while the balance 14 percent was through Equity and FDI.

Table 3: Sources of funds during first three years of 11th FYP

Sources of Fund		Percent of Total Infra Spending
Debt Financing	Commercial Banks	21
	NBFCs	10
	Insurance Companies	4
	ECBs	6
Equity / FDI		14
Budgetary Support		45
Total		**100**

Source: Compiled by author from (i) Mid-Term Appraisal Eleventh Five Year Plan, Planning Commission, GOI (ii) Working Sub-Group on Infrastructure, Working Group on Savings Formulation of the Twelfth Five Year Plan, GOI.

Commercial Banks

Commercial banks stepped up lending to infrastructure companies largely by unwinding their excess investments in government securities maintained as statutory liquidity ratio (SLR). SLR investments as a share of deposits came down from 47.3 percent in 2005-06 to 29 percent in 2010-11 as the credit-deposit ratio increased. Credit to infrastructure grew at a faster pace than total credit. Table 4 shows that the share of infrastructure in gross bank credit increased from 6 percent in March 2007 to 9 percent in March 2009 and to 11 percent in March 2011. Similarly, share of infrastructure as non-food credit rose from 8.23 percent in March 2007 to 10.38 percent in March 2009 and to 14.69 percent in March 2011. As a result, it is observed that banks were able to provide about half the debt finance needs required for infrastructure investment.

The WSI (2012-17) has opined that this rapid growth in bank credit to infrastructure has resulted in a greater concentration of risks in banks, due to asset and liability management (ALM) mismatch and reaching exposure ceilings. The WSI (2012-17) has a view that the banks have prudential exposure caps for infrastructure sector lending as a whole as well as for individual sectors. Most of the banks have almost reached the prudential caps for power sector; other sectors like roads may not be far behind.

The WSI (2012-17) expects that power and road sector will face significant constraints as the exposure is already high. However, it may be worthwhile to point out that the funding gap will not be felt universally. Some of the smaller sectors will be able to get adequate funding subject to availability of commercially viable, bankable projects, but the funding gap will be much larger for power, roads etc.

Table 4: Commercial Banks- Lending to Infrastructure during FY07-11

As on	Gross Bank Credit Outstanding	Non-food credit	Credit to infrastructure sector	Share of Infra as a percent of Non Food Credit	Share of Infra as a percent of Gross Bank Credit in Overall
FY07-Mar	23,79,985	17,56,051	1,44,531	8.23	6.07
FY08-Mar	29,52,874	22,04,801	2,05,336	9.31	6.95
FY09-Mar	35,34,284	26,01,825	2,69,972	10.38	7.64
FY10-Mar	41,32,186	30,40,007	3,79,888	12.50	9.19
FY11-Mar	49,12,012	36,77,429	5,40,390	14.69	11.00
FY11-Jun	NA	37,08,927	5,52,682	14.90	NA

Source: (i) RBI (ii) Working Sub-Group on Infrastructure, Working Group on Savings Formulation of the Twelfth Five Year Plan, GOI

Khan (2011) in the Diamond Jubilee International Conference on Frontiers of Infrastructure Finance 2011 has a view that takeout financing offers an opportunity to the banks to free their balance sheet from exposure to infrastructure loans, lend to new projects and also enable better management of the asset liability position. In other words, takeout financing enables financing longer term projects with medium term funds. However, due to several factors the mechanism has not really emerged as a game-changer. One plausible reason is that the model does not envisage equitable distribution of risks and benefits. One of the often repeated arguments is that banks assume credit and liquidity risk since the inception of the project but once the project is economically viable, taking out of the loan results in loss of opportunity of earning returns on seasoned loans. Further, if the original lenders/bankers are required to part with their security interest fully their residual exposure would be sub-ordinated to the interest of the take out financier.

Non-Bank Finance Companies (NBFCs)

The WSI (2012-17) has observed that the increased credit demand for power, telecom and road sector give opportunity to Non-bank finance companies (NBFCs) to increase their lending sharply towards infrastructure projects. The key Infrastructure Finance Companies (IFC) are Power Finance Corporation (PFC), Rural Electrification Corporation Limited (REC), The Infrastructure Development Finance Company Limited (IDFC), India Infrastructure Finance Company Limited (IIFCL), L&T infra and Industrial Finance Corporation of India (IFCI). The outstanding credit from these institutions to infrastructure sector has increased from Rs.1,10,549 Crs. in FY08 to Rs.1,40,355 in FY09 and to Rs.1,81,595 Crs. in FY10 at a *Compound Annual Growth Rate (CAGR)* of 28 percent. The WSI (2012-17) has also highlighted that the PFC and REC which together constitute 80 percent of the lending by IFCs have had their outstanding credit grown at 27 percent p.a.

Power Finance Corporation

Being a Financial Institution (FI) Power Finance Corporation (PFC) was set up on 16th July 1986 and is dedicated to Power Sector financing. PFC is committed to the integrated development of the power and associated sectors. PFC was notified as a Public Financial Institution under Companies Act, 1956 in 1990 and was registered as a Non Banking Financial Company with the Reserve Bank of India (RBI). In July 28, 2010, the company was classified as Infrastructure Finance Company (IFC) by RBI vide its revised Certificate of Registration no. B-14.00004. Govt. of India on 22nd June, 2007 conferred PFC as a Schedule-A, Nav-Ratna Public Sector Enterprise in the Financial Service Sector, under the administrative control of the Ministry of Power. The main function of PFC was to provide financial resources and encourage flow of investments to the power and associated sectors. In the process PFC works as a catalyst to bring about institutional improvements in streamlining the functions of its borrowers in financial, technical and managerial areas with a view to optimizing the utilization of available resources. It helps in mobilize various resources from domestic and international sources at competitive rates.

Rural Electrification Corporation Ltd.

Rural Electrification Corporation (REC) Limited is a Nav-Ratna Central Public Sector Enterprise under Ministry of Power. REC being incorporated on July 25, 1969 under the Companies Act 1956 becomes a listed Public Sector Enterprise of Government of India. REC finances and promotes rural electrification projects all over the country through its financial assistance and loan assistances to State Electricity Boards, State Government Departments and Rural Electric Cooperatives for rural electrification projects through its Corporate Office located at New Delhi and 17 Project Offices located in most of the States.

The requirement of funds for the power sector for the 11th Plan was estimated at Rs.10,59,515 crore which includes Rs.5,91,734 crore for

the Generation sector, Rs.15,875 crores for Renovation & Modernization of existing Generation plants & Rs.4,49,577 crore for the Transmission and Distribution (T&D) sector. The actual expenditure in the Distribution sector is much below the estimates due to various reasons during the 11th Plan, resulting in huge funding gap. Government of India has approved the National Electricity Fund (NEF) (Interest Subsidy) Scheme to promote the capital investment in the distribution sector by providing interest subsidy, linked with reform measures, on the loans taken by public and private power utilities for various capital works under Distribution projects (NEF, 2013). This scheme is applicable in the entire country and all distribution projects are considered. A Steering Committee has been constituted by Ministry of Power vide Office Memorandum (OM) 24/2/2012-NEF/APDRP dated 13 Feb. 2012 to ensure effective implementation of the scheme.

The Infrastructure Development Finance Co. Ltd.

The Infrastructure Development Finance Company Limited (IDFC) has been an integral part of the country's development story since 1997, when the company was formed with the specific mandate to build the nation. Since 2005, it has built on the vision to be the 'one firm' that looks after the diverse needs of infrastructure development. Whether it is financial intermediation for infrastructure projects and services, adding value through innovative products to the infrastructure value chain or asset maintenance of existing infrastructure projects, IDFC focuses on supporting companies to get the best return on investments. IDFC Project Finance is a pioneer in lending for infrastructure projects. IDFC was founded with the sole objective of providing and promoting private financing of Indian infrastructure. IDFC lend to costumer through different financial instruments such as - corporate loans, project loans, subordinated debt, loans against shares, mezzanine finance and equity. Allowing a broader cross-section of lenders and investors to participate in infrastructure financing, IDFC played an important role in introducing innovative financial products and structures such as take-out financing and risk participation facilities.

Another debt financing called Senior Debt Financing forms the largest component of IDFC's financing portfolio. It is provided through loans or in the form of subscriptions to debentures, making up 56 percent of loan portfolio. It ranks ahead of other debt obligations of the borrower with respect to security and right of payment. IDFC's senior debt financing is fully secured and has recourse to the project assets in the event of any default. In most cases, senior debt provided by the company is substantially collateralized through documents such as pledge of all or part of the sponsors' equity holding in the borrower or an assignment of rights under the various project contracts. IDFC also provide securitized debt that is collateralized by the cash flow receivables of the project. The company's senior debt financing typically bears fixed rate of interest with re-pricing mechanisms that usually come into effect after five years to adjust to changes in interest rates. Additionally, senior loans may also be re-priced for changes in the credit quality of the borrower.

India Infrastructure Finance Company Ltd.

India Infrastructure Finance Company Ltd (IIFCL) was established in January 2006 as a wholly owned Government of India company and commenced its operations from April 2006. Playing a catalyst role in development of infrastructure IIFCL is providing long term financial assistance to various viable infrastructure projects in the country. The authorized capital of the company is Rs.5,000 crore and the Paid-Up capital is currently Rs.2,500 crore. Apart from equity, IIFCL raises long term debt from the domestic market, debt from bilateral and multilateral institutions and in foreign currency through external commercial borrowings. The borrowings of the company are backed by sovereign guarantee. The business performance of the company as on 31st March 2012 on consolidated basis are

- (a) within the short span from its inception in April 2006, the company has sanctioned loans to the tune of Rs.61,219 crore to 267 infrastructure projects (b) the 267 assisted projects are spread across 24 states of the country and (c) disbursement has been made in 177 projects to the tune of Rs.225.43 billion.

Apart from equity, IIFCL is also funded through long term debt such as- (a) rupee debt raises from the market, through suitable instruments created for the purpose, (b) debt raises from bilateral or multilateral institutions such as the World Bank and Asian Development Bank, (c) foreign currency debt raises with prior approval of the Government and (d) short term debt raises from banks/ financial institutions only to manage any asset-liability mismatch (IIFCL, 2013).

IIFCL raises funds as and when required, for on lending, in consultation with the Department of Financial Services. To the extent of any mismatch between the raising of funds and their disbursement, surplus funds are invested in marketable government securities (TFC, 2009). The borrowings of IIFCL are guaranteed by the Government of India. The extent of guarantees to be provided is set at the beginning of each fiscal year by the Ministry of Finance, within the limits available under the Fiscal Responsibility & Budget Management Act. The guarantee fee payable by IIFCL and IIFC (UK) is as decided by Ministry of Finance from time to time. The facility of guarantees including the terms for guarantee is reviewed in the Ministry of Finance from time to time and its continuation is subject to the outcome of the review.

IIFCL may fund viable infrastructure projects through the Long Term Debt, refinance to Banks and Public Financial Institutions for loans granted by them, take out financing, subordinate debt and through any other mode approved by the Ministry of Finance from time to time (SCI, 2009).

[3] The IIFCL ordinarily raise debt of maturity of 10 years and beyond.

[4] Including through external commercial borrowings.

The total lending by the IIFCL to any Project Company do not exceed 20 percent of the Total Project Cost. In case of takeout financing, direct lending to the project do not exceed 10 percent of the project cost and total lending including takeout financing by IIFCL do not exceed 30 percent of the total project cost. Loans are disbursed in proportion to debt disbursements from banks/ financial institutions. The above exposure is further subject to applicable regulatory norms (Khan, 2011).

The rate of interest charged by IIFCL is determined on the basis of its Base Rate plus which will be arrived at on the basis of average cost of funds including administrative costs, average return on networth and cost of guarantee fee etc. (CFSA, 2009). The charge on project assets is pari passu with project debt (other than subordinate debt) and do continue beyond the tenure of project debt (other than subordinate debt) till such time the amounts lent by IIFCL, together with interest and other charges thereon remain outstanding (SCI, 2009).

IIFCL can provide subordinate debt subject to the conditions that the project should have been awarded through open competitive bidding; it should have been approved by the PPPAC (Public-Private-Partnership Approval Committee) under the Guidelines for Formulation, Appraisal and Approval of PPP projects or by the Empowered Institution under the Guidelines for Financial Support to PPP in infrastructure; and the Concession Agreement should provide for an Escrow Account that would secure the annual repayment of subordinate debt before returns on equity are paid (COE, 2011). Subordinate debt shall not exceed 10 percent of the total project cost and shall form part of the maximum limit of 20 percent. Subordinate debt to be borrowed by the project company from any or all sources shall not exceed one half of its paid up and subscribed equity. Subordinate debt lenders shall have second charge on all assets (including receivables) of the Borrower, both present and future, to secure the subordinate debt as mentioned in the loan agreement. The said second charge to secure subordinate debt shall rank on equal footing with all lenders for

their subordinate debts. The above mentioned second charge of subordinate debt lenders shall be subordinate to the first pari passu charge of the senior lenders for their senior debts; and subordinate debt shall not be converted into equity (SCI, 2009).

L&T Infrastructure Finance Company Ltd.

L&T Infrastructure Finance Company Limited (L&T Infra) is promoted by the engineering and construction conglomerate Larsen & Toubro Limited (L&T) and L&T Finance Holdings Limited (a subsidiary of L&T). L&T Infra is a registered Non-Banking Financial Company (NBFC) under the Reserve Bank of India (RBI) Act 1934 which is incorporated in 2006 and is among the select few financial institutions classified as an Infrastructure Finance Company (IFC). A wide range of customized debt & equity products as well as Financial Advisory Services is provided by L&T Infra for the development of infrastructure particularly for development of power, roads, telecom, oil & gas and port sectors in the country. Business development, project appraisal and client relationship management in infrastructure lending is undertaken efficiently by the Project Finance Group (PFG) of L&T Infra.

The Industrial Finance Corporation of India

India's capital market was relatively under-developed at the time of independence in 1947. Although there was significant demand for new capital, there was a dearth of providers. Merchant bankers and underwriting firms were almost non-existent and commercial banks were not equipped to provide long-term industrial finance in any significant manner (Kothari, 2010). It is against this backdrop that the government established The Industrial Finance Corporation of India (IFCI) on July 1, 1948, as the first Development Financial Institution in the country to cater to the long-term finance needs of the industrial sector. IFCI's Project Development Group (PDG) work seamlessly to provide end-to-end solutions to infrastructure sector like Power Generation (Thermal, Hydro, Wind, Solar, Biomass etc) and Transmission, Roads, Port & Port Services, Logistics, and Urban infrastructure as developers.

Insurance Companies

In infrastructure and housing, life insurance companies are required to invest 15 percent of their Life Fund. According to the WSI (2012-17) and from Table 5 below it is observed that although the Asset Under Management (AUM) of life insurers in the Life Fund increased at a CAGR of 16.31 percent p.a., the share of infrastructure investments during the same period increased only marginally from Rs.69,837 Crs. to Rs.72,439 Crs. at a CAGR of 1.25 percent p.a. As a result the share of Infrastructure investments in the Life Fund has come down to 10 percent in FY10 vis-a-vis 15 percent in FY07, 12 percent in FY08, and 11 percent in FY09. For Non life insurers, the AUM increased at a rate of 9.62 percent p.a. from Rs.50,383 Crs. in FY07 to Rs.66,372 in FY10 whereas the share of infrastructure investments increased continually from 12 percent in FY07 to 16 percent in FY10.

Table 5: Insurance- Investment in Infrastructure during FY07-10 (Rs. Crs.)

Year	Life Insurers (Life Fund)			Non Life Insurers		
	Asset Under Management as on	Infrastructure Investments	Percent share	Asset Under Management as on	Infrastructure Investments	Percent share
FY07-Mar	4,65,555	69,837	15	50,383	6,102	12
FY08-Mar	5,41,630	63,262	12	56,280	7,660	14
FY09-Mar	6,29,650	66,673	11	58,893	8,890	15
FY10-Mar	7,32,613	72,439	10	66,372	10,373	16

Source: (i) IRDA (ii) Working Sub-Group on Infrastructure, Working Group on Savings Formulation of the Twelfth Five Year Plan, GOI

External Commercial Borrowing (ECB)

ECB is one of the important sources of debt fund for Infrastructure companies. Infrastructure companies tap external borrowing from external credit markets. It has been observed that the share of infrastructure investments in overall ECB borrowings has gradually come down. The WSI (2012-17) has estimated the external borrowings during 12th Five Year Plan based on the five year averages (FY07-11) of the actual external borrowings as shown in Table 6.

Table 6: ECB Inflows to Infrastructure during FY07-11 (USD Mn.)

Year	Total ECB inflows (USD Mn.)	ECB flow to infrastructure (USD Mn.)	ECB flow to Infrastructure as percent of total ECB
FY07	25353	6211	24 %
FY08	30967	10156	33 %
FY09	18363	5223	28 %
FY10	21669	2735@	26 %
FY11	25776	NA	NA

Source: (i) RBI; (ii) Economic Survey 2010, MoF (iii)Working Sub-Group on Infrastructure, Working Group on Savings Formulation of the Twelfth Five Year Plan, GOI.

@ Data available only for first half of FY10;

 # Half yearly data annualized for estimating yearly percent share

Infra Investment through Equity & FDI

According to the WSI (2012-17) the equity/ FDI during the first three years of 11th FYP were approximately 14 percent of the total investments made towards the infrastructure building whereas the overall debt contribution was 41 percent implying a debt equity ratio of 2.93:1. The WSI (2012-17), assuming the proposed infrastructure spending being funded in the same ratio has estimated that the equity/ FDI available would be Rs.4,55,414 crs. However, it would be pertinent to mention that Equity funding is likely to be a key constraint going forward – possibly even bigger than debt funding. A large part of equity investments rely on foreign investments with domestic investment institutions not coming in majorly at primary level for taking equity in Infrastructure projects. Regulatory changes being attractive for commercial projects are required to draw adequate amount of equity capital to infrastructure sectors.

Fund Availability, Requirement & Funding Gap

The WSI (2012-17) has estimated the total requirement of fund for infra investment to be Rs.65 lakhs crores. It is assumed that the 50 percent of fund requirement would be met from budgetary support. Therefore, the remaining 50 percent is expected from debt, equity and FDI sources for infra investment. The WSI (2012-17), however has projected the total funds available from different sources for infra investment in India as Rs.50.65 lakhs crores comprising of 26 percent from debt sources, 10 percent from equity and FDI sources and 64 percent from budgetary source.

Table 7: Fund Available, Requirement and Gap (Rs. Crs.)

Sources		Estimated resources Available	Fund Require-ment	Funding Gap
Debt.	Comm-ercial Banks	743511	3250000	
	NBFCs	384477		
	Insurance/ Pension Funds	150766		
	ECBs	54957		
Equity & FDI		481686		
Budgetary Support@ 50percent of the total required fund		3250000	3250000	
Total		5065397	6500000	-1434603

Source: (i) RBI; (ii) Economic Survey 2010, MoF (iii) Working Sub-Group on Infrastructure, Working Group on Savings Formulation of the Twelfth Five Year Plan, GOI

Now the funding gap for infra investment in India is estimated to be Rs.14.35 lakhs crores. The detailed fund available from various sources, requirement of fund and funding gap are presented in Table 7. It may be argued that in addition to the constraints regarding availability of equity, 50 percent budgetary support for the 12th FYP at Rs.32,50,000 crore is quite large. If we lower the budgetary support than that assumed above, the funding gap forecasted above would also increase by corresponding amount. It is assumed that half of the total investment in the infrastructure sector is to be covered by the Government through budget allocations. However, Government funds have competing demands, such as, education, health, employment generation, among others. Keeping in view the limitation of the Government's financing of infrastructure in the context of a fiscal policy framework, it is now a challenge for the private sector to finance infrastructure projects.

Step Taken to Promote Private Investment in Infrastructure

It observed from the report of 12th FYP that the following steps have been taken to promote private investment in infrastructure sector: Setting up robust institutional structure for appraising and approving PPP projects. Developing standardized documents such as model concession agreements across infrastructure sectors.

Increasing availability of finance by creating dedicated institutions and providing viability gap funding. On 22nd January, 2014 the Asian Development Bank (ADB) and the Government of India signed an agreement for $400 million first tranche loan to support the government's efforts to accelerate infrastructure growth through increased private sector investment under the Accelerating Infrastructure Investment Facility in India (AIIFI). According to ADB the tranche 1 loan is part of its approved $700 million AIIFI multi-tranche financing facility for providing two loans to India Infrastructure Finance Company Limited (IIFCL) that will be used to advance direct loans for project developers and to take out bank loans.

Catalyzing greater private sector investment this assistance to IIFCL will allow it to lead the market evolution for infrastructure financing. Through financial modalities like direct lending, take-out financing, and subordinate debt this assistance will support public-private partnership in infrastructure projects in roads, power, clean and renewable energy, and water supply and sanitation.

Concluding Remarks

Physical infrastructure plays an important role in the growth and development of an economy. For better and adequate infrastructure availability in the country, there need a persistent effort to relook the issues of budgetary allocation, fiscal incentives, private sector participation and public private partnerships to ensure that required infrastructure development takes place. The public sector is expected to continue to play an important role in building transport infrastructure along with health and education. However, our past experience shows that we can assume a maximum of 50 percent of the resources needed from public sector to meet the finances of infrastructure development. Another 50 percent of resources are much larger and is a challenge for the private sector to invest in infrastructure sector. Therefore, public investment will have to be supplemented by private sector investments, in Public Private Partnership (PPP) mode. This strategy was seen in the 11th FYP with substantial results. PPPs imply efficiency gains, efficient use of resources, availability of modern technology and better project design along with faster implementation, reduced life cycle costs and more optimal risk allocation. The Government of India is taking various steps like signing agreement with ADB and other agencies to encourage private sector participation in infrastructure investment. Fiscal support will continue to be dominant for infrastructure development in India but

equally important would be the enabling policies that could lead to encourage private participation in infrastructure sector.

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Employment Generation through Rajiv Yuva Shakthi Programme in a Drought Prone District of Anantapur of Andhra Pradesh

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Introduction

In Andhra Pradesh State, according to 2011 Census, 40 percent of the population belongs to the category of youth. It is felt that there is a need to evolve a comprehensive policy encompassing socio-economic empowerment of the youth. Government of Andhra Pradesh has been striving hard to mitigate the problem of unemployment in a phased manner. Efforts have been made to empower youth with the up gradation of skills and access to investment in potential sectors to widen the employment opportunities. The major efforts of Rajiv Yuva Shakthi programme is to involve youth actively in community development and rural reconstruction works through personality development and reorientation of the existing education and training needs to meet the requirements of the modern economy. Rajiv Yuva Shakthi programme is a micro-credit Programme targeting unemployed youth, both individuals as well as groups. Students of vocational schools, colleges and engineering colleges will also be the beneficiaries under this programme Government facilitates active participation of the educated youth in rejuvenating rural areas.

The major objectives of Rajiv Yuva Shakthi Programme

- to empower the youth through self–employment
- to empower the youth by capacity building including skills
- to provide financial assistance to the unemployed youth through subsidy and loan

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- to meet the cost of training of unemployed youth during capacity building
- to make the unemployed to be employable
- to identify new areas which have potential for employment generation

Scope of the Study

The present study is confined to only Rajiv Yuva Shakthi Programme out of many other self-employment generation programmes in the state. The present study has been carried out only in Anantapur district of Rayalaseema region and hence the results may or may not be reflected for the other districts of the state. The paucity of funds and time constraints are the major reasons for selecting a few units for the study purpose in a few mandals in the district. The coverage of youth groups under this scheme is also limited and it confined to 3 mandals out of 63 mandals in the district.

Due to above mentioned limitations, the present study has been identified certain problems and highlighted the major issues which are useful to the academicians, researchers and also to the policy makers to evaluate the self-employment generation programmes to reduce unemployment among the rural youth at some extent based on the interest and concentration of policy makers on the issue.

The important objectives of the present study

- To analyze the details relating the Rajiv Yuva Sakthi programme in Anantapur District of Andhra Pradesh.
- To estimate the coverage of rural youth under this programme i.e. the employment opportunities generated under this programme to individuals, petty business and group employment in Anantapur district of Andhra Pradesh and

To appraise the impact of Rajiv Yuva Shakthi Programme in enhancing the income and employment status of the beneficiaries

To suggest suitable measures to strengthen the programme for effective implementation in the drought prone district of Anantapur in Andhra Pradesh.

The Important Hypotheses Formulated For Verification Are

The scope and coverage of employment opportunities provided to the rural youth under Rajiv Yuva Shakthi programme is limited in the drought prone district of Anantapur.

The problems relating to the financial assistance extended and employment provided in the selected Mandals under this programme are many and varied.

The trades selected by the rural youth that are financed in backward districts under these schemes are not sustainable for a variety of reasons.

Methodology

In view of the importance of the present study on the impact of self-employment programme to reduce unemployment among the rural youth, a drought prone Anantapur district of Rayalaseema region in Andhra Pradesh has been selected. The study consists of both primary and secondary data and selection of the units were based on random sampling method. Out of 63 mandals in the district, 3 mandals were selected on random basis for the purpose of the study. From each mandal, 30 samples were selected for collecting primary data. This altogether covered 3 mandals and 90 sample respondents from Anantapur district and the samples have been selected on simple random sampling method covering all categories of rural youth. The following table 1.1 shows the sample details of the study.

Sources of Data

For the purpose of the present study, the primary data was collected from the sample respondents with the help of well-designed questionnaire. A number of questions were prepared on the socio-economic characteristics of the sample respondent households, performance of their units, the information

on training and skills, availing the credit facilities and their impression on Rajiv Yuva Shakthi programme. The secondary data was collected from various official records ranging from gram panchayat to state level. Besides, this, the research journals, reports etc., were referred as a source of background information in analysing the present study in appropriate manner.

The Major Schemes under Rajiv Yuva Shakthi Programme are

- Rajiv Yuva Shakthi (Individual)
- Rajiv Yuva Shakthi (Petty business)
- Rajiv Yuva Shakthi (Group)

Rajiv Yuva Shakthi (Individual)

The educated unemployed youth, who are not interested to form into groups, can be considered under this programme for financial assistance, preference be given to vocationally qualified individuals. The minimum educational qualification is 10th Pass or Fail/ Vocational etc. The Family annual Income to be Below Rs.50,000/-.

The subsidy is 30percent, beneficiary contribution is 10percent and bank loan to be 60 percent. The maximum subsidy limit for industrial sector, service sector and business sector is Rs.30,000 each with the total project cost of Rs.1,00,000.

Rajiv Yuva Shakthi (Petty Business)

Under Rajiv Yuva Shakthi Petty business, educational qualifications are not required. The income limit is to be Rs.50,000 with a maximum project cost of Rs.50,000. The breakup of financial assistance by way of subsidy is 30 percent, beneficiary contribution is 10 percent and bank loan is to be 60 percent with a maximum subsidy limit of Rs.15000. The schemes like Vegetable vendors, Coffee Machine, mango Juice machine etc can be encouraged under this programme.

Rajiv Yuva Shakthi (Group)

Under Rajiv Yuva Shakthi Group, the size of the group is to be 5 to 10 members with a family annual income of below Rs.50,000/- and the minimum educational qualifications are 10th pass. The financial assistance by way of subsidy is 30 percent, beneficiary contribution is to be 10 percent and the bank loan is to be 60 percent with a maximum subsidy limit for industry sector is Rs.60,000, for service sectors 40,000 and business sector Rs.30,000 with a total project cost of Rs.3.00 lakhs.

Table 1: Sampling Details of the Study in Anantapur District

Mandals	Gram Panchayats	Samples
1. Gandlapenta	1. Thummalabylu	10
	2. Godduvelagala	10
	3. Kamathampalli	10
2. Bathalapalli	1. Bathalapalli	10
	2. Musturu	10
	3. Malyavantham	10
3. B.K. Samudram	1. Dayyalakunta Palli	10
	2. Korrapadu	10
	3. Danduvari Palli	10

Source: Field Survey

Note: Values representing in the parenthesis are the percentages of the total value.

Category of RYS Units in Sample Mandals

The different categories of RYS units grounded in the selected mandals under study is presented in table 2. It reveals that out of 90 sample units of RYS, 23.67 percent of the total units in the selected mandals are individual units, about 72 percent of the units are petty business units and the remaining four percent of the units in the sample mandals are RYS group units.

It shows that out of 28 RYS individual units, more number of units are grounded in Gandlapenta mandal (43.33 percent) and less number of units are grounded in B.K. Samudram mandal (13.33 percent of total individual units). It may also notice that more number of petty business units are grounded (86.67 percent) in B.K. Samudram mandal and

less number of petty business units (53.33 percent) are grounded in Bathalapaalli mandal.

Table 2: Category of Units under Rajiv Yuva Shakthi Programme

Mandal	Individual	Petty Business	Group	Total
Bathalapalli	11	16	03	30
	(36.67)	(53.33)	(10.00)	(100)
B.K. Samudram	4	26	0	30
	(13.33)	(86.67)	(0.00)	(100)
Gandlapenta	13	17	0	30
	(43.33)	(56.67)	(0.00)	(100)
Total	**28**	**59**	**03**	**90**
	(31.11)	**(65.56)**	**(3.33)**	**(100)**

Source: Field Survey, Note: Values representing in the parenthesis are the percentages of the total value. It may also noticed that more number (10 percent) of RYS Group units are grounded in Bathalapalli mandal and less number (0 percent) of RYS Group units in B.K. Samudram and Gandlapenta mandal are grounded.

Table 3: Annual Income of Sample Respondents Before Starting RYS Units

Mandal	<15,000	1500125000	25,000 -35,000	> 35,000	Total
Bathalapalli	14	05	11	00	30
	(46.67)	(16.67)	(36.67)	(0.00)	(100)
B.K. Samudram	13	10	07	00	30
	(43.33)	(33.33)	(23.33)	(0.00)	(100)
Gandlapenta	12	10	05	03	30
	(40.00)	(33.33)	(16.67)	(10.00)	(100)
Total	**39**	**25**	**23**	**03**	**90**
	(43.33)	**(27.78)**	**(25.55)**	**(3.33)**	**(100)**

Source: Field Survey

Note: Values representing in the parenthesis are the percentages of the total value

Annual Income of the Sample Respondents before Starting RYS Units

To compare the income levels of rural youth through Rajiv Yuva Shakthi Programme, the annual income of the respondents before starting the unit has been assessed. The table 3 reveals that out of 90 sample respondents, 43.33 percent of the sample respondent's annual income was less than Rs.15,000 before they start the RYS unit with a variation of 46.67 percent of the respondents in Bathalapalli mandal to 43.33 percent of the respondents in B.K. Samudram mandal.

It may also noticed that before starting RYS unit, the annual income was Rs.15,001 to Rs.25,000 among 27.78 percent of the sample respondents under study and the percentage of sample respondents under this category of income varied from 16.67 percent in Bathalapalli mandal to about 33.33 percent in B.K. Samudram and Gandlapenta mandals.

It may also observed that before starting RYS units the annual income of the sample respondents was Rs.25,000 to Rs.35,000 among 25.55 percent of the respondents under study and their percentage to the total sample

respondents of selected mandals varied from 16.67 in Gandlapenta mandal to about 37 percent in Bathalapalli mandal.

Above Rs.35,000 of income was there among 10 percent Gandlapenta mandal of the respondents with a variation of 0 percent in Bathalapalli and B.K. Samudram mandals.

Annual Income of Sample Respondents after Starting RYS Units

As shown in table 4 the annual income of the sample respondents is less than Rs.30,000 for 16.67 percent of the respondents in Bathalapalli and Gandlapenta mandals, for about 26.67 percent of the respondents in B.K. Samudram mandal.

The annual income of the respondents after starting RYS programme is Rs.30,001 to Rs.40,000 in 40 percent of the sample respondent households with in three mandal respondents 40 percent.

It may also noticed that the annual income of the respondents after starting the units is Rs.40,001 to Rs.50,000 among 18.88 percent of the respondent households under study with a variation of 16.67 percent in Gandlapenta mandal to 20 percent of the respondent households in Bathapalli and B.K. Samudram mandals.

Table 4: Annual Income of Respondents after Starting RYS Units (in Rs.)

Mandal	<30,000	30,001-40,000	40,001 - 50,000	> 50,000	Total
Bathalapalli	05	12	06	07	30
	(16.67)	(40.00)	(20.00)	(23.33)	(100)
B.K. Samudram	08	12	06	04	30
	(26.67)	(40.00)	(20.00)	(13.33)	(100)
Gandlapenta	05	12	05	08	30
	(16.67)	(40.00)	(16.67)	(26.67)	(100)
Total	**18**	**36**	**17**	**19**	**90**
	(20)	**(40)**	**(18.88)**	**(21.11)**	**(100)**

Source: Field Survey

Note: Values representing in the parenthesis are the percentages of the total value.

It may also observed that the annual income is more than Rs.50,000 in 21.11 percent of the respondent households under reference with a variation of about 13.33 percent B.K. Samudram mandal to about 26.67 percent of the respondents in Gandlapenta mandal.

Additional Employment Generated through RYS Progarmme

The major objective of Rajiv Yuva Shakthi programme is to generate additional gainful employment through self–employment among the rural youth. As shown in table 5, upto 100 days of employment was generated through RYS programme to about 57 percent of the sample respondents under study in Anantapur district with a variation of about nearly 37 percent of the sample respondents in Gandlapenta, mandal to 73.33 percent of the respondents in B.K. Samudram Mandal.

It may also noticed that 32.22 percent of the sample respondents under reference provided 100–180 days of employment through self–employment programmes under RYS programme with a variation of 23.33 percent in B.K. Samudram mandal to 40 percent in Gandlapenta mandal. From 180 to 240 days of employment was generated through RYS programme for 4.44 percent of the sample respondents in the district with a variation of three percent in Bathalapalli mandal to about nearly 7 percent in Gandlapenta mandal.

Table 5: Additional Employment Generated through RYS Programme

Mandal	Upto 100	100 – 180	180 – 240	> 240	Total
Bathalapalli	18	10	01	01	30
	(60.00)	(33.33)	(3.33)	(3.33)	(100)
B.K. Samudram	22	07	00	01	30
	(73.33)	(23.33)	(0.00)	(3.33)	(100)
Gandlapenta	11	12	05	02	30
	(36.67)	(40.00)	(16.67)	(6.67)	(100)
Total	**51**	**29**	**06**	**04**	**90**
	(56.66)	**(32.22)**	**(6.66)**	**(4.44)**	**(100)**

Source: Field Survey

Note: Values representing in the parenthesis are the percentages of the total value.

Conclusions

The Rajiv Yuva Shakthi Programme was launched in the year 2004 in A.P. with the prime object of empowering the youth to participate efficiently in the development of rural areas by not only providing them employment opportunities and at the same time creating a sense of accomplishment among them through the principle of diligence, self-help, cooperation and sense of patriotism thus aiming to bring about overall improvement.

The programme as such is based on group strategy approach where in a group of 05 to 10 members in the age-group of 18 to 35 years whose family income is below the poverty line limits the youth association to take up any economic activity that is best suited to their educational background, skill, aptitude, based on the use of local resources and fulfillment of local needs. Allowing youth to take initiative thinking and organizing themselves as a group, becoming part of development activity through informal approaches and government acting as only a facilitator seems to be making difference in the development process.

The different categories of RYS units grounded in the selected mandals under study is presented in table 2. It reveals that out of 90 sample units of RYS, 23.67 percent of the total units in the selected mandals are individual units, about 72 percent of the units are petty business units and the remaining four percent of the units in the sample mandals are RYS group units.

It shows that out of 28 RYS individual units, more number of units are grounded in Gandlapenta mandal (43.33 percent) and less number of units are grounded in B.K. Samudram mandal (13.33 percent of total individual units). It may also noticed that more number of petty business units are grounded (86.67 percent) in B.K. Samudram mandal and less number of petty business units (53.33 percent) are grounded in Bathalapaalli mandal.

It may also noticed that more number (10 percent) of RYS Group units are grounded in Bathalapalli mandal and less number (0 percent) of RYS Group units in B.K. Samudram and Gandlapenta mandal are grounded.

To compare the income levels of rural youth through Rajiv Yuva Shakthi Programme, the annual income of the respondents before starting the unit has been assessed. The table 3 reveals that out of 90 sample respondents, 43.33 percent of the sample respondent's annual income was less than Rs.15,000 before they start the RYS unit with a variation of 46.67 percent of the respondents in Bathalapalli mandal to 43.33 percent of the respondents in B.K. Samudram mandal.

It may also noticed that before starting RYS unit, the annual income was Rs.15,001 to Rs.25,000 among 27.78 percent of the sample respondents under study and the percentage of sample respondents under this category of income varied from 16.67 percent in Bathalapalli mandal to about 33.33 percent in B.K. Samudram and Gandlapenta mandals.

It may also observed that before starting RYS units the annual income of the sample respondents was Rs.25,000 to Rs.35,000 among 25.55 percent of the respondents under study and their percentage to the total sample respondents of selected mandals varied from 16.67 in Gandlapenta mandal to about 37 percent in Bathalapalli Mandal.

Above Rs.35,000 of income was there among 10percent Gandlapenta mandal of the respondents with a variation of 0 percent in Bathalapalli and B.K. Samudram mandals.

As shown in table 4 the annual income of the sample respondents is less than Rs.30,000 for 16.67 percent of the respondents in Bathalapalli and Gandlapenta mandals, for about 26.67 percent of the respondents in B.K. Samudram mandal.

The annual income of the respondents after starting RYS programme is Rs.30,001 to Rs.40,000 in 40 percent of the sample respondent households with in three mandal respondents 40 percent.

It may also noticed that the annual income of the respondents after starting the units is Rs. 40001 to Rs.50,000 among 18.88 percent of the respondent households under study with a variation of 16.67 in Gandlapenta mandal to 20 percent of the respondent households in Bathapalli and B.K. Samudram mandals.

It may also observed that the annual income is more than Rs.50,000 in 21.11 percent of the respondent households under reference with a variation of about 13.33 B.K. Samudram mandal to about 26.67 percent of the respondents in Gandlapenta mandal.

The major objective of Rajiv Yuva Shakthi programme is to generate additional gainful employment through self–employment among the rural youth. As shown in table 5, upto 100 days of employment was generated through RYS programme to about 57 percent of the sample respondents under study in Anantapur district with a variation of about nearly 37 percent of the sample respondents in Gandlapenta, mandal to 73.33 percent of the respondents in B.K. Samudram Mandal.

It may also noticed that 32.22 percent of the sample respondents under reference provided 100–180 days of employment through self–employment programmes under RYS programme with a variation of 23.33 percent in B.K. Samudram mandal to 40 percent in Gandlapenta mandal. From 180 to 240 days of employment was generated through RYS programme for 4.44 percent of the sample respondents in the district with a variation of three percent in Bathalapalli mandal to about nearly 7 percent in Gandlapenta mandal.

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An Approach to Social Entrepreneurship in the Indian Context

Uday Kumar M.A.[1]

Social entrepreneurship, a new breed of entrepreneurship that is emerging is said to be suitable in addressing the marginalization of people especially in the post-globalization period. Such an understanding appears to be grounded more on research and reflections on social entrepreneurship in UK, USA and Europe. This north centric tendency in capturing the concept of social entrepreneurship needs to be overcome by considering the experiments in other developing parts of the world. In the light of Social Entrepreneurship gaining circulation in India, it is essential to capture the Indian experience within this concept. The paper consciously and carefully attempted to show as to how the content and context becomes fundamental in capturing the idea of Social Entrepreneurship. The emphasis in social entrepreneurship has always been on the word 'Social' than on entrepreneurship, which is largely anchored in the local culture.

Varying shades of structural inequality in a society is largely fashioned by historical, political, and social developments, which more or less operates in a discreet manner. Structural inequality existing in societies could not be wished away by either capitalist or socialist development designs. Because universalized standard tool of economic modernity applied to address the diverging social and political factors failed to tackle economic inequality in the developing countries. Even high economic growth in the developed part of the world also had its externalities paradoxically resulting in the resurgence of a new set of basic needs to be fulfilled.

It has been a challenge to address socioeconomic exclusion on the one hand (in developing countries) and externalities (in developed world) as a fall out of economic growth on the other hand. Strategic designs in an organized manner to address both the

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problems associated with achieving economic growth and externalities consequent to such economic growth has been an important objective of Social Entrepreneurship (SE). Social Entrepreneurship is a concept that gained currency in the post-liberalization period, with its center of gravity in the United Kingdom (U.K.) and the United States of America (USA). Application of business models to address social problems appears to be the epicenter of discussion on SE.

Studies on social entrepreneurship are anchored in the high seas of experience and experiments of UK, USA and Europe. This north centric tendency in capturing the concept of social entrepreneurship for social value creation and social change is gaining ground all over the world. One of the reasons for exploring new social and economic initiative with an entrepreneurial edge (Social Entrepreneurship) has been the serious limitation of the economic development design(which assumed a linear path of modernization) pursued in free and regulated economic systems. It is essential to outlive the limitations of traditional development theories while understanding the content and context of social entrepreneurship. In social entrepreneurship there is cross fertilization of the ideas of social value and entrepreneurship. What is social value is a highly contextualized concept.

Even entrepreneurship in the real sense of the term has the drive for social change in it. The paper aims to widen the meaning and definition of the social entrepreneurship in the light of varied experiences from India. In this endeavor, case study is taken to explain how social context becomes important in social entrepreneurship. The paper is divided into five parts; the first part traces the history of social entrepreneurship. In the second part it is attempted to reflect as to how works on social entrepreneurship got hybridized over the years through cross fertilization of social good and entrepreneurship. A discussion on how social entrepreneurship is slowly making its presence felt in the academic circles as well as development in India is discussed in the third part. In the light of these developments, need arises to locate the concept in the Indian context instead of looking at it from the perspectives external to India. Therefore, the case of Desi and Charaka in India is discussed in the fourth part. The fifth and the concluding part an attempt to show as to how the content and context becomes fundamental in capturing the idea of Social Entrepreneurship is made.

History of Social Enterprise

The Fenwick Weavers' Society formed in 1761 to sell discounted oat meal to local Scottish weavers was an early grassroot trading organization with a collective social purpose. Gates (1998) identifies forms of surplus-sharing arrangements between workers and employers way back in 1795. It is pertinent to note that one of the key drivers of all such co-operative institutions firmly was grounded in a principle of social welfare. By the mid-1850s there were more than 1000 co-operative societies in the UK, and by the end of the century the co-operative movement emerged as an international phenomenon.

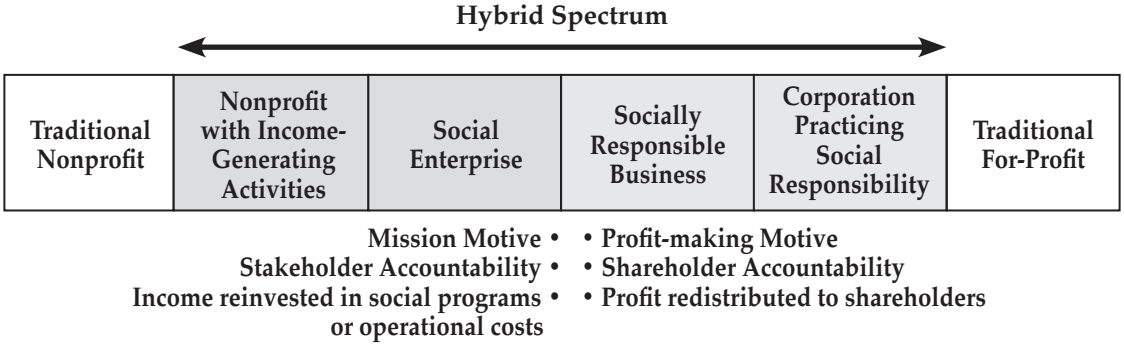
During the recent past in UK, USA and Europe new wave of consumer co-operation and civil society solidarity movements emerged along with the new 'identity' politics. Worker co-operatives and other forms of community enterprise, sometimes with government support, spurred local employment creation (Pearce, 2003). In the recent past prime mover of SE is argued to be a response to diminishing government involvement in society (e.g., Sharir and Lerner, 2006; Nicholls, 2006). The social enterprise movement that has grown considerably in the US, the UK (Tracey and Jarvis, 2007), and in EU countries (Defourny and Nyssens, 2008) perceives Social as *"the universe of practices and forms of mobilizing*

economic resources towards the satisfaction of human needs that belong neither to for-profit-enterprises, nor to the institutions of the state in the narrow sense (Moulaert and Ailenei, 2005)". More over, there is an increasing interest in social entrepreneurs, typically referred to as firms tackling social problems and catalyzing social transformation. To be more specific, social entrepreneurship is argued to be *"entrepreneurship with an embedded social purpose"* (2006), *through the recognition and exploitation of entrepreneurial opportunities not being limited to a particular juridical / organizational form*. In many countries within the European Union inadequacy in provision of public services was instrumental in the strengthening of new initiatives on the lines of Social Entrepreneurship (Social Economy). Government headed by Tony Blair in United Kingdom in 2004 created a Social Enterprise Unit and ascribed it a legal status as Community Interest Company (CIG). In USA, organisations like Ashoka, support individual entrepreneurs with a social mission. Harvard Business School's Social Enterprise Initiative 'aims to inspire, educate and support current and emerging leaders in all sectors to apply management skills to create social value'. Such initiatives very much value business models of entrepreneurship. According to Enterprising Social Innovation vision of Dees and Anderson, society would be better off if we could produce more innovative, market-based, "enterprising" approaches to address social problems. SE here refers to blend of business and philanthropy, to correct market failures and harness market forces to create social good.

In Italy a historically strong co-operative movement was boosted by legislation in 1991 for 'social cooperatives' and the growth of these was linked to inadequate public service provision (Borzaga and Sanuari, 2001). European researchers identified similar initiatives and EMES began to document their growth in the European Union (Defourny and Nyssens, 2006: 4). In Balkan countries frequent forms of organizations under social enterprises are NGO's Cooperatives and social cooperatives. Governments in the Balkan region have so far not come out with legal frameworks for encouraging or regulating the activities of S.E In US the flavour of social enterprise is more entrepreneurial. In Australia there are a number of resource organizations including the Centre for Social Impact, Social Ventures Australia and its various state hubs engaged in addressing specific socioeconomic problems. It is given to understand that the enterprise development for communities in Taiwan is under the umbrella of community development policies. It can also be observed that the development of community-based enterprises is considerably affected by incentives from government policies.

Social Entrepreneurship: Cross fertilization of social and entrepreneurship

What is social Entrepreneurship (SE)? Where exactly we can place it in the development design of an economy is one of the major questions that has to be addressed. SE can be stated as a 'process and practice' of integrating economic and social value creation, which has a long heritage and global presence. The initiatives of Ashoka Foundation in US, Grameen Bank in Bangaladesh, Manchester Crafts Guild in UK, and SEWA, Lijjath, WWF in India, are all contemporary manifestations of this phenomenon of Social Enterprises that finds its historical precedents in the values of Victorian Liberalism. The concept of social entrepreneurship is poorly defined and its boundaries to other fields of study remain fuzzy and overlapping. Attempts to locate and define the concept of 'social entrepreneurship' are driven by the recent developments in the area of social entrepreneurship in the developed world like UK, US, Europe, and Australia. The following diagram indicates the approximate location of the concept in contemporary situation.



Scholarly interventions indicate that the concept of SE is more or less a hybridized product resulting from the cross fertilization of social concern and business strategy.

It appears from the above that social enterprises sit at the more businesslike end of the spectrum of organizations that make up the third sector or social economy. Their profits are directed towards achievement of a social goal or are channeled back into the enterprise itself. They have more in common with other third sector entities such as small community and identity group organisations (e.g. self-help groups, neighbourhood watches) and larger, more formal not-for-profits (e.g. charities, sports clubs, housing associations) than with profit driven business or government. Perhaps new kinds of partnerships between public, private and third sector organisations energised by a vibrant civil society polity may be a response to these new conditions, and social enterprise is central to these developments.

Idea of Social Entrepreneurship is largely driven by the works of foundations and civil society cooperative organizations in addressing externalities and social exclusions in the first world. It is to be remembered that there is a cultural context for the emergence of social economy or social entrepreneurship. Therefore, the linkage of SE with the social condition, civil society initiative and state regulation and the stake holders is crucial in understanding the concept. But what is largely done in the study of SE is a comparison of the construct and operational aspect of SE. However, the context in developing countries like India is different. Objectives, initiatives and the conditions necessitating the emergence of social entrepreneurship, is more or less imposed in the study of Indian situation. Social Enterprises are thus organizations driven by an entrepreneurial spirit, but focused on social aims, is a trend that can be observed in countries with different levels of economic development, welfare and legal systems. This can be ascribed to both demand and supply factors. On the demand side, recent years have seen an extensive growth and diversification of needs, which was prompted by the interplay of various factors, including changing patterns of behaviours and lifestyles coupled with the transformation of welfare systems. On the supply side, public funding constraints and bureaucratic burdens have made it increasingly difficult to expand, or even to maintain, the provision of certain services.

This appears to be all the more dramatic for economic and social systems that are strongly characterized by weak and young welfare systems. According to Johanna Mair Social Entrepreneurship faces two important challenges. First there is lack of consensus in defining and operationalizing social entrepreneurship in the light of diverging views on the subjects coming from different parts of the world. Second the research on social entrepreneurship is caught in between seemingly conflicting demand for relevance lead by umbrella advocates and rigour lead by validity police. The idea of social entrepreneurship has been taking varying shades of meaning by cross fertilization of

theory and practice across the world. To capture the concept of SE in a universal theoretical lens is a Herculean task for the simple reason that what drives entrepreneurs towards the social side of venture is crafted by the social design of the specific region. Briefly, the phenomenon discussed under social entrepreneurship is as follows:

Phenomenon Under Study	Explanation/Description	Major Works
Social Entrepreneurs/ Social change agents	Individuals who bring in social change through innovative means/ Individuals who alter public perceptions about social issues.	Prasanna 2010/ Peredo and Crisman, 2006; Johannison and Nilsson 1989
Community Entrepreneurship	The community is the entrepreneurial actor and beneficiary.	Waddok, and Post 1991; Drayton 2002
Institutional Entrepreneurs	Individuals or organizations that alter social arrangements and the institutional fabric hampering development.	Mair and Marti 2009
Social Ventures	Business ventures that provide a product or service that creates social or environmental benefit, such as production and distribution of bio-degradable water bottle	Dorado 2006; Sharir and Lerner 2006
Entrepreneurial non-profit organizations	Non-Profit organizations that engage in commercial activities to create an income stream and enhance financial sustainability	Fowler 2000; Frumkin 2002
Social Enterprise	Organizational Forms following principles of cooperatives	Borgaza and Defouny 2001
Social Innovation	Innovation understood broadly and including process and technology for the social good	Alvord, Brown and Letts 2004; Phills, Deglmeier and Miller, 2008

Even the above phenomenon of SE studied at various parts of the world has been able to reflect upon the fact that the development designs adopted by public, private and third sectors have not been able to reach the entire group of people in the social structure, leaving opportunities for new initiatives. SE is one such initiative that either delivers, products, services or institutions which the existing organizations either in public, private or third sectors fails to deliver.

Social Entrepreneurship in India

Social enterprise in India is considered a growing field and regarded as an alternative to traditional international and rural development initiatives. There has been a tradition of entrepreneurial initiative with a social value creation in India, though not with a tag of social enterprise by western standards. A number of organizations are encouraging the sector's growth and development, spurring discussion and debate. Microfinance in India has caught on as a new model for

rural development, women's empowerment, and poverty alleviation, although there is a significant debate as to its impact. Apart from microfinance, there is a wide range of social enterprise activities, including organic food and herbal production, distribution of energy efficient stoves, decentralized power generation, recycling programs, environment friendly building products, bio-fuel production, and distribution of eyeglasses. Many enterprises aim to solve environmental problems. Well-developed government and NGO programs encourage the growth and development of socially- and environmentally-focussed businesses. The Energy Resource Institute (TERI) is a major Indian non-profit organization dedicated to the development **of renewable energy sources and sustainable business. TERI University particularly encourages the development of entrepreneurial solutions to energy, sustainability, and environmental issues.**

Social Entrepreneurship refers to a process or behavior, Social Entrepreneur refers to the prime mover of the process, and social enterprise refers to the tangible outcome of the social entrepreneurship. What transpires after scanning the literature on social entrepreneurship is the absence of clear theoretical boundary within which the term could be located. One can not deny the fact that knowledge on social entrepreneurship can only be enhanced by the use of a variety of theoretical tools and a combination of different research methods around 'Social' and 'Entrepreneurship.' The motive or the drive to bring in a social change in a social entrepreneur is the product of his social condition. From the study, practice and research of SE it is evident that the motive for social change is designed in the socioeconomic and political context, in which the entrepreneur is embedded.

Social Entrepreneur having grounded in a social structure thus mediates through the structure to bring in a social change. Embeddedness might reflect both as enabling and a constraining condition at the same time. Social entrepreneurs, who are highly embedded in the structure, are able to have an access to resources and act as effective agents. Less embedded actors (SE) who are not locked into the existing structure are more likely to engage in social ventures that challenge rules and norms and function as transformative agents.

The social networks, relationships and trust existing in the society also fuel the progress of social entrepreneurship. Social movements that have social transformation as its primary concern have a lot of lessons to share with Social Entrepreneurship. The motive that drives one to social entrepreneurship and creation of enterprises that serve social cause in the Indian context is largely embedded in the socioeconomic condition seasoned by history and political conditions. The case of Desi and Charaka reflects it clearly.

DESI and CHARAKA

'Kavi Kavya', in Bheemankone, a village near Shimogga in Karnataka is a voluntary organization. It was founded in 1996 with a motive of promoting literary activities. The oral literary tradition was its major interest, which brought the Trust in close contact with the local population. Subsequently, the socioeconomic condition that fashioned the life of people in the local area drew the attention of Kavi Kavya trust.

Local population was solely dependent on paddy cultivation for their livelihood. Growing population left people without any choice from encroachment of forest land for cultivation. Over a period, enhanced standard of living demanded additional income. Even though paddy cultivation initially yielded sufficient income, which, in the long run was not sufficient. So, people turned to commercial crops like ginger and cotton. Such a trend although satisfied their immediate economic needs turned large tracts of land infertile. Kavi Kavya was seriously concerned with this development. It was very essential to save both

the farmers and the environment. The farmers were to be turned to an eco friendly economic activity. The alternate activity that struck the trust was handloom industry. But the farmers were skilled only in their occupation as it was woven into their life. Farming was the culture than an occupation. It was their mode of life. (It could be observed that the case would be different in an urban area, as the mode of life and profession wouldn't intersect. More or less the mode of life of people in the city is the same irrespective of their profession. Changing profession, in this sense wouldn't affect their mode of life) Kavi Kavya launched a unit called 'Charaka' to face the challenge. The challenge lied not only in training them in a new skill but also in making them overcome their diffidence towards the new occupation. This demanded immense patience on the part of the organization; it took nearly six years to succeed.

Charaka applied its knowledge of gender based cultural history. It started of with a handloom unit exclusively for women. The bond between women and weaving is age old in Indian tradition. The epics and folk literature has abundant evidence of this. Women, irrespective of their caste, are known to have possessed weaving skills. Charaka grew quickly into a self sufficient unit. Kavi Kavya at this juncture formed an industrial cooperative society of the workers of Charaka. The registered society was called 'Charaka Mahila Vividoddesha Kaigaarika Sahakari Sangha (Charaka Women's Multi-purpose Industrial Cooperative Society) Kavi Kavya assured the society that it would take care of the sales of the produced goods. Whether the produced goods are sold or not Kavi Kavya would ensure payment for the produced goods.

Kavi Kavya opened retail outlets called 'Desi' (desi means native) in cities like Bengaluru and Mysore. It was not possible for Kavi Kavya to run these outlets directly from the village, so, it initiated Desi Dharmadharshi organization in Bengaluru. The unique feature of these three organizations vis- a-vis Kavi Kavya, Charaka and Desi is that the earnings of the organizations alone fuels their activities. No foreign donation has been accepted so far. Charaka has availed the government aid given to rural development units. (This aid actually amounts to less than 10% of the total turn over of the unit) Except this all the three organizations are economically independent.

The main objective of Charaka was to stop deforestation (protect environment) and provide alternative source of income for livelihood. In providing a viable alternative to agriculture in malnaad region Charaka has been successful. It proved that it is possible to opt for other activities like weaving and benefit the community economically.

To make weaving a successful business venture, a range of other activities connected to weaving were carefully studied and integrated with weaving. A scientific and systematic study of design and operation of loom, preparation of dye (colour) by using natural substances, designing of the fabric, tailoring and organizing the entire activity was done meticulously. Attempts were made to win over the reticent feeling of the stakeholders in getting into the handloom industry. It was decided to explore the demand for the cotton fabrics with a difference in the urban area.

Marketing the handloom products of Charaka was a challenging one. Relatively handloom products were costlier than machine made fabrics. Machine made products bear value addition through additional product features, which easily attract buyers. For example cell phone could be used as torch, radio, camera; TV has the facility of Video Player, and so on. Where as handloom products do not possess such additional product features. But handloom products have cultural value. Founder of the unit, Mr. Prasanna, says that the name Charaka is selected to signify the specialty of the native culture. The retail sales outlets are also designed to reflect the native culture. The outlets are considered to be very important not because they are the important

sources of earning but as the connecting link between production and consumption. The distribution unit is identified as a place which draws the users who fuel further production. Outlets are not considered as location where goods are sold, it is something more that. They are treated as centers for representing the moral value of the product. What does the moral value of the product mean? When a buyer buys a piece of cloth he/she is not only buying a physical product but also the craft.

A piece of cloth sold at the retail outlet has thousands of threads that have been woven into it and the craftsmen's hands have played on the loom to transform the thread into cloth. All religions perhaps communicate the same moral value, the value of hardship. But the consumer culture has brought amnesia towards this moral value. The divide between hands that produce and body that adorns the product is what has brought this amnesia. Once the value of hard work behind the production of goods is realized it will result in reducing the greed to buy unnecessarily. At the same time human relationship would be built between hands that produce and body that adorns. Desi outlets work towards building this bondage.

In another way the functioning of the Desi outlets are distinct because they represent the importance of linking customer with the production. The resources or income for production comes directly from the consumers (users). When resources come from an external agency for some reason, if it stops, the production also is automatically bound to stop. Charaka treats Desi outlets as resources for production more than as consumer centers for their finished goods. Charaka and Desi's perception of business is strikingly different in the cultural context.

Desi and Charaka stand testimony to the fact that space beyond the first, second and third sector could easily be captured by imagination shaped in the context of local culture. The motive for creation of a venture was driven by twin objectives; first to create livelihood for the needy poor and second to protect the environment (material and cultural). It is apparent that the motive to create an enterprise in this case is not purely economic but something more than that. The economic motive is strongly anchored in socio-cultural context especially in the local environment of Malnaad region. One has to consider the day to day realities at the local level in theorizing social entrepreneurship.

In the Indian conditions the success of SE is largely fashioned by entrepreneurial individuals (agents), and environment with a sense of culture of entrepreneurship (structure).

The ability of an individual to under the crisis and transform the material condition of life (change one's consciousness) is crucial. Because agency has the capability to formulate strategic choices and to control resources and decisions that affect the social and economic life outcomes. Agency also refers to the capacity of individuals and groups to look to the future assess the risks, engage with markets, the state and other groups in the strategies that determine economic and social development paths.

More over agency comprises the ability to frame tactical choices and control decisions that affect the conditions of life. One should be aware of the fact that agency does not exist independently of the social structure. Structures can be understood as, rules, and resources, recursively implicated as in the reproduction of social systems". Agency may be considered as the medium through which the structures operate. In case of Charaka and Desi, the trust was the agency which played an entrepreneurial role and the brain behind this was Mr. Prasanna. It is apparent that the experiments are the product of agency and the structure in the local area. It undoubtedly emerged in the context of the developments taking place in the malnaad region at a given point of time. It is quite unlikely that one can replicate this experiment else where; for the simple fact that the socioeconomic climate required for raring this species of social

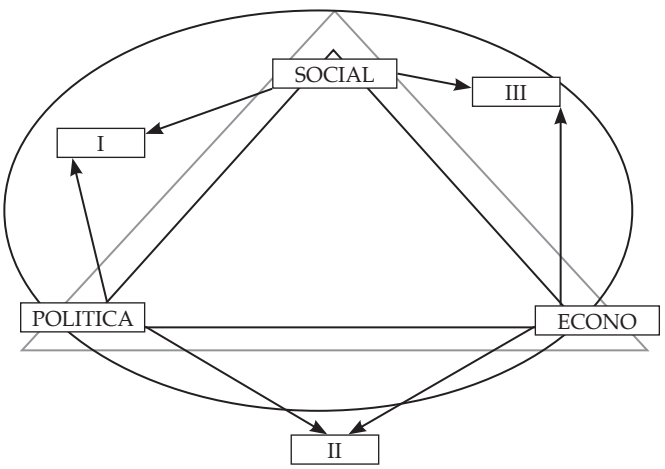
entrepreneurship is limited to malnaad region alone.

However, traversing through trajectories of various entrepreneurial initiatives with a social objective, one can locate the concept with in the larger political economy of development under various economic systems.

Emergence of Social Entrepreneurship Under Different Economic Structures

Social entrepreneurship attempts to address a constituency beyond the reach of other main stream development initiatives. Social enterprises have to be located within the broad frame work of the economic system operating in an economy and have to be defined in the context of the local area. The main issues addressed by this organizational form in the developed countries relates to problems related to externalities to development, and vacuum created by the roll back of the state. In the light of works cited in this essay it is attempted to explain how one can locate social entrepreneurship within the larger economic system. In a socialist and economies oriented towards socialist pattern of development, social enterprises function to support the causes pursued by the state, of economic inclusion. More or less they have social value creation on the top of their agenda. Generally they adopt a strategy, which has social orientation. It is to be remembered that with in the developing countries there are SE, which are operational at the behest of the corporate initiatives, which are driven more by the business strategies in addressing the social problems. There are numerous other initiatives which are operational at the local level. Such initiatives on number of occasions either escape the public attention or ignored. For example in India, there is a large number of small initiatives that are functional to serves purpose of social and economic interest of the community. Such initiative makes use of the social and political structures in achieving the objectives. There are a number of such initiatives in India. It is obvious from the fact that the state has been able to accommodate a very small chunk of the population in the organized sector. Large portion of the population is dependent on the informal sector. In the informal sector social entrepreneurship is present in a big way. Especially in health care and education such ventures are found. The Focus of education should be to develop personalities that are constructively creative. In order to make the best brains creatively engaged, it should be the responsibility of the state to ensure that the cream layer from the basic education gets into higher education.

Higher education system in any country should have institutions of global, national, and regional importance. Admissions should be made purely on the basis of merit and social justice.



It is necessary to capture the meaning of Entrepreneurship in a wider sense than mere business entrepreneurship. All creative pursuits in search of just, sustainable development and humane society should be considered entrepreneurial. In the above diagram, it is shown that education should enable individuals to explore self, and those pursue business goals and work for profit should contribute directly to the material progress of the country. Those who prioritize social Objectives (not- for profit) to profit motives contribute to the issues of distribution of wealth, problems of marginalization, social exclusion and the like. The Inner drive running deep within a person to respond to the marginalization, exclusion or exploitation may create innovative ideas like something that struck Prof. Mohammed Yunus. The idea of Micro-finance innovated by Prof. could change the life of many. Innovation of this kind is noting less than the revolution in the field of Information Technology. Therefore, an innovation should be judged by its capacity to create a just society which ensures fairness to its citizens. The state, civil society and community organizations should be in constant dialogue with each other and influence the policy on education to make it more entrepreneurial.

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Exchange Rate Volatility & Uncertainty in India – A Study of INR vs USD

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The exchange rate volatility and its modelling has gained importance since the breakdown of Bretton Woods System in 1973 and subsequent movement of many countries shifting from fixed exchange rate system to floating exchange rate system. India shifted from fixed exchange rate to the Liberalized Exchange Rate Management System (LERMS) in 1992 and market determinant exchange rate regime in 1993 which is a major structural changes in Indian foreign exchange market. This has lead to huge volatility in exchange rate. The present study is an attempt to analyse the volatility and uncertainty of exchange rate with specific reference to INR vs USD based on the past 14 years daily exchange rate. The financial econometric test results have indicated that volatility in the exchange rate was not only significant but also persistent in India over the study period.

Introduction

Exchange rate plays a crucial role in the international business. Currency conversion is essential in the cross border transactions such as imports, exports, ECBs, FDI flows and FPI flows. One of the major risk involved in these transactions is exchange rate risk. Exchange rate risk arises on conversion of one currency into another currency due to floating exchange rates. Exchange rates are volatile in this floating exchange rate regime. Since the breakdown of Bretton Woods System in 1973 and subsequent movement of many countries shifting from fixed exchange rate system to floating exchange rate system.

India moved away from fixed exchange rate to the Liberalized Exchange Rate Management System (LERMS) in 1992 and market determinant exchange rate regime in 1993 which is a major structural changes in Indian foreign exchange market. Since then exchange rate is determined by market forces. Managed float exchange rate is prevailing in India. Exchange rate is not administratively determined, however, the RBI intervenes on need basis under the managed float system.

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This lead to volatile exchange rates in Indian Forex Market. RBI is trading actively in the market, to check undesirable appreciation and depreciation of INR against major currencies of the world.

Foreign exchange rate change is an inevitable factor and it is having impact on all the participants of foreign exchange market such as exporters, importers, investors, bankers, financial institutions, business concerns, foreign employees, NRIs, tourists, other service providers, and policy makers. The timely and accurate forecasting and other characteristics and trends of foreign exchange rate movements will give valuable information to these participants in decision making and managing the foreign exchange exposure. The exchange rate volatility and its modelling has gained importance in this floating exchange rate system. The present study aims to capture the volatility of exchange rate and uncertainty with specific reference to INR and USD based on the 14 years data (1999-2013).

Review of Literature

Brief review of literature on exchange rate volatility is done in this section. Tamim Bayoumia and Barry Eichengreen (1998)[5] attempted to link the theory of optimum currency areas to the exchange rates of the industrial countries. Countries with more variable exchange rates are subject to larger asymmetric shocks. Those with more stable rates suffer the greatest reduction in the transaction value of the domestic currency when their exchange rates vary, due to their small size and dependence on trade. While asymmetric shocks increase exchange rate variability by magnifying exchange market pressure, small size and trade dependence reduce exchange rate variability by prompting intervention.

John Cairns, Corrinne Ho, and Robert McCauley (2007)[6] the Australian and New Zealand dollars, with relatively high interest rates and large external liability positions, are hit hard by upsurges in global volatility. In contrast, even though interest rates are also high in Indonesia and the Philippines, the influence of rising global volatility may be offset to some extent by the ongoing contribution of the two economies' current account surpluses to their external positions. In the rest of Asia, generally lower interest rates and external surpluses tend to limit currency sensitivity to changes in global volatility.

Pasquale Della Corte (2007)[7], the predictive ability of the forward premium has substantial economic value in a dynamic portfolio allocation context and that stochastic volatility significantly outperforms the constant variance and GARCH (1, 1) models irrespective of the conditional mean specification. Combined forecasts formed using Bayesian Model Averaging also substantially outperform the random walk. These results are robust to reasonably high transaction costs and hold for all currencies both in-sample and out-of-sample.

Huchet-Bourdon, M. and J. Korinek (2011)[8], found that exchange rates have more impact of on exports of agriculture than that of manufacturing. One reason for this may be the relatively greater ease to change suppliers of agricultural goods than manufacturing owing to the fact that the former are more homogeneous than the latter. Additionally, price transmission mechanisms may be different in agriculture as compared with manufacturing or mining products. Short run exchange rate movements impact trade but

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their effect is difficult to interpret. Income is a strong driver of trade. A rise in national income leads to an increase in the value of domestic imports through the increased purchasing power of domestic consumers. Similarly, foreign income plays a significant role in determining domestic exports. Changes in Chinese income have a particularly strong effect on US agricultural exports to China. Chinese economic growth appears to be a key source of the United States-China bilateral agriculture trade surplus.

Yamini Karmarkar, Muskan Karamchandanic and Ashima Mantri (2012)[9], investigated the relationship between macro economic variables and exchange rate. A significant causal relation found between exchange rates and foreign exchange reserves, Sensex and reserve money. Bi-directional causality between exchange rates and other three macro-economic variables i.e. foreign exchange reserves, Sensex and RBI open market operations (net) was observed. India being a developing country, has its exchange rates still being affected mostly by the fundamental variables of the external sector, financial market and financial sector. But as found out there is a weak evidence in favour of Indian exchange rates being affected by the real sector.

Abdul Jalil Khan and Parvez Azim (2013)[10] aimed to capture volatility patterns using GARCH (1,1) models. It evaluates these models to obtain one-step-ahead forecast abilities by employing four major forecasting evaluation criteria, and compares two different currencies - the Pakistan rupee and the US dollar - as domestic and foreign currency-valued exchange rates, respectively. Foreign currency-valued exchange rate volatilities converge more rapidly than domestic ones, which implies that the former have a linear structure compared to the latter models in which forecasting is possible and easy. Volatility spikes remain independent of the base currency used to calculate exchange rate volatilities. This implies that foreign currency-valued exchange rates are not the major cause of various shocks in financial markets.

Anita Mirchandani (2013)[11], carried out research in order to investigate various macroeconomic variables leading to acute variations in the exchange rate of a currency. An attempt has been made to review the probable reasons for the depreciation of the Rupee and analyse different macro economic determinants that have impact on the volatility of exchange rate and their extent of correlation with the same. Indian Rupee has shown high volatility over the years. There are various probable reasons associated with it. India was receiving capital inflows even amidst continued global uncertainty in 2009-11 as its domestic outlook was positive. With domestic outlook also turning negative, Rupee depreciation was a natural outcome. Apart from lower capital inflows uncertainty over domestic economy has also made investors nervous over Indian economy which has further exaggerated depreciation pressures.

Kelechinnamdi and EbeleIfionu (2013)[12] examined exchange rate volatility over time (1970-2012) using the Generalized AutoregressiveConditionalHeteroscedasticity (AR GARCH) model of the Maximum Likelihood techniques. AR GARCH result showed that lagged (last year) exchange rate is significantly responsible for the dynamics

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of Naira/ Dollar exchange rate in Nigeria. ARCH and GARCH parameters indicate that exchange rate volatility shocks are rather persistent in Nigeria. It is found that exchange rate uncertainty has a direct relationship with current exchange rate in Nigeria. Further, the Granger causality test conducted revealed the direction of causality is more powerful and significant from exchange rate uncertainty to actual exchange rate in Nigeria.

Krishna Murari and Rajesh Sharma (2013)[13] aimed at finding out the crucial factors of the economy that cause impact on Indian rupee fluctuation against US dollar. Six factors have been identified to be specific to rupee fluctuation and are modelled with multivariate regression analysis. The result of analysis shows that these variables can explain the exchange rate dynamics to the extent of 94.8%. Only 5.2% of currency rate is because of the other factors influencing the dependent variable (Forex Reserve, Relative Inflation Rates, Interest Rates, Trade Balance, Foreign Institutional Investment, Money Supply,). Thus, the model seems to be a good fit for the currency rate of against US dollar.

Vandana Kotai (2013)[14] studied the intraday effects of a representative group of scheduled economic releases on five exchange rates: INR/USD, JPY/USD, EURO/USD, GBP/USD, and CNY/USD. It is found that the Indian currency market is more sensitive due to the external factors. Due to external and internal factors Indian currency market is more volatile and sensitive market compare to other countries.

Methodology

The present study attempts to describe the exchange rate volatility and exchange uncertainty in India with specific reference to INR vs USD. The study employs analytical research. The data has been collected from the website of Reserve Bank of India (RBI). Analysis is based on daily exchange rate of INR vs USD for past fourteen years - January 1999 to December 2013. The exchange rate volatility and exchange rate uncertainty in India has been analysed by using financial econometric models. Unit Root Tests (Augmented Dickey Fuller Test and Phillips-Parren Test) applied to test the stationarity of the time- series data, Auto Regressive Conditional Heteroscedasticity (ARCH), and Generalized Auto Regressive Conditional Heteroscedasticity (GARCH) models are applied to forecast and analyse the size of errors especially in case of volatility. Granger Causality test is used to forecast one time series data with another.

Equations developed to establish the relationship between actual exchange rate (σ_t) and exchange rage uncertainty (γ) are applied[15].

$$\sigma_t = \sum_{i=1}^{n} \pi_0 \gamma_{t-1} + \sum_{j=1}^{n} \pi_1 \sigma_{t-1} + \mu_{3t} \text{---------- (1)}$$

$$\gamma_t = \sum_{i=1}^{n} \Omega_0 \gamma_{t-1} + \sum_{j=1}^{n} \Omega_1 \sigma_{t-1} + \mu_{4t} \text{---------- (2)}$$

Where,

σ_t= Actual Exchange rate

γ_t= Exchange rate uncertainty

μ_{3t} and μ_{4t}= Uncorrelated by assumption

Results and Discussion

This section of the paper presents and analyses the empirical results. ARCH model suggests that heteroscedasticity or unequal variance may have an autoregressive structure such

[12] *Kelechi Nnamdi and EbeleIfionu, Exchange Rate Volatility and Exchange Rate Uncertainty in Nigeria: A Financial Econometric Analysis (1970- 2012), University of Port Harcourt, Nigeria, 2013, MPRA Paper No. 48316.*

[13] *Krishna Murari and Rajesh Sharma, OLS Modeling for Indian Rupee Fluctuations against US Dollar, Global Advanced Research Journal of Management and Business Studies, Vol. 2(12), December, 2013, pp. 559-566.*

[14] *Vandana Kotai, An Empirical Study on Currency volatility in Foreign Exchange Market, Global Journal of Management and Business Studies. ISSN 2248-9878 Volume 3, Number 8 (2013), pp. 897-904.*

[15] ***Source:** Kelechi Nnamdi and EbeleIfionu, Exchange Rate Volatility and Exchange Rate Uncertainty in Nigeria: A Financial Econometric Analysis (1970- 2012).*

that heteroscedasticity observed over different periods are uncorrelated. The estimation of the volatility and uncertainty of the exchange rate has been done by using ARCH, GARCH models and Granger Causality tests. The results of all the models used in the study to estimate the exchange rate volatility and exchange rate uncertainty in India are dealt in this section.

Unit Root for Stationarity: Results from Augmented Dickey- Fuller (ADF) and Phillips Perron (PP) unit root tests with the test level and with an intercept are shown in the Table 1. E-Views output is given in Appendix A to H.

Application of Augmented Dickey- Fuller (ADF) and Phillips-Perron (PP) tests shown in Table 1 indicates that the Unit Root Test results of actual exchange rate and exchange rate uncertainty in the model with the level and intercept shown insignificant results, but the model is integrated of the order one, I (1), implying that are stationary at their first difference.

AR GARCH Estimation Results: Estimation of volatility using AR GARCH model is given in the Table 2. E-Views output is given in Appendix J and K.

The results obtained as shown in the Table 2 (Appendix K) can be interpreted that this is a Maximum Likelihood (ML) estimation results. The output from the ARCH and GARCH estimation has been divided in to two parts i.e., the upper part shows the Standard Output for the Mean Equation, while the lower part named as Variance Equation which contains the Coefficients, Standard Errors, z-Statistics and ρ- values for the coefficients of the variance equation.

AR GARCH estimation from the Table 2 can be interpreted as; the t-statistic show that lagged (last year) exchange rate is significantly responsible for the dynamics of Rupee/ Dollar exchange rate in India. The overall summary statistics shows that, the R- squared of 0.997653 (99%) indicates that the model has a good fit for prediction and policy purposes. The F- statistic shows overall significance of the model, while the Durbin- Watson statistic of 1.967236 (which is nearest to the value of 2) indicates the absence of serial auto correlation in the model, whether positive or negative.

In this study, the sum of ARCH and the GARCH coefficients is used to capture the nature of volatility shocks over time. From the results shown in the Table 2, the sum of the ARCH and GARCH coefficients is not close to unity; this indicates that exchange rate volatility shocks are not quite consistent in India.

Table 1 - Unit Root Test of Stationarity Results

Test	Variables	Levels		Differences		Order of Integration
		t-statistic	Critical	t-statistic	Critical	
ADF	σ_t	0.236881	-3.431960*	-59.52240	-3.431961*	I(1)
	γ_t	0.300858	-3.432606*	-50.93883	-3.432606*	I(1)
PP	σ_t	0.063363	-3.431960*	-59.59624	-3.431961*	I(1)
	γ_t	0.159712	-3.432606*	-50.99119	-3.432606*	I(1)

* *Significance at 1%*

Table 2 - AR GARCH Estimation of Exchange Rate in India (1999-2013)

Independent Variable	Dependent Variable	
	σ_t (with GARCH)	σ_t (without GARCH)
π_0	0.054182 (3.239693)	-0.026002 (-3.630199)
σ_{t-1}	0.998788 (2715.614)	1.000528 (8114.204)
Statistics		
R-squared	0.997653	0.997656
F-statistics	386269.6	515782.8
D-W statistics	1.967236	1.973010
Variance Equation		
ARCH (1)	0.284102 (26.91089)	*Note: z values are shown in parentheses*
GARCH (1)	0.776119 (120.0366)	

Estimated relationship between the actual exchange rate and exchange rate uncertainty: Estimated relationship between the actual exchange rate and exchange rate uncertainty as proposed in equations (1) and (2), is shown as under:

σ_t = -0.045644+1.001160σ_{t-1} + -0.053930γ_t
---------- (3)

(-1.039063) (1048.788) (-1.880239)

R^2= 0.997660

F- Statistics= 775366.9

Durbin-Watson Statistics= 1.972887

γ_t = -0.069167+0.912578σ_{t-1} +0.001593σ_t
---------- (4)

(-6.695938) (135.1715) (7.099726)

R^2= 0.882156

F- Statistic= 13609.23

Durbin-Watson Statistics= 2.111968

Note: E-Views output used for equation 3 and 4 given in Appendix L and M.

In comparing between equations (3) and (4) above, it is shown that exchange rate uncertainty has a direct relationship with current exchange rate in India. This is evidence, that consciousness of lack of knowledge about present exchange rate or future possibilities of changes in the exchange rate by economic agents will definitely influence the current exchange rate, than the previous exchange rate. The overall summary statistics (R2, F-Statistics and D.W. Statistics) are supportive and shown the significant results.

4. The Granger Causality Test: A test of causality conducted is shown in Table 3. E-Views output is given in Appendix N.

Table 3 - Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Probabilty
γ_t does not Granger Cause σ_t	3638	7.14823	0.0008*
σ_t does not Granger Cause γ_t		96.4187	2.E-41

** Significance at 5%*

The results show that the direction of causality is more powerful and significant from exchange rate uncertainty to actual exchange rate in India. This finding supports the results of equation (3) and (4).

Conclusion

An attempt is made in the present study to describe and analyse the exchange rate volatility and its uncertainty in India with specific reference to exchange rate between INR vs USD for fourteen years - January 1999- December 2013. Lagged exchange rate is significantly responsible for dynamics in current exchange rate in India. It indicates that the prior information leads to ascertain the current exchange rate. The estimation of

volatility has been done by using the financial econometric models such as ARCH and GARCH. Granger Causality test results have shown that the direction of causality is more powerful and significant from exchange rate uncertainty to actual exchange rate in India. The financial econometric test results have indicated that volatility in the exchange rate was not only significant but also persistent in India over the study period.

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APPENDIX – E-VIEWS OUTPUT

A. Augmented Dickey- Fuller Unit Root Test on Exchange Rate
(Test for unit root in 1st difference level and equation test with intercept)

Null Hypothesis: D(σ) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic based on SIC, MAXLAG=0)				
			t-Statistic	**Prob.***
Augmented Dickey-Fuller test statistic			0.236881	0.9749
Test critical values:	1% level		-3.431960	
	5% level		-2.862137	
	10% level		-2.567131	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D($\sigma_{t,}$2)				
Method: Least Squares				
Date: 03/18/14 Time: 23:02				
Sample (adjusted): 1/04/1999 12/31/2013				
Included observations: 3640 after adjustments				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(σ (-1))	0.000190	0.000803	0.236881	0.8128
C	-0.003579	0.037817	-0.094636	0.9246
R-squared	0.000015	Mean dependent var		0.005337
Adjusted R-squared	-0.000259	S.D. dependent var		0.221399
S.E. of regression	0.221428	Akaike info criterion		-0.176892
Sum squared resid	178.3720	Schwarz criterion		-0.173485
Log likelihood	323.9428	Hannan-Quinn criter.		-0.175678
F-statistic	0.056112	Durbin-Watson stat		1.974187
Prob (F-statistic)	0.812763			

B. Augmented Dickey- Fuller Unit Root Test on Exchange Rate
(Test for unit root in level and equation test with intercept)

Null Hypothesis: D(σ) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic based on SIC, MAXLAG=0)				
			t-Statistic	**Prob.***
Augmented Dickey-Fuller test statistic			-59.52240	0.0001
Test critical values:	1% level		-3.431961	
	5% level		-2.862137	
	10% level		-2.567131	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D($\sigma_{t,}$2)				
Method: Least Squares				
Date: 03/18/14 Time: 23:04				
Sample (adjusted): 1/05/1999 12/31/2013				
Included observations: 3639 after adjustments				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(σ (-1))	-0.986927	0.016581	-59.52240	0.0000
C	0.005257	0.003672	1.431799	0.1523
R-squared	0.493448	Mean dependent var		-4.00E-05
Adjusted R-squared	0.493309	S.D. dependent var		0.311089
S.E. of regression	0.221440	Akaike info criterion		-0.176779
Sum squared resid	178.3431	Schwarz criterion		-0.173371
Log likelihood	323.6488	Hannan-Quinn criter.		-0.175565
F-statistic	3542.916	Durbin-Watson stat		1.998281
Prob (F-statistic)	0.000000			

C. Phillips- Perron Unit Roots Test on Exchange Rate
(Test for unit root in level and equation test with intercept)

Null Hypothesis: D(σ) has a unit root				
Exogenous: Constant				
Bandwidth: 12 (Newey-West using Bartlett kernel)				
			Adj. t-Stat	**Prob.***
Phillips-Perron test statistic			0.063363	0.9629
Test critical values:	1% level		-3.431960	
	5% level		-2.862137	
	10% level		-2.567131	
*MacKinnon (1996) one-sided p-values.				
Residual variance (no correction)				0.049003
HAC corrected variance (Bartlett kernel)				0.054700
Phillips-Perron Test Equation				
Dependent Variable: D($\sigma_{t,}$2)				
Method: Least Squares				
Date: 03/18/14 Time: 23:04				
Sample (adjusted): 1/04/1999 12/31/2013				
Included observations: 3640 after adjustments				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(σ (-1))	0.000190	0.000803	0.236881	0.8128
C	-0.003579	0.037817	-0.094636	0.9246
R-squared	0.000015	Mean dependent var		0.005337
Adjusted R-squared	-0.000259	S.D. dependent var		0.221399
S.E. of regression	0.221428	Akaike info criterion		-0.176892
Sum squared resid	178.3720	Schwarz criterion		-0.173485
Log likelihood	323.9428	Hannan-Quinn criter.		-0.175678
F-statistic	0.056112	Durbin-Watson stat		1.974187
Prob (F-statistic)	0.812763			

D. Phillips- Perron Unit Roots Test on Exchange Rate

(Test for unit root in 1st difference and equation test with intercept)

Null Hypothesis: D(σ) has a unit root				
Exogenous: Constant				
Bandwidth: 11 (Newey-West using Bartlett kernel)				
			Adj. t-Stat	**Prob.***
Phillips-Perron test statistic			-59.59624	0.0001
Test critical values:	1% level		-3.431961	
	5% level		-2.862137	
	10% level		-2.567131	
*MacKinnon (1996) one-sided p-values				
Residual variance (no correction)				0.049009
HAC corrected variance (Bartlett kernel)				0.052896
Phillips-Perron Test Equation				
Dependent Variable: D ($\sigma_{t,}$2)				
Method: Least Squares				
Date: 03/18/14 Time: 23:05				
Sample (adjusted): 1/05/1999 12/31/2013				
Included observations: 3639 after adjustments				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(σ (-1))	-0.986927	0.016581	-59.52240	0.0000
C	0.005257	0.003672	1.431799	0.1523
R-squared	0.493448	Mean dependent var		-4.00E-05
Adjusted R-squared	0.493309	S.D. dependent var		0.311089
S.E. of regression	0.221440	Akaike info criterion		-0.176779
Sum squared resid	178.3431	Schwarz criterion		-0.173371
Log likelihood	323.6488	Hannan-Quinn criter		-0.175565
F-statistic	3542.916	Durbin-Watson stat		1.998281
Prob (F-statistic)	0.000000			

E. Augmented Dickey- Fuller Unit Root Test on Exchange Rate Uncertainty
(Test for unit root in level and equation test with intercept)

Null Hypothesis: D(σ) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic based on SIC, MAXLAG=0)				
			t-Statistic	**Prob.***
Augmented Dickey-Fuller test statistic			0.300858	0.9784
Test critical values:	1% level		-3.432606	
	5% level		-2.862422	
	10% level		-2.567285	
*MacKinnon (1996) one-sided p-values				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D($\sigma_{t,}$2)				
Method: Least Squares				
Date: 03/18/14 Time: 23:11				
Sample: 1/01/2003 12/31/2013				
Included observations: 2671				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(σ (-1))	0.000291	0.000968	0.300858	0.7635
C	-0.008547	0.045935	-0.186077	0.8524
R-squared	0.000034	Mean dependent var		0.005192
Adjusted R-squared	-0.000341	S.D. dependent var		0.256276
S.E. of regression	0.256320	Akaike info criterion		0.115968
Sum squared resid	175.3531	Schwarz criterion		0.120378
Log likelihood	-152.8752	Hannan-Quinn criter		0.117564
F-statistic	0.090516	Durbin-Watson stat		1.972367
Prob (F-statistic)	0.763546			

F. Augmented Dickey- Fuller Unit Root Test on Exchange Rate Uncertainty
(Test for unit root in 1st difference and equation test with intercept)

Null Hypothesis: D(σ) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic based on SIC, MAXLAG=0)				
			t-Statistic	**Prob.***
Augmented Dickey-Fuller test statistic			-50.93883	0.0001
Test critical values:	1% level		-3.432606	
	5% level		-2.862422	
	10% level		-2.567285	
*MacKinnon (1996) one-sided p-values				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D($\sigma_{t,}$2)				
Method: Least Squares				
Date: 03/18/14 Time: 23:12				
Sample: 1/01/2003 12/31/2013				
Included observations: 2671				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(σ (-1))	-0.985920	0.019355	-50.93883	0.0000
C	0.005118	0.004960	1.031740	0.3023
R-squared	0.492948	Mean dependent var		-6.58E-05
Adjusted R-squared	0.492758	S.D. dependent var		0.359865
S.E. of regression	0.256299	Akaike info criterion		0.115804
Sum squared resid	175.3243	Schwarz criterion		0.120214
Log likelihood	-152.6558	Hannan-Quinn criter		0.117399
F-statistic	2594.764	Durbin-Watson stat		1.998080
Prob (F-statistic)	0.000000			

G. Phillips- Perron Unit Roots Test on Exchange Rate Uncertainty
(Test for unit root in level and equation test with intercept)

Null Hypothesis: D(σ) has a unit root				
Exogenous: Constant				
Bandwidth: 11 (Newey-West using Bartlett kernel)				
			Adj. t-Stat	**Prob.***
Phillips-Perron test statistic			0.159712	0.9700
Test critical values:	1% level		-3.432606	
	5% level		-2.862422	
	10% level		-2.567285	
*MacKinnon (1996) one-sided p-values				
Residual variance (no correction)				0.065651
HAC corrected variance (Bartlett kernel)				0.072412
Phillips-Perron Test Equation				
Dependent Variable: D($\sigma_{t,}$2)				
Method: Least Squares				
Date: 03/18/14 Time: 23:13				
Sample: 1/01/2003 12/31/2013				
Included observations: 2671				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(σ (-1))	0.000291	0.000968	0.300858	0.7635
C	-0.008547	0.045935	-0.186077	0.8524
R-squared	0.000034	Mean dependent var		0.005192
Adjusted R-squared	-0.000341	S.D. dependent var		0.256276
S.E. of regression	0.256320	Akaike info criterion		0.115968
Sum squared resid	175.3531	Schwarz criterion		0.120378
Log likelihood	-152.8752	Hannan-Quinn criter		0.117564
F-statistic	0.090516	Durbin-Watson stat		1.972367
Prob (F-statistic)	0.763546			

H. Phillips- Perron Unit Roots Test on Exchange Rate Uncertainty
(Test for unit root in 1st difference and equation test with intercept)

Null Hypothesis: D(σ) has a unit root				
Exogenous: Constant				
Bandwidth: 10 (Newey-West using Bartlett kernel)				
			Adj. t-Stat	**Prob.***
Phillips-Perron test statistic			-50.99119	0.0001
Test critical values:	1% level		-3.432606	
	5% level		-2.862422	
	10% level		-2.567285	
*MacKinnon (1996) one-sided p-values				
Residual variance (no correction)				0.065640
HAC corrected variance (Bartlett kernel)				0.070132
Phillips-Perron Test Equation				
Dependent Variable: D($\sigma_{t,}$2)				
Method: Least Squares				
Date: 03/18/14 Time: 23:13				
Sample: 1/01/2003 12/31/2013				
Included observations: 2671				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(σ (-1))	-0.985920	0.019355	-50.93883	0.0000
C	0.005118	0.004960	1.031740	0.3023
R-squared	0.492948	Mean dependent var		-6.58E-05
Adjusted R-squared	0.492758	S.D. dependent var		0.359865
S.E. of regression	0.256299	Akaike info criterion		0.115804
Sum squared resid	175.3243	Schwarz criterion		0.120214
Log likelihood	-152.6558	Hannan-Quinn criter		0.117399
F-statistic	2594.764	Durbin-Watson stat		1.998080
Prob (F-statistic)	0.000000			

I. AR Result

Dependent Variable: σ_t				
Method: Least Squares				
Date: 03/18/14 Time: 23:14				
Sample (adjusted): 1/04/1999 12/31/2013				
Included observations: 3640 after adjustments				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
π_0	-0.003579	0.037817	-0.094636	0.9246
σ_{t-1}	1.000190	0.000803	1244.850	0.0000
R-squared	0.997658	Mean dependent var		46.85121
Adjusted R-squared	0.997657	S.D. dependent var		4.574746
S.E. of regression	0.221428	Akaike info criterion		-0.176892
Sum squared resid	178.3720	Schwarz criterion		-0.173485
Log likelihood	323.9428	Hannan-Quinn criter		-0.175678
F-statistic	1549650.	Durbin-Watson stat		1.974187
Prob (F-statistic)	0.000000			

J. Estimated Arch Results

Dependent Variable: σ_t				
Method: ML - ARCH (Marquardt) - Normal distribution				
Date: 03/18/14 Time: 23:15				
Sample (adjusted): 1/04/1999 12/31/2013				
Included observations: 3640 after adjustments				
Convergence achieved after 78 iterations				
Presample variance: backcast (parameter = 0.7)				
GARCH = C(3) + C(4)*RESID(-1)^2				
Variable	**Coefficient**	**Std. Error**	**z-Statistic**	**Prob.**
π_0	-0.026002	0.007163	-3.630199	0.0003
σ_{t-1}	1.000528	0.000123	8114.204	0.0000
Variance Equation				
C	0.012512	0.000204	61.47774	0.0000
RESID(-1)^2	1.519289	0.037501	40.51323	0.0000
R-squared	0.997656	Mean dependent var		46.85121
Adjusted R-squared	0.997654	S.D. dependent var		4.574746
S.E. of regression	0.221592	Akaike info criterion		-0.634419
Sum squared resid	178.5388	Schwarz criterion		-0.627606
Log likelihood	1158.642	Hannan-Quinn criter		-0.631992
F-statistic	515782.8	Durbin-Watson stat		1.973010
Prob (F-statistic)	0.000000			

K. Estimated AR GARCHCH Results

Dependent Variable: σ_t				
Method: ML - ARCH (Marquardt) - Normal distribution				
Date: 03/18/14 Time: 23:16				
Sample (adjusted): 1/04/1999 12/31/2013				
Included observations: 3640 after adjustments				
Convergence achieved after 18 iterations				
Presample variance: backcast (parameter = 0.7)				
GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*GARCH(-1)				
Variable	**Coefficient**	**Std. Error**	**z-Statistic**	**Prob.**
π_0	0.054182	0.016724	3.239693	0.0012
μ_{t-1}^2	0.998788	0.000368	2715.614	0.0000
Variance Equation				
C	6.60E-05	7.25E-06	9.108431	0.0000
RESID(-1)^2	0.284102	0.010557	26.91089	0.0000
GARCH(-1)	0.776119	0.006466	120.0366	0.0000
R-squared	0.997653	Mean dependent var		46.85121
Adjusted R-squared	0.997650	S.D. dependent var		4.574746
S.E. of regression	0.221755	Akaike info criterion		-1.397617
Sum squared resid	178.7514	Schwarz criterion		-1.389101
Log likelihood	2548.663	Hannan-Quinn criter		-1.394584
F-statistic	386269.6	Durbin-Watson stat		1.967236
Prob (F-statistic)	0.000000			

L. Exchange Rate and Exchange Rate Uncertainty

Dependent Variable: σ_t				
Method: Least Squares				
Date: 03/18/14 Time: 23:24				
Sample (adjusted): 1/04/1999 12/31/2013				
Included observations: 3640 after adjustments				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-0.045644	0.043928	-1.039063	0.2988
σ_{t-1}	1.001160	0.000955	1048.788	0.0000
γ_t	-0.053930	0.028682	-1.880239	0.0602
R-squared	0.997660	Mean dependent var		46.85121
Adjusted R-squared	0.997659	S.D. dependent var		4.574746
S.E. of regression	0.221351	Akaike info criterion		-0.177314
Sum squared resid	178.1988	Schwarz criterion		-0.172204
Log likelihood	325.7110	Hannan-Quinn criter		-0.175494
F-statistic	775366.9	Durbin-Watson stat		1.972887
Prob (F-statistic)	0.000000			

M. Exchange Rate Uncertainty and Exchange Rate

Dependent Variable: σ_t				
Method: Least Squares				
Date: 03/18/14 Time: 23:25				
Sample (adjusted): 1/05/1999 12/31/2013				
Included observations: 3639 after adjustments				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-0.069167	0.010330	-6.695938	0.0000
γ_{t-1}	0.912578	0.006751	135.1715	0.0000
γ_t	0.001593	0.000224	7.099726	0.0000
R-squared	0.882156	Mean dependent var		0.062588
Adjusted R-squared	0.882092	S.D. dependent var		0.152064
S.E. of regression	0.052215	Akaike info criterion		-3.066056
Sum squared resid	9.913348	Schwarz criterion		-3.060945
Log likelihood	5581.689	Hannan-Quinn criter		-3.064236
F-statistic	13609.23	Durbin-Watson stat		2.111968
Prob (F-statistic)	0.000000			

N. Causality Test

Pair wise Granger Causality Tests			
Date: 03/18/14 Time: 23:26			
Sample: 1/01/1999 12/31/2013			
Lags: 2			
Null Hypothesis:	**Obs**	**F-Statistic**	**Prob.**
γ_t does not Granger Cause σ_t	3638	7.14823	0.0008
σ_t does not Granger Cause γ_t		96.4187	2.E-41

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Accounting and Assessment of Capital Expenditure of New Feeder Airport in India: A Case Study of Idukki Airport

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Idukki District was formed on 26th January 1972. The District consists of Devikulam, Udumbanchola and Peemedu Taluks of the erstwhile Kottayam District. The Kerala government wants to develop a feeder Airport at Idukki in PPP mode on DBFOT (Design Build Finance Operate and Transfer) basis. Idukki is a district of Kerela and was formed on 26th January 1972. The site selection process is done through Operational Capability, Capacity potential, Ground access, Development Costs. Initial technical feasibility study for site, for establishing a feeder airport at Idukki, was carried out by Airports Authority of India and has identified a site at ANNAKARA in Idukki District. The objective of master planning of the proposed feeder airport at Idukki is to plan the facilities confirming to norms set out by ICAO. The scope of the work is to calculate the capital expenditure. As it is a feeder airport, the critical aircraft is ATR 72 500 and the aerodrome category is CAT 3C instrument (non precision). The infrastructure required are as follows: Runway proposed : 2300 X 30 which will cost around 949 lakhs, Basic Strip : 2420 X 300 which will cost around 473 lakhs, Taxiways: 2 taxiways of 195 X 25 and 1 taxiway of 300 X 25 which will cost around 237 lakhs, Apron: 200 X 180 which will cost around 576 lakhs, RESA: 240 X 60 which will cost around 58 lakhs, Air side road: 6000 X 3.75 which will cost around 180 lakhs, Terminal building: 135 X 40 which will cost around 2295 lakhs, 9400 which will cost around 470 lakhs, Storm water drains: 5000 which will cost around 300 lakhs, Car park: 150 X 30 which will cost around 45 lakhs, The required area in acres is 518 acres. The grand total including construction cost, land cost, pre-construction cost and contingency is 10,015.

The Kerala government wants to develop a feeder Airport at Idukki in PPP mode on Design Build Finance Operate and Transfer

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basis. Idukki is a district of Kerela and was formed on 26th January 1972. Road transport is the only mode of transportation in Idukki both for moving goods and passengers. Nearest Airport: Madurai (Tamil Nadu): 140 km, Kochi: 190 km, Thiruvananthapuram: 265 km, Kozhikode: 315 km, Chennai (Tamil Nadu): 570 km. To achieve this objective, the Consultant, ICA & S has been appointed to prepare a Techno-Economics Feasibility Report, Master Plan of the Project, to carry out economic and financial analysis and work out the economic and financial rate of return for the project, Examine and establish the feasibility of financing the project on various modes with least cash / non-cash contribution from Government of Kerala. Looking on how popular regional airports have become in recent years, as per survey by the civil aviation authority (CAA) which indicates that a huge 95 million holiday makers hopped on a flight at a regional airport- a 9% increase compared with the 87 million people who used a local hub two years previously. Growth at a bigger airports, such as Heathrow, saw a slower rate of growth indicating that a number of travelers may be ditching the major hubs for somewhere closer to home.

Regional airports are located to small and mid sized cities and big towns. Bristol, Bournemouth, Durham tees valley are just few examples. Some of these such as back pool used to operate only to accommodate planes carrying industrial cargo. However, more and more hubs are opening up their runways to passenger's airlines, offering greater choice for travelers who are less keen on joining the masses at bigger London and Manchester based airports. So how exactly are regional airports different to the likes of Gatwick and Edinburgh? According to FAA, they are likely to be less busy than their larger counterparts as they are situated in areas with less busy than their populations. Of course, this will mean that we will not always find the sheer variety of shops and amenities located in the major hubs at regional airports but if we are there just to fly we won't find this to be much of a problem. A few years ago when most of the people would probably have said that another major difference is the destinations served by local airports. While it is true that due to physical size it is impossible for regional airports to lay on the same number of flights as the major city airports, regional hubs are increasingly expanding their operations.

As regional airports have become more popular, they have increasingly attracted interest from big companies looking to cash in . several local hubs are getting involved in big money deals, which will serve to attract more investment and improve facilities ever further.

As per minister of civil aviation report on regional airport the civil aviation minister has decided to refer to the cabinet the proposal to commercially develop regional airports through private participation after differences emerged within the government over who should retain the terminal buildings.

A report from India aviation consulting says that the Indian aviation is one of the world's fastest growing aviation industries. With the liberalization of the sector in the mid 1990 the aviation industry witnessed many private players entering the market, which led to the growth in the industry both in terms of players and number of aircrafts. The industry is witnessing continued growth on the back of strong demand from the domestic Passengers growth in domestic tourism in the country, increasing number of low fare airlines and rising outbound travel from India. Further the government initiatives such as opening new international routes, modernizing non metro airports regional airports developing new airports as well ad renovating the existing ones have also helped in the growth of the aviation industry (India aviation consulting 2010).

Research Methodology

The assessment of capital expenditure of an airport is an essential element in assessing major facility improvements and long term

capital investment decisions at an airport. This study is a descriptive study which aims at assessing the capital expenditure of the feeder airport at Idukki . A study of multiple regional airport capital expenditure will be used in this study .

The selection of a suitable site for an airport depends upon the class of airport under consideration. However if such factors as required for the selection of the largest facility are considered the development of the airport by stages will be made easier and economical. The factors listed below are for the selection of a suitable site for a major airport installation:

1. regional plan
2. airport use
3. proximity to other airport
4. ground accessibility
5. topography
6. obstructions
7. visibility
8. wind
9. noise nuisance
10. grading, drainage and soil characteristics
11. future development
12. availability of utilities from town
13. economic consideration

Objectives:

To predict the aviation demand forecast.

To Plan the capital expenditure of the airport.

To Forecast the depreciation, revenue and Total expenditure

Data Analysis

Technical Feasibility of Site:Initial technical feasibility study for site, for establishing a feeder airport at Idukki, was carried out by Airports Authority of India and has identified a site at ANNAKARA in Idukki District.

The salient features of the site are:

The proposed site is located on a plateau. The site look like table top in NE side

High ground on all sides, this necessitates extensive cutting and filling

Non-availability of plain land of required length (i.e. 2300m) for runway due to existence of a major road in the south-west direction and high ground and Nettittoluvu villege in north-east side

A road passes through the proposed runway breadth-wise which will require diversion

The basic strip when plotted on the chart, depicts two church buildings falling in the basic strip these will require shifting

The runway orientation is determined based on the wind data provided by the District Authorities, this needs to be confirmed from IMD

Due to hills on the north side of the airport the apron, control tower, fire station, terminal building and allied facilities needs to be located on the south side of the airport.

Hills of about 160m AGL in height exists in the Inner Horizontal surface IHS at a distance of about 1200m, therefore non-precision approach procedure will have high Obstacle Clearance Altitude (OCA) thereby requiring higher visibility requirements for operating at the airport.

The feasibility of the site is constrained by the points mentioned above especially the points highlighted in green. KSIDC should consider if the above mentioned constrained can be removed.

However detail survey for Obstruction Limitation Surface (OLS) will have to be done for technical suitability of the site.

Runway Strip (Basic strip): "Runway strip is a defined area at the aerodrome including the runway intended:

a) To reduce the risk of damage to aircraft running off the runway; and
b) To protect aircraft flying over it during take-off and landing operations.

The basic strip of the runway is 2420 × 300. A runway and any associated stop ways are to be centrally located within a runway strip. This is an area provided both to reduce the risk of damage to aircraft running off a runway and also to provide obstacle free airspace

for aircraft flying over the area during take-off or landing operations. The runway strip, therefore, comprises a graded and obstacle free area specially prepared to minimize damage to aircraft. The whole width of this runway strip is a graded area.

	How is it calculated	Quantity	Rate	Fig in lakhs
Runway strip	Basic strip (2420× 300) – runway (2300×30)	657000 acres	72	473 lakhs

Length of runway strip: The length of the strip is 2420m. A strip shall extend before the threshold and beyond the end of the runway or stop way for a distance of at least 60m Width of runway strips: The width of the strip is 300 m, 150 m on both the sides.

RESA

Runway End Safety Area (RESA) is defined as an area symmetrical about the extended runway centre line and adjacent to the end of the strip primarily intended to reduce the risk of damage to an Aeroplane undershooting or overrunning the runway. RESA is considered mandatory as per DGCA CAR, and it should as far as practicable extend from the end of the Runway Strip to a distance of 90M, and its width shall be at least twice the width of the associated runway. RESA of dimension length at least 240m and width of 60m shall be provided on both end of the runway and will cost around 58 lakhs.

RUNWAY SHOULDER

Runway shoulder requirement:

Runway shoulder should be provided for a runway where the code letter is D or E, and the runway width is less than 60 m.

Width of runway shoulders:
The runway shoulders shall extend symmetrically on each side of the runway so that the overall width of the runway and its shoulders is not less than 60 m where the code letter is D or E.

TAXIWAY:
A taxiway is a defined path on an aerodrome provided for the safe and expeditious surface movement of aircraft between aprons and holding bays and runways.

There is a proposal to have three taxiways in this airport. Two taxiways will connect the main Apron to the runway and third taxiway will connect the isolation bay to the runway. Details are given below:

Table of Taxiways:

DESIGNATION	LENGTH X WIDTH	SURFACE
Taxiway A	195*25	Transitional Surface
Taxiway B	195*25	Transitional Surface
Taxiway C	300*25	Transitional Surface

Two taxi way joining the runway with apron length of taxi way 195m from runway edge and one taxi track joining the runway with isolation aircraft stand length of taxi way 300m from runway edge. A straight portion of a taxi way shall have a width 25m and the cost of it will be around 237 lakhs.

Width of taxiways: A straight portion of taxi way shall have a width of not less that given by the following tabulation:

Code letter	Taxiway width
A	7.5m
B	10.5 m
C	15 m if the taxiway is intended to be used by aeroplanes with a wheel base less than 18 m 18 m if the taxiway is intended to be used by aeroplanes with a wheel base equal to or greater than 18 m.
D	18 m if the taxiway is intended to be used by aeroplane with an outer main gear wheel span of less than 9 m; 23 m if the taxiway is intended to be used by aeroplanes with an outer main gear wheel span equal to or greater than 9 m.
E	23 m

Slopes on Taxiway: The Longitudinal and Lateral (Transverse) Slopes for taxiway are to be designed as per ICAO/ DGCA requirements and then measured. The DGCA & ICAO requirements for Longitudinal Slope for Taxiway are 'Not to exceed 1.5%' and 'The Lateral (Transverse) Slope not to exceed 1.5%' for Taxiway for Code 'C', 'D', 'E' or 'F'.

Apron and Isolation Bay:Apron of size 200 X 180 m for is planned adjacent to the proposed terminal building to accommodate two numbers of ATR-72-500 aircraft with Power in /power out capability and will cost around 576 lakhs and isolation bay of size 60 X 60 m shall be provided and will cost around 72 lakhs. The isolation aircraft parking position shall be located at the maximum distance practicable and in any case never less than 100m from other parking positions, buildings or public areas, etc.

ATC tower: An air traffic control tower along with ATC offices of 20 X 20 M dimension with a height of 20m for a clear visual observation is proposed at Idukki airport.

Communication facilities in control tower: A very high frequency (VHF) transmitter and receiver for two way communication between aircraft and ATC shall be provided. The frequency of the VHF shall be decided in co ordination with airports authority of India.

Radio navigational aid (NDB): One non directional beacon is proposed to be installed at Idukki airport. The location of the NDB is proposed at the south side of the proposed end of the runway.

Fire station, watch tower, static tanks:The fire station will be of 50 X 25 m along with watch tower, static tank and motor work shop.

Passenger terminal building:Idukki airport is proposed to develop for ATR 72 aircraft under category 3C instrument non precision. The maximum passenger capacity of this aircraft is 70 seats. Therefore, the terminal building at Idukki is planned to cater around 300 passengers (150 + 150 departure) at a time. As per IMG (inter ministerial group) norms, the average area required is 18 sq m per passenger. By keeping provision for other facilities to be installed in the building, the dimension of terminal building is proposed is 135 X 40 i.e 5400 sq. m.

Car park and bus-park:A car park of 150 X 30 m at a minimum distance of 100 m away from passenger terminal building for an average of 100 cars is proposed at Idukki airport and will cost around 45 lakhs.

Fuel farm:

For refueling the aircrafts there is a fuel farm proposed at an appropriate place.

Fire station:

A fire station of 50 * 25 m is also planned. The airports fire station is strategically located to ensure full emergency response to any airside location within 2 to 3 minutes of an emergency site and is located adjacent to the runways.

Level of protection to be provided: Aerodrome is proposed to cater ATR 72 aircraft operation. Overall length of ATR 72 is 27.1 m and fuelage width is 2.7m, reference table 9.1 CAR, aerodrome category for ARFF will be 5.

As per para 9.2.37 of CAR number of rescue and fire fighting vehicle is one.

The para 9.2.37: In determining the number of personnel required to provide for rescue, consideration should be given to the types of aircraft using the aerodrome.

Emergency access roads: Emergency access roads should be provided on an aerodrome in approach areas up to 1000 m from the threshold, or at least within the aerodrome boundary. When a fence is provided, the need for convenient access to outside areas should be taken into account.

Boundary wall: A brick wall of 8 feet height with 1.5 feet barked fence on the wall is mandatory BCAS norm for airport perimeter wall. The length of the boundary wall is 9400m.

Wind Socks: At least 2 wind socks need to be provided at both the end of runway.

Other Amenities:Other basic facilities like Power House, Water treatment Plant, Admin Block etc. are to be designed at a suitable place accordingly.

Obstacle Restriction and Removal: The objective of the specifications of obstacle limitation surfaces is to define the airspace around an aerodrome to be maintained free from obstacle so as to permit aircraft operations safely. Obstacle limitation surfaces associated with runway surfaces are imaginary surfaces associated with runway surfaces that define the limits of the aerodrome airspace above which an object becomes obstacles to aircraft operations.

The following obstacle limitation surfaces shall be established for a non instrument runway:

1. Conical surface
2. Inner horizontal surface
3. Approach surface
4. Transitional surface

Any object/ structure protruding above the said surfaces shall be regarded as obstacle. As far as practicable such obstacle should be removed / reduced in height and where it is not feasible, such obstacles should be marked for day operation and provided with obstruction lighting for night time operation.

Ministry of civil aviation has also issued SO 84E dated January 2010 for control and removal of obstruction.

Detail obstacles survey of the site need to be done and the object forming obstacle should be identified. The objects which need to be removed or relocated will form part of the plan.

Power:Power line and telecom is available in the area. The availability of power is adequate.

Conceptual Model

The preliminary assessment of the project provides that there would be issues such as Rehabilitation and resettlement, environment issues and other matters which need to be looked at in detail and would require reasonable time period for detailed assessment.

The feasibility study would be taken up subsequently to this report which would include the master plan for the airport. The study would also include analysis of Rehabilitation and resettlement issues, environment issues and other matters associated with airport.

It's also been found out that the Capital expenditure grand total including construction cost, land cost, pre construction cost and consistency will be around 10,015 lakhs.

The total revenue is found to be as given in the table below:

Years	Aeronautical revenue (in lakhs)	Non aeronautical revenue (in lakhs)	Total aeronautical & non aeronautical (in Lakhs)
1	241	331	572
2	277	341	619
3	236	351	588
4	285	362	647
5	276	373	649
6	321	384	705
7	310	395	705
8	364	407	772
9	360	420	780
10	432	432	864
11	454	445	899
12	477	458	935
13	500	472	973
14	525	486	1012
15	552	501	1053

The total expenditure which includes Staff cost, operating cost, administrative cost, repair & maintenance cost and energy cost is shown in the table

Year	Amount
1	258
2	274
3	292
4	311
5	331
6	352
7	375
8	399
9	425
10	452
11	482
12	513
13	547
14	583
15	622

The project capital cost will be around 10,015 lakhs.

Conclusion

Idukki District is a district of Kerela. A landlocked district, Idukki is one of the most nature rich areas of Kerala. Road transport is the only mode of transportation in Idukki- both for moving goods and passengers. The nearest airport is Madurai (Tamil Nadu) is 140 km, Rail is Kottayam: 114 km (4 hrs), Road is Kottayam - Kumily 110 km (4 hrs).

This study is created to identify the capital expenditure of the airport, depreciation, revenue and the total expenditure and calculating the financials of the airport for 15 years. And it is found out that the Grand total including construction cost, land cost, pre construction cost and contingency is 10,015 lakhs.

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Airport : IDUKKI								*IDUKKI - CAPEX*
Infrastructure Existing				**Infrastucture Planned**		Length	Width	
Area(in Areas) of the existing airfield				basic strip		2420	300	
Runways	0	0		runway Proposed		2300	30	
Taxiways				Taxiways	2	195	25	
Terminal building					1	300	25	
Boundary wall (running meters)	0			Apron(meters)	1	200	180	
Estimated Traffic (current)/year	**96500**			Terminal Building		135	40	
%growth 1st to 5th year	15%			Air side Roads (meters)		6000	3.75	
% growth 6th to 10th year	8%			city side roads(meters)		600	7	
				Car park(meters)		150	30	
land available(acres)	0			Storm water Drains(running meters)		5000		
Land required	518			Boundary wall (running meters)		9400		
Additional land required	518			Isolation Bay		60	60	
				Airline Counters		2		
Cost of land as provided to IAC&S	500000			Security counters		2		
				terminal seating capacity(no of 3 seaters)		150		
				Fire station Cat V - 4*5*10+4*4+4*4+4*4+4*4		50	25	
				RESA	2	240	60	
				Area in acres proposed/required			518	
	unit acres	**number**	**specifications**	**quantity**	**rate**	**cost**		fig in lakhs
Land	acres			518	500,000	259,000,000		2,590
Airside								
Site development (basic strip less runway)	sqm			657,000	72	47,304,000		473
Runway constuction	sqm			69,000	1,375	94,875,000		949
Taxiway	sqm	3		17,250	1,375	23,718,750		237
Apron	sqm	1		36,000	1,600	57,600,000		576
Airside roads	RM			22,500	800	18,000,000		180
Storm water drainage	RM			5,000	6,000	30,000,000		300
Airfield ground lighting details	Lump Sum					16,600,000		166
Other utility buildings, fire station, NDB building	Lump Sum					5,000,000		50
Fire & rescue equipment	Lump Sum					35,000,000		350
Boundary wall RM				9,400	5,000	47,000,000		470
Control tower with lift				1,000	15,000	15,000,000		150
RESA				28,800	200	5,760,000		58
Paremeter lighting						5,000,000		50
Isolation bay		1		3,600	2,000	7,200,000		72
ARP, Signal Square, Coling Pit, Wind Sock etc	Lump Sum					50,000		1
Security Watch Tower		6			200,000	1,200,000		12
Miscellaneous						1,000,000		10
Sub total						669,307,750		6,693
Terminal Building and installations								
Terminal Building	sqm			5,400	42,500	229,500,000		2,295
Baggage handing system	lump sum			0	1,000,000	0		10
Screening Equipment	lump sum			0	6,000,000	0		60
Flight Information/PA system	lump sum			0	1,000,000	0		10
Control room equipement	lump sum			0	1,500,000	0		15
IT equipment	lump sum			0	250,000	0		3
Communication CNS(inclu NDB, DVTR, BEACON)	lump sum			0	2,000,000	0		20
Counter airlines	Ns			0	150,000	0		2
Counter security	Nos			0	150,000	0		2
Seating	nos			0	2,000	0		0
VIP Room furnishing	Nos			0	1,000,000	0		10
Furniture etc	lump sum			0	1,000,000	0		10
Miscellaneous	lump sum			0	750,000	0		8
Sub total						229,500,000		2,295
City side								
Car park 50 cars	sqm			4,500	1,000	4,500,000		45
Roads	sqm			4,200	1,000	4,200,000		42
Landscape	sqm					2,500,000		25
Miscellaneous	lump sum					750,000		8
Sub total						11,950,000		120
Other buildings								
Power plant, power house, DG sets etc	lump sum					7,500,000		75
Sewerage Treatment Plant	lump sum					1,600,000		16
Housing (Airport Operational & security Staff)	nil					0		0
Rain housing Harvesting	lump sum					2,000,000		20
Sub total						11,100,000		111
Total						921,857,750		9,219
Contingency @	**3%**					27,655,733		277
Total						894,202,018		8,942
Preconstruction cost on total cost @	12%					107,304,242		1,073
Grand total including constuction cost , land cost, pre constuction cost and contingency						1,001,506,260		10,015

Airport Idukki										*Idukki - computation of depreciation*							
DEPRECIATION	***COST***	***% RATE***	**Yr 1**	**Yr 2**	**Yr 3**	**Yr 4**	**Yr 5**	**Yr 6**	**Yr 7**	**Yr 8**	**Yr 9**	**Yr 10**	**Yr 11**	**Yr 12**	**Yr 13**	**Yr 14**	**Yr 15**
		of dep	dep														
Land			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Airside																	
Side development	473	0	0														
Runway	949	0	0														
Taxiway	237	0	0														
Apron	576	0	0														
Airside roads	180	0	0														
Storm water drainage	300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Airfield ground lighting	166	15	25	25	25	25	25	25	16	0	0	0	0	0	0	0	0
Other utility buildings	50	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Fire & rescue equipments	350	15	53	53	53	53	53	53	32	0	0	0	0	0	0	0	0
Compound wall	470	4	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Control tower with lift	150	15	23	18	18	18	18	18	12	0	0	0	0	0	0	0	0
RESA	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parameter lighting	50	15	8	8	8	8	8	8	2	0	0	0	0	0	0	0	0
Isolation bay	72	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Miscellaneous	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub total	**4,091**	**%**	**131**	**128**	**128**	**128**	**128**	**128**	**86**	**24**	**24**	**24**	**24**	**24**	**24**	**24**	**24**
TERMINAL BUILDING																	
Terminal building	2,295	4	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Baggage handling system	10	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Screening equipment	60	15	9	9	9	9	9	9	6	0	0	0	0	0	0	0	0
Flight information /PA system	10	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Control room equipment	15	15	2	2	2	2	2	2	2	1	0	0		0	0	0	0
IT equipment	3	20	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Communication	20	15	3	3	3	3	3	3	2	0	0	0	0	0	0	0	0
Counters airlines	2	10	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Counters security	2	10	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Seating	0	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous	8	10	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
Sub total	**2,423**	**%**	**113**	**112**	**112**	**109**	**109**	**109**	**105**	**96**	**94**	**94**	**94**	**94**	**94**	**94**	**94**
Land side																	
Car park	45	0	0										0	0	0	0	0
Roads city side	42	0	0										0	0	0	0	0
Landscape	25	0	0										0	0	0	0	0
Miscellaneous	8	10	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
Sub total (land side)	**120**	**%**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Other buildings																	
Power plant	75	15	11	8	8	8	8	8	2	0	0	0	0	0	0	0	0
Water treatment plant	16	10	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0
Housing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rain water harvesting	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub total (other buildings)	**111**		**13**	**10**	**10**	**10**	**10**	**10**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL DEPRECIATION	**6,744**	**%**	**257**	**250**	**251**	**248**	**248**	**248**	**196**	**123**	**118**	**118**	**118**	**118**	**118**	**118**	**118**

Airport Idukki												IDUKKI- EXPENDITURE				
Staffing Cost																
								Rate	MNTHLY	YEARLY	Rs. In Lacs					
	Building	ATC	Fire	Security	CNS		Total	(CTC)	Cost (Lac)							
Staff Cost																
Airport Director	1						1	75,000	75,000	900,000	9.00					
Manager	1	1	0		1		3	50,000	150,000	1,800,000	18.00					
Astt. Manager	2	2	2		1		7	40,000	280,000	3,360,000	33.60					
Asistants	2	2	0				4	25,000	100,000	1,200,000	12.00					
Housekeeping	2	0	0				2	20,000	40,000	480,000	4.80					
Fire operators	0	0	8				8	20,000	160,000	1,920,000	19.20					
Mechanics	1	0	1				2	15,000	30,000	360,000	3.60					
Office Boy	2	2			1		5	6,000	30,000	360,000	3.60					
AE Electrical	1						1	30,000	30,000	360,000	3.60					
AE Civil	1						1	30,000	30,000	360,000	3.60					
Office Staff	6						6	15,000	90,000	1,080,000	10.80					
Driver	5						5	8,000	40,000	480,000	4.80					
	24	7	11	0	3	0	45		1,055,000	12,660,000	126.60					
STAFF COST		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15
	7%	127	135	145	155	166	178	190	203	218	233	249	266	285	305	326
Operating Cost																
							Annual									
Housekeeping/Cleaning						20,000.00	240,000.00									
Fuel	200	200	300	250	950	60.00	684,000.00									
Office Exp						5,000.00	60,000.00									
Tele						5,000.00	60,000.00									
Insurance						30,000.00	360,000.00									
Misc						20,000.00	240,000.00									
TOTAL							1,644,000.00									
Total in Lacs							16.44									
OPERATING COST																
		yr 1	yr 2	yr 3	yr 4	yr 5	yr 6	yr 7	yr 8	yr 9	yr 10	yr 11	yr 12	yr 13	yr 14	yr 15
	10%	16	18	20	22	24	26	29	32	35	39	43	47	52	57	62
Administrative Costs																
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15
Rs 25,000 per month	10%	3.00	3.30	3.63	3.99	4.39	4.83	5.31	5.85	6.43	7.07	7.78	8.56	9.42	10.36	11.39
Repair & Maintenance Cost																
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15
Repair & Maintenance - 1% of CAPEX	5%	92	97	101	107	112	117	123	129	136	143	150	157	165	173	182
Energy Costs																
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15
Rs 20.00 Lac / year - Actuals at Similar Airports	5%	20	21	22	23	24	26	27	28	30	31	33	34	36	38	40
TOTAL EXPENDITURE		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15
		258	274	292	311	331	352	375	399	425	452	482	513	547	583	622

Airport : Idukki

IDUKKI- FINANCIALS

								Financials for Idukki Airports									
				Central VGF	20%		Equity	40%		ADF	250	Airport	CISF / ESCRO	Collection Charge			
Estimated Passenger Numbers in 1st Year			96500	State VGF	20%		Debt	60%		UDF	250	85	200	7			
CAPEX	**8,942**																
Pre-Construction Expenses @12% (Engg Consultancy(4.5%), Insu (1.0%), Legal &Fin (1.0%), PMC (2.5%), Interst during Construction (2%) + Contingencies(1%)	**1073.04**																
PROJECT CAPITAL COST	**10,015**																
VGF - Central, Plng Commi. @ 20%	**2003.01**																
VGF - State Govt @ 20%	**2003.01**																
Private Investment (PPP)	**6,009**																
Equity	**2403.61**																
Debt	**3605.42**																
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15
Revenue																	
Aeronautical Revenue			241	277	236	285	276	321	310	364	360	432	454	477	500	525	552
Non Aeronautical REVENUE	3% Growth		331	341	351	362	373	384	395	407	420	432	445	458	472	486	501
TOTAL REVENUE			**572**	**619**	**588**	**647**	**649**	**705**	**705**	**772**	**780**	**864**	**899**	**935**	**973**	**1012**	**1053**
Expenditure			258	274	292	311	331	352	375	399	425	452	482	513	547	583	622
Depreciation			257	250	251	248	248	248	196	123	118	118	118	118	118	118	118
Financing Costs			433	52	6	1	0	0	0	0	0	0	0	67	30	-11	-56
TOTAL EXPENDITURE			**948**	**577**	**549**	**559**	**578**	**599**	**570**	**522**	**543**	**570**	**600**	**699**	**696**	**691**	**685**
PROFITABILITY																	
PBT			-376	42	39	88	70	105	135	250	237	294	299	236	277	321	368
Income Tax (MAT)			0	8	8	18	14	21	27	50	47	59	60	47	55	64	74
PAT			-376	34	31	70	56	84	108	200	190	235	239	189	222	257	295
Cash In/ Out Flow			-118	284	282	318	304	332	304	323	308	353	357	307	340	375	413
Opening Balance of Debt			3605	3724	3440	3158	2840	2536	2204	1900	1577	1269	916	559	251	-88	-463
Deficit met out of short term Debts			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Repayment of Debt			-118	284	282	318	304	332	304	323	308	353	357	307	340	375	413
Closing Balance of Debt			3724	3440	3158	2840	2536	2204	1900	1577	1269	916	559	251	-88	-463	-876
Equity Invested with 12% Interest			2403.61	2692.05	3015.09	3376.91	3782.13	4235.99	4744.31	5313.63							
NOTE : ADF																	
UDF																	

Options:	**Factors for Reduced Cost of Airport:**
Addition Land for Commercial Development	Runway Planned 1650 for Category 2C Operations
Annual Subsidy	Building cost low with minimum facilities and simple design for viability purposes
Increased building for more commercial activity - CAPEX also goes up	No Aerobridges
Increased initial subsidy	No BHS - only Gravity rollers for arrival baggage
ADF increase to 500 But Fare not attractive - reduced traffic - CAN Kill Airline & Airport	Building size good enough for 10 years with projected traffic growth
	Initially only PAPI and simple approach like provided for saving Runway Light Cost

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A Study into the Working Environment of Conventional & Islamic Banks in Peshawar - Pakistan

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Employee's satisfaction leads to success of the business in most of the cases and the Islamic banking system has the potential to grab the business of the whole market giving more room for expansions and enhancement in the quality service.

The study intends to analyze and explain the working environment prevailing at the designated branches of Conventional and Islamic banks in the city of Peshawar, Pakistan. The main theme of this paper is to is orient the reader about the employees perceptions in terms of the working environment and atmosphere and provide recommendations for bringing further amelioration in employees motivation and efficiency in the banking industry.

creating different work environment for employees of both the banking systems. Data was collected through questionnaires, formal and informal interviews of the employees working in Conventional and Islamic banking industry in Peshawar, KPK.

Quite diverse patterns associated with the employees working environment in Conventional and Islamic banking system were identified and discussed. Findings of the study are examined in relation to religious inclination of the employees and allied dimension pertaining to the banking industry have been explored during the study proceedings.

However, it is important to mention that generalizations of the results should be carefully considered keeping in view the sensitive implications. Further research in the area of Islamic banking industry which is still in its infancy stage in the province is highly suggested. The study revealed that religious inclination is the single most important factor observed during the study for employee's satisfaction in the Islamic banking industry.

Banking services throughout the world are organized to deliver business facilities to its

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clientele and to ultimately add and foster the growth of economic development in the business and financial avenues of a country.

Employees are the vital ingredient for the success of a vibrant banking industry and their performance affects the working of banks from every perspective. The banks are structured in such a way that employees services are meant for effective delivery of business and financial services to the clientele. The favorable working environment when provided to employees in a bank results in streamlined functioning of banking services. This section compares the existing working environment in the two banking systems under study. It explains why the Islamic banking sector is more efficient than the Conventional banking sector.

The existing literature on organizational theory indicates that these concepts have a strong bearing on the effectiveness of an agency. Leonard (1977) postulates that 'increased supervisory pressure usually results in a reduction in the amount of work done'.

It is usually observed that the more authoritarian supervisor is generally less effective. Connor (1980) argues that every organization has a structure that is designed to perform certain functions in pursuing its goals. Moreover, the design of an organization has a bearing on the enterprise's situation or a set of conditions within which its members function or work, which is termed as organizational working environment.

Conducive working environment within an organization is essential for its proper functioning. Exploring and explaining the prevailing working environment within an organization thus requires organizational theory. Various organizational theories exist which are widely used in analyzing the organizations depending upon their peculiar nature and type.

Keeping in view the functions of banking system, two theories, bureaucracy and human relations, were thought to be useful in comprehending the prevailing working environment in the two systems under study.

The reason for employing these theories is that both theories consider an organization from totally different perspectives.

Taylor & Jeremy 1993) says that classical organizational theory-bureaucracy-concentrates on how organizations are structured and managed. In this regard, Weber's bureaucracy model is considered as an ideal type of organization and is regarded as the 'most efficient form of organizations'.

Gibbons (1980) observed that the Weber's theory of bureaucracy revolves around the notion of a clearly defined hierarchy of authority and centralization. The division of labor within a bureaucratic system is based on the specialized task performed.

Ready (1981) described the proponents of human relations organization theory and consider organization in the perspective of faith in people. They emphasize that members of an organization must be nurtured in order to grow and develop and suggest that originations must regard its members as human capital assets (Schultz 1971). Nevertheless, opponents of human relation organization theory argue that it underestimates the influence of external forces on people and organizations.

In the ultimate conclusion, the two theories are diametrically opposed. Weber's bureaucratic form of organization advocates a hierarchy of authority with a vertical chain of command from top to bottom. In this form of organization, technical and administrative issues are governed through rules and regulations. In brief, it is a form of organization dominated by formalization and centralization.

In contrast to bureaucracy, human relations organization theory is employee centered, decentralized and more flexible. It suggests the involvement of people at all levels of the

organization. Likert provides a useful view of organizations by incorporating elements of both bureaucracy and human organization theories into a typology of organizational systems.

The Table summarizes Likerts 'Normative model of four types of organization's management systems.

Likert's idealized system types

Attributes	System 1 Autocratic	System 2 Bureaucracy	System 3 Consultative	System 4 Participative
Leadership Style	Autocratic	Manipulative	Consultative	Participative
Basis of Motivation	Threats and	Rewards	Involvement and	Punishment side
Communication patterns	Rewards Downward mostly	Up and down Mostly at the top	rewards Up and down	ways downward
Decision Making	At the top	Orders,	Greater delegation	
Goals Setting	Orders	Formal	Surveillance and	All levels involved
Control Mechanism	Formal Surveillance from the top	Surveillance from the top	self-guidance	By group action comments invited Informal self-guidance

Sources: Organizational theory: A Strategic Approach By: Narayanan and Nath.

Systems 1 and 4 are at the very extreme ends and are perhaps best considered as ideal types that rarely exist in practice anywhere in the world.

System 1 is purely an autocratic organization while system 4 is purely democratic. For the purpose of this research, system and 3 best represent organizational environment within Pakistani Banking Industry as these are neither solely autocratic nor democratic.

System 2 depicts the organizational structure of public sector banking in Pakistan.

Socio-economic context of the clientele:

It is useless to inform a subscriber about the development in banking services without considering his or her socio-economic context. This is especially true when the objective is to make the subscriber accept an innovation rather than just informing him or her about the new products.

It may be easy in homogenous populations but in reality, the banking community in Pakistan is very heterogeneous. Primary bases for this differentiation include education, income, and religious inclination, occupation. It is within the existing socio-economic situation of their clientele that banking system has to work.

The fixity of return on capital irrespective of the operation results of the business is unfair both to the user and the provider of funds. The borrower is required to pay interest irrespective of whether he earns profits or suffers losses. Non-payment of interest can have serious repercussions and may even lead to liquidation of the enterprise, which is neither in the interest of the entrepreneur nor in the interest of the economy as a whole.

The prevailing interest based financial system hampers capital formation and optimal allocation of scarce resources in the

economy. Islam, on the other hand, encourages productive activity and does not allow gain from financial activity without participation in profit and loss. The Islamic Banking System is based on the principle of justice and is an innovative banking system that is basically an integral part of the overall Islamic financial system. The Islamic banking system is gaining momentum day by day and is now available at almost every part of the world. The prohibition of interest in its transactions and restraining from speculation, uncertainty and gambling are the salient and peculiar characteristics of this dynamic banking system.

Table-II: Distinction in diversified avenues of Islamic and Conventional Banks

Characteristics	IBS	CBS
Size: No. of clients	Medium	Large
Shareholdings	Local/Foreign	State/ Local
State of Independent Decision Making	High	Low
Expertise of the Executives	High	Medium
Status of integration	High	Medium
The Dimension of Concentration	Short term profit goal	Short/long term profit goal
Risk mitigation measures	Medium	Low

Source: Survey conducted by the researcher

Legend: IBS: Islamic Banking System

CBS: Conventional Banking System

Organizational Distinctions between the Islamic and Conventional Banks

Every organization tends to posses certain attributes and characteristics which distinguish it from other entities. These salient attributes have been analyzed during this study in the light of the responses received from the bank officials and documents scrutinized. During the proceedings of the study, the researcher observed that the main distinction between Conventional banking system and Islamic banking system lies in the approach to rendering services to its prospective clientele during the curse of their respective businesses.

Banking Entity Structure

Business of any kind can be conducted in three capacities, sole proprietorship, partnership and company or corporation. These business forms came into being in alignment with the needs of the society as is the case of other disciplines of life. The size obviously depends on many factors like the capital employed, magnitude of human resources and degree of operations.

The Meezan Bank is owned by foreign entrepreneur and woks in the corporate sector while the Bank of Khyber is owned by the Government of KPK and a portion of it has been privatized to the local share holders.

The HBL is owned by the famous Agha Khan Group, headed by Prince Karim Agha Khan while previously it was owned by the Government of Pakistan. The UBL is owned by an Arab Consortium of foreign investors. Both HBL and UBL's shares are available at the KSE and other Pakistani stock exchanges. The bank's affairs are controlled by the BOD who represents the shareholders.

Managerial Liberty

The corporate sector works on the general principle of 'agency rule'. The management is supposed to be the custodian of shareholders wealth and they must strive to achieve excellence in terms of maximizing EPS and creating value for the enterprise. Some managers assert their authority while other act in complete alignment with the BoD. The trust and confidence plays a vital role

in elaboration of this relationship between owners and the management.

The study revealed that the policy decisions and strategies in the case of Islamic banking rests in the hands of the respective boards and the management executes these regulations in its true letter and spirit. The Sharia board evaluates the pros and cons of every proposed Islamic bank product and those having fulfilled the basic criteria of adherence to Sharia rules qualify the acceptance standard.

From the Conventional bank's perspective, majority of the policy decisions comes from the SBP and centralized HQ's of the respective banks. Almost the managerial staff stands aloof from policy making and the local peculiar needs of the clientele are often ignored in the process.

The local management in Islamic banks contributes their respective input by sharing their unique experiences with the clientele to the higher bodies. This interaction is possible as the Islamic banking network is still in its initial phase of growth. From this perspective, the study revealed that the status of independent decision making in Islamic banking system is high in contention with the managerial liberty in the Conventional banking system.

Status of business specialty in Conventional and Islamic banking systems

The attribute of business signifies the level of excellence attained in the performance of services in the course of operation. The Islamic banking units are rendering services to a specific clientele who are in majority of the cases, self-motivated and guided by the Islamic teachings. The second dimension is Islamic banking units are offering only those products and services which are designed in compliance with the Sharia regulations.

On the other hand, the Conventional banking units are dealing with a vast majority of diverse clientele shows profile as somewhat different from the profile of Islamic banking clientele. Clientele of both the systems possesses different attributes and characteristics. The nature of products offered by Conventional banking is numerous in number and products of Conventional banks are based by more than 200 years of tested and proven experiences and history.

Based on the above-mentioned analogy and responses received from the bank officials, it is concluded that as the managerial staff of Islamic banking deals specific clients and products, they tend to develop the level of specialization in their specific area of operation and on the basis of this specialty and enormous potential for growth available in the market for Islamic banking, they get promotion easier in comparison with the managerial staff of Conventional banks where the staff perform routine duties and get less chances of promotion.

Harmonization of different activities

It is concluded from the study that the Conventional banking units tends to deal many heterogeneous products and services and diversity is the main characteristic of the clientele in Conventional banking. Bringing harmony and coordination among the diversified clientele and products and services is somewhat difficult form the administrative point of view in the Conventional banking system.

On the other hand, the characteristic of the Islamic banking units enjoys greater similarity with the set regulation aiming at bringing social justice to the society. The product and services are offered to people in Islamic banking in a well coordinated manner.

The Conventional bank lends both to the public and private sectors and accordingly the portfolio contain the element of profit and clientele diversity. As Islamic bank deals a specific clientele and their products are also limited in number, there exists a greater chance for bringing harmony among the spheres of operation of Islamic banks. The degree of bringing harmony in the products

and services of Islamic banking is therefore high in comparison with the Conventional banks.

The dimension of growth

Holliday (1996) states that the short-term and long-term goals in terms of attaining profits and making investments determine the growth focus.

The study revealed that the Islamic banking units are mainly interested in short-term joint ventures and other modes of Islamic financing therefore their asset portfolio consists of assets and investment of shorter term duration.

On the other side, a substantial magnitude of Conventional bank portfolio consists of longer term, capital budgeting projects whose return expands beyond one year.

The study revealed that the current rate of growth and expansion is quite high in the case of Islamic banking in contention with the Conventional banking. In a city like Peshawar, Meezan bank and BoK has expanded their Islamic financial proceedings enormously. The reason behind this expansion in Islamic banking is attributable to the concentration of the management on short term avenues of Islamic financing system.

The growth in terms of branch expansion is almost stagnant in Conventional banking in Peshawar, as for as HBL and UBL is concerned, however their portfolio exhibits a mixed blend of short term and long term investment projects.

Risk mitigation and management

The researcher observed during the study that the close collaboration among the staff members of Islamic banking units has reduced the internal risk factor in terms of financial and default risk for the Islamic banks.

The junior and senior staff of Islamic banking units tends to develop cordial and long term relationship with the borrowers and users of Islamic banking products and services which in turn enhances the probability of honest dealing on the part of both the parties and reduces external dimension of risk also. As for as the risk controlling and management measures are concerned in the Conventional banking system, the SBP has issued strict risk management directives to the Conventional banks for onward compliance. The Conventional banks had previously due to the political intervention in the process of lending and a substantial portion of their loans have been written off to the influential pressure groups. Previously the concentration in the proceedings of loan portfolio was on the aspect of securities or mortgages but now the emphasis has been shifted to cash and liquidity management.

These measures has result in transformation and turnaround of the Conventional banks, however the position is still not 100 % under control.

It is concluded from the above that the level of internal and external risk factors in Islamic banking system is found high in comparison with the low and medium degree of default risk confronting the Conventional banking sector.

Table 3: Differences in the market attributes in a dynamic environment

Attributes	Islamic Banking Formal/ Informal	Conventional Banking
State of Communication	High	Formal
Time period of lender-borrower relationships	High Intense	Low Low
Commitment to particular exchange partners		Less intense
Scope of exchange relations		

Source: Survey Conducted by the Researcher.

The need for information processing

Sion (1994) describes the process of information processing as the allied technique applied by the stakeholders to gather the customer-oriented information. The Islamic and Conventional banks use different channels for data collection and its processing in terms of information with reference to the profile analysis of their respective clientele.

The study revealed that the profiles of Islamic bank customers is thoroughly scrutinized and the process is supplemented by analysis and stiff evaluation due to the very nature of Islamic banking institution, which neither charge interest nor enter into speculative transactions.

The researcher came to know that the Islamic banking authorities go beyond the traditional modes of inquiry about their clientele and verification on person to person basis is made. The informal channels are also activated by the management of Islamic banks to conduct a proficient inquiry about the potential subscriber.

On the other hand the Conventional banks mostly uses the traditional modes of inquiry and the elements of personal interest and enthusiasm is generally not present in the proceedings. Due to the large number of clientele and limited amount of financial and human resources it makes sense that the personal intervention of the staff in Conventional banks is not possible while reverse is the case in Islamic banks.

Span of bank-client relationship

Romano (1996) states that the bank as well as client develops the state of inter-dependency in the process of their unique relationship. In this regard it was noted that the organization to organization contact results in widening the scope and parameters of the stakeholders. It was noted during the course of the study that Islamic banks concentrate mainly on the short-term modes of financing which yields high returns. These loan portfolios are renewed and expanded on the condition of mutual building of trust and tranquility between the bank and borrower. On the other hand, the Conventional bank offers diverse products and services and profitability comes from inventing in long-term modes of investment.

It is concluded from the study that the mutual relationship of bank and borrower is higher in Islamic banking system in comparison with the Conventional banking system. The reason behind this is the fact that sustained amount of liabilities grew with the passage of time for the Conventional banks which concentrates mainly on investment in capital budgeting projects whose returns are regained or recouped beyond one year.

Status of reliance of borrowers on the banking system

The study revealed that as the banking units in Islamic banking tends to concentrate on short-term modes of financing and consequently these loans are repaid at maturity in the cases of cottage industry or micro financing by the borrowers. The management on fresh application by the same borrowers replenishes the amount of loan and thus the short-term relationship is transformed into a long-term relationship without undergoing any extended obligations on the part of the bank or subscribers. This eventually leads to the development of good ties between the borrower and the bank and tends to further create an opportunity for the borrower to rely on the perceived commitment of the bank to renew his loan application as and when required.

So the above-mentioned state of affairs suggest that the bank commitment to the subscriber is high in comparison with the Conventional bank, where such commitment is subjected to many conditions and therefore termed and found to be low.

Job Oriented Proceedings

Noe (1996) describes the job proceedings as encompassing diverse factors such as

induction techniques, top-down or down-top official relationship, training and development, motivation and incentive schemes for the employees working in an organization.

These factors are valid for all organizations irrespective of their nature of work and environment. The researcher came to know during the course of the study that both Islamic and Conventional banks pursue quite different strategies and policies in the execution of the delegated tasks. An overview of these affairs has been summarized in the following table.

Top-down official relationship

The process of delegation of authority and eventual avenues of responsibility and accountability has been in action at Islamic banking system and Conventional banking system. The formal code of delegation within the hierarchy of Conventional banking system is followed by the participant where stringent adherence is ensured by the top management while assigning the responsibilities. As the various parameters and official decorum is set at high standard, the top-down relationship between manager and employees is found to be very intense and formal.

Table: 4. Job-oriented proceedings in the Islamic and Conventional banking systems Features

	Islamic Banking	Conventional Banking
Induction procedures	Formal	Formal
Top-down relationship	Intense	Less intense
Job training & Specification	Often	Sometimes
Inducements to emplyees	High	Medium
Incentives to employees	High	Medium

Source: Survey conducted by the researcher.

In comparison with this state of affairs, the manager-employee relationship has been found less intense at the Islamic banking units where a more congenial atmosphere prevails and the communication gap doesn't arise in the top-down relationship as both the parties are very much influenced by the Islamic teachings of brotherhood, tranquility and mutual cooperation.

Training and Development

Job training and development is one of the most important dimensions of the human resource management. Whitley (1992) describes the feature of training and development to be the core area for infusing such characteristics that are indispensable for making the implementation possible, flexible and effective.

During the proceedings of the study, it was noted that as the Islamic banking units constantly striving to develop new products and services in compliance with the Sharia regulations, frequent opportunities of training and development emerge for the staff of Islamic banking units. Many agencies like the SBP, SECP, ADB conduct regular series of workshops, seminars and lectures for the orientation of Islamic banking practitioners and regulators.

On the other hand, for the staff of Conventional banks, the opportunities are almost at 'halt' because of the status of old products and services. The careers of employees working at the Conventional bank units are confronted with stagnation due to the reason of so called cost control schemes, contractual induction of fresh graduates and the threat of down-sizing or right-sizing.

Internal Control System of Islamic and Conventional Banks

Iqbal (2005) states that the measures taken by any organization to safeguard its assets against all hazards is known as internal control system. When various components in terms of vouching, auditing, documentation and verification are welded together, the process generates internal control over the assets.

The following table summarizes the different aspects of Conventional banking system and Islamic banking system in terms of status, authority, coordination, and decision making.

Table: 5 Internal control systems

Features	Islamic Banking	Conventional Banking
Authority & Command	Decentralize	Centralized
Delegation	High	Low
Harmonization	Medium	High
Managerial involvement	High	Low

Source: Survey conducted by the researcher.

Kotler and Armstrong (1991) suggests that employees of an organization can become brand ambassadors of the product and services they produced or delivered if they are provided with proper inducements like perks and financial emoluments, encouragement with the word of mouth, and active interaction or involving them in the decision making process pertaining to the organization.

All these measures tend to motivate employees for higher productivity and eventually resulting in amelioration of services and further uplift of the good name and reputation of the firm.

Finding of the Study

Diversity is the main attribute and characteristic of banking industry regardless of its orientation, origin, size or name etc. The reason behind this diversity is the fact that the clientele possesses different background in terms of their financial status, educational qualification, professional occupation and most importantly the religious beliefs. The banking system obviously, works within the parameters of the same social system and all those factors exert full pressure on the working of a bank.

With the help of statistical data, the researcher has made an endeavor to compare the performance of Islamic banking units and Conventional banking units in Peshawar KPK. in terms of their provision of diversified banking products and services to the respective customers of both the banking systems.

The significant increase in the Islamic banking units in the study area reflects that the Islamic banking system is contributing handsomely in terms of easy access to credit and financial products, towards the cause of economic development of the area and uplift of the economy.

Recommendations to the Islamic Banking Industry

Following are the points observed during the conduct of this study and are mentioned here for the consideration of the Islamic banking authorities and policy makers of the Government of Pakistan.

I. It was noted during the course of the study that the Islamic banking industry is facing the acute problem of shortage of proficient and professional human resources. The expansion and growth of Islamic banking is obviously subjected to the condition of training more professional to conduct the operations and to cater to the needs of the Islamic bank customers. A mix blend of religious scholarship and acquaintance with modern banking mechanism would definitely provide an impetus to the proceedings associated with Islamic banks in Peshawar and in Pakistan.

II. It was also noted during the proceedings of the study that the Conventional banks are fully acting upon the Generally Accepted Accounting Principles and the compliance to different accounting standards are made in the true letter and spirit. However in the Islamic banking arena, the researcher found an amount of disparity in terms of adherence to the GAAP regulations like the cost principle, objectivity principle. The management and regulators both should strive to come up with concrete solution for bringing

parity to the relevant rules prevailing at different Islamic banks.

III. At the moment, the Conventional banks are following a comprehensive strategy for credit analysis. Now the emphasis has been shifted from the mortgage securities to the dynamic avenues of risk management. The SBP should prepare for the operating Islamic banks, a comprehensive scheme of guidelines for mitigating risk of all sorts. The proper analysis of the subscriber's credit application forms is the first step in the process of value creation. Moreover, efforts should be made to bring consistency in terms of compliance to the risk avoidance, risk mitigation and risk financing measures being taken by the Islamic banks.

IV. In order to flourish its operations, the Islamic banks need to streamline its relationship with other banking institutions. In this regard cooperation should be strengthened in common products and services like money transfer and exchange, safe-keeping of valuables, letter of credits for facilitation of import and export, provision of banking expertise, purchase and sale of securities.

V. If the element of interest, speculation and gambling is eliminated from the Conventional banking sector, there opens a door of enormous potential for building cordial ties, amalgamation, coordination between the two banking systems and hybridization will be the natural outcome.

VI. The Islamic bank's management should employ the latest techniques in managing the affairs of their respective enterprises in terms of investment, financing and asset management decisions. The concept of liquidity management along with risk and return of the portfolio should also be looked into thoroughly. The mechanism of financial planning and management should also be vigorously pursued.

VII. The Takaful or Islamic Insurance schemes should be employed at the Islamic banks. Many companies are providing coverage services to the Islamic banking industry now-a-days like the newly established company of Pak-Qatar Takaful Company. The minimum reserve requirement ratio analysis in terms of vertical and horizontal analysis, common size analysis should also be undergone on continuous basis and the results and the lessons shall be thoroughly discussed with experts and consultants of banking operations for bringing eventual uplift in the multi-dimensional dynamic business arena.

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An Appraisal of Policy Framework Towards Rural Electrification in India

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Introduction

There is a large body of literature on the benefits of rural electrification that claims rural electrification greatly contributes to the welfare growth of rural households (ADB 2010; Barnes, Peskin, and Fitzgerald 2003; Cockburn 2005; Khandker 1996; Martins 2005; World Bank 2008). But most of these findings are based only on the correlation between rural electrification and development, without taking specific aspect of welfare. Some recent studies, however, have attempted to ascertain the welfare gains caused by rural electrification (Dinkelman 2008).

Larger scale deployment of renewable energy technologies for rural energy has been quite challenging, even where technologies have proven benefits to Economic Development of Rural India. The Institutional constraints such as Economic, Political and Societal are among the main challenges for dissemination of modern energy in developing countries (Karekezi 1994; Miller 1998; Duke et al. 2002) and similarly across India (Miller and Hope 2000; Velayudhan 2003; Radulovic 2005).

It is in the context of the Institutional benefits and challenges in Rural Electrification; this paper attempts to appraise the Policy framework for Rural Electrification in India and the progress made so far.

Rural Electricity Supply: A Must and a Challenge

"Following a decade of energy sector reforms in many developing countries, people are increasingly beginning to question the extent to which these reforms have been benefited the poor. This question has proved difficult to answer, in part because of the absence of a framework for thinking about the issue, and in part because of a shortage of suitable data. Yet, ensuring that energy sector in interventions are designed in such a way so as to benefit the most vulnerable in society

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is important from the perspective of social equity and also because this is likely to affect the social acceptability – and hence, the ultimate sustainability – of reforms".

The report has rightly stressed that any energy sector reforms would be questioned if they do not benefit the poor and that the perspective of social equity is necessary for social acceptability and for sustainability of reforms.

In the recent years we have reoriented the focus of Indian Power Sector reform to what is really the cutting edge of this Industry, i.e. Distribution. A much serious effort is being made to set right the imbalances that have been created over the last 50 years in rural electricity in respect of both infrastructure as well as supply.

The anxiety of the Government – both the previous NDA Government and the present UPA Government – on this very important issue could be seen from the decisions taken. To electrify one crore households and one lakh villages, a special scheme was approved by the Union Cabinet for this purpose in February 2004.

This scheme provided as much as 40% grant funding from the Government of India. In the present Government again there is specific commitment in the Common Minimum Programme to electrify, in a time bound manner, rural households by 2009.

Salient points of the scheme approved in February 2004 are as follows:

- Programme aims at "Accelerated Electrification of one lakh villages and one crore households".
- 40% capital subsidy includes 100% grant for BPL households connections as in Kutir Jyoti
- Sanctioned an outlay of Rs.6000 crore with 40% capital subsidy of Rs.2400 crore for two years. Programme to be implemented through Rural Electrification Corporation which will provide balance 60% as loan.

The provision in the National Common Minimum Programme of the UPA Government is as follows:

NCMP Goals

- Modernizing rural electricity infrastructure.
- Completion of rural households electrification in five years.

Status of electrifications can be appreciated from the following table.

Rural Electrification

In order to stimulate the growth of small-scale industries and promote a more balanced and diversified economy, rapid rural electrification was found necessary and was pursued vigorously at both central and state levels. The progress of rural electrification is given in Table 2.19.

Between 1950 and 2001-02, the number of villages electrified had increased from a mere 3,000 to 5,19,000. The number of pump sets energized had increased from 21,000 to nearly 12 million.

Table 1: Progress of Rural Electrification

Year	Number of villages electrified (in thousands)	Number of pump sets energized (in millions)
1950-51	3	0.02
1960-61	22	0.19
1979-80	250	4
1984-85	370	6
2001-02	507	12

Source: Planning Commission, Tenth Five-Year Plan. (2002-07) Vol.II and previous Five Year Plan.

In the early stages, the emphasis was on village electrification. However, the serious famines of mid-sixties focused attention on the need to stabilize agriculture through exploitation of ground water resources. For this purpose, the energization of pump sets was considered

important and hence the emphasis shifted from village electrification to energization of pump sets. The setting up of the Rural Electrification Corporation has helped to accelerate the speed of electrification in the rural areas in an organized manner. The total number of pump sets energized had reached 12 million.

According to Tenth Five Year Plan (2002-07), around 80,000 villages in the country are yet to be electrified. 13 States have declared 100 percent electrification of their villages. The villages yet to be electrified are mostly in Assam, Orissa, UP, MP, Rajasthan and north-eastern states. The Tenth Plan points out about 62,000 villages could be provided through conventional grid expansion by 2006-07 and the balance of 18,000 villages which are in remote areas, hilly terrains, deserts and island could be electrified economically through decentralized and non-conventional energy sources like solar, wind, small hydro and biomass by the year 2011-12.

In order to facilitate the flow of funds for Rural Electrification Programme, the Tenth Plan has allowed:

the pooling of funds under Minimum Needs Programme and

Utilizing funds available under Member of Parliament Local Area Development Scheme and Jawahar Gram Siddhi Yojana.

During 2003-04, the Government of India amended the definition of an 'electrified' village to linking at least 10 percent of the households in the village and to provide electricity to public places like schools, panchayat office, health centre, etc. Electricity should be provided to Dalit Bastis if they existed. Using this new definition, it has now been estimated that 5,87,560 villages have been electrified and that 1,12,400 villages are yet to be electrified.

Rural Electrification Policy

The Government of India notified its Rural Electrification Policy in April 2006, under sections 4 and 5 of the Electricity Act, 2002. The policy aims at:

Provisioning of electricity to all households by year 2009.

b. Quality and reliable power supply at reasonable rates; and

c. Minimum lifeline consumption of one unit per household per day as a merit good by the year 2012.

Table 2: Details of Rural electrification

RURAL ELECTRIFICATION	
Total no. of inhabited villages	587,556
No. of villages electrified (Prov.)	474,982
No. of villages yet to be electrified	112,401
Rural households electrification (Census 2001) Overall electrification in the country	
Total no. of households	138.27 million
Households electrified	60.55 million (43.8%)
Households yet to be electrified	77.72 million (56.2%)

The following are the states in which substantial numbers of villages have yet to be electrified.

Table 3: Details of States by Villages that are yet to be electrified

Uttar Pradesh	40,389 (42%)	Jharkhand	22,920 (78%)
Bihar	20,447 (53%)	Orissa	9,682 (21%)
West Bengal	7,674 (20%)	Assam	5,640 (23%)
Uttaranchal	2,785 (18%)	Meghalaya	2,754 (50%)

So far only 8 states have achieved 100% village electrification. They are Andhra Pradesh, Goa, Haryana, Maharashtra, Kerala, Punjab and Tamil Nadu.

Most deficient states in terms of household electrification are the following:

Table 4: Deficient Household Electrification of Different States

Bihar	95%	12,010,504
Jharkhand	90%	3,422,425
Assam	83.5%	3,522,331
Orissa	80.6%	6,651,135
Uttar Pradesh	80%	16,505,786
West Bengal	79.7%	8,899,353
Total		51,011,534

In the last few years, several reasons have been given for slowdown in the process of rural electrification. Important reasons highlighted by States have been lack of fund and the likely additional loss that large scale rural electrification will entail. While these have been concern for covering un electrified villages, there are states where, as a matter of fact, a number of villages, which had been connected with the grid, are now de-electrified.

For a concrete plan of action authentic data will have to be re-established – both for village electrification and for household electrification. We need to get over the predicament that intensification of village and household electrification will mean more transmission and distribution losses and financial deficits. The problems, no doubt, are live and real problems. But, between the two approaches (a) since there is a very serious problem of financial bankruptcy as to why to further electrify villages and households and (b) we need to set right these problems, we need to identify the right actions but when it comes to electrify villages and households, choice obviously has to be for the latter. Keeping 57% of rural Indians out of electricity access can be nobody's case. In fact it is black spot on power sector.

Main Issues in Rural Electrification

We can look upon the problems and challenges from the following points of view; (a) Technology issues; (b) Financing aspects; (c) Commercial issues; and (d) Institutional and organizational issues.

Unfortunately in most of the States, which are highly deficient in rural electricity supply, there are serious problems of each one of the above aspects. Some of these issues are common even for States which are comparatively better off with larger coverage of villages and households having already been achieved.

Technology Issues

In Tele-communication, the problem of accessibility in rural India could be tackled only through appropriate technology solution. In power sector, on technology we have remained stagnant. Many of the new and renewable technologies have continued to remain excessively costly and therefore unaffordable. Harnessing of solar energy in a cost effective way has eluded all of us. Even biomass has not been improved to a level that the rural setting could find it cost effective and operationally convenient. Decentralized distribution, generation both in conventional and unconventional appears to be a good strategy and we need to pursue this.

Financing

Creation of rural electricity distribution infrastructure would need enormous fund. The present scheme which provides 40% grant funding by the Government of India and balance as loan from REC has received mixed response. In any case, it has not enthused many of the states. Ministry of Power is evaluating various other approaches to funding including enhancement in the grant funding so that there is a greater degree of positive response and commitment on the part of the states. It may be relevant to mention that even in the

USA capital cost for creating rural electricity distribution system was highly subsidized with nominal rate of interest and very long tenure (30-35 years) debt funding.

Commercial

Even if the burden of capital cost of infrastructure is substantially reduced, commercial implications of purchase of power and supply of power will have to be fully mitigated. For a policy developer and the administration it becomes almost impossible to agree on any system, which on recurring basis would call forever increasing revenue subsidy. It would obviously be unsustainable. This is what perhaps has not been fully understood in the power sector, which has caused heavy financial approach towards the completion of rural electrification. Logic should be put in place. Commercially any arrangement has got to be made sustainable. On commercial issues other important consideration would include appropriate tariff fixation, proper structure of cross subsidy, metering and billing and appropriate collection mechanism. All these aspects have remained neglected in most of the states.

Institutional Issues

This is the most important of all aspects. Right from the beginning, electricity utilities have been over ambitious to do everything departmentally. Retail business with departmental set up under government dispensation rarely works. Even essential items like food and kerosene is sold, to the targeted consumers, through Public Distribution System (PDS), which could be expected to be accountable in terms of quantity, quality and price. Organizational framework for rural electricity supply has been totally inadequate in most of the states. Due to our ambitious approach to do everything departmentally, we have not been able to attend to any of the important issues such as breakdowns, supply interruption, consumer complaints, etc. In most states, rural electricity supply is managed as if it is not a commercial activity. It lacks all the features of a proper marketing approach. We have stipulated that retail business could be undertaken through a network of franchisees and the role of the Panchayat could be ensure that this arrangements delivers the result. The Panchayat's involvement could be to see that consumers are attended to and also make sure that consumers also fulfill their obligations towards payment.

Implementation Strategy

We have enlarged the role of Rural Electrification Corporation in a way that their involvement from the stage of preparation of rural electrification project report and right up to its implementation would be much more participative and focused now than ever before. They would be supported by our public sector organizations like Power Grid, NTPC, NHPC, NEEPCO, DVC, etc. They would also provide the State Utilities necessary assistance in selection and training of franchisees.

The present scheme is significantly different from the earlier scheme. For the first time a comprehensive Rural Electricity Distribution Backbone (REDB) for the whole country is being created. From the state level high voltage transmission system, all the sub-stations would get connected to create this backbone. It is from this distribution backbone that connectivity for villages and households' electrification will be provided. The following outlines highlight the Implementation Strategy.

Rural Electrification Corporation (REC) – Nodal agency to implement the scheme.

- Provide single window dispensation for facilitating implementation
- Provide promotional support for the programme
- Facilitate setting up of implementation bodies for smooth implementation
- REC is being suitably strengthened and reorganized to take up the task
- Augmenting the implementation capacity
- Services of CPSUs made available to weak states
- Varying levels of support and involvement by CPSUs

- Type I project formulation and complete implementation
- Type II project monitoring and work supervision
- Type III project formulation, arranging approvals, advisory support, project monitoring and work supervision.
- Decision on work allocation and defining specific responsibility left to individual states

Systems approach

- Inculcating systems approach during implementation
- GIS assisted mapping of existing network to facilitate comprehensive project formulation
- Compliance to specified construction standards and system / project specifications
- Procurement in accordance with competitive bidding procedures
- Turn key approach for uninterrupted implementation
- Strict project planning, scheduling and monitoring
- Monitoring Mechanisms
- Three-tier monitoring set up to be effected for progress monitoring including conflict redressed
- Level – 1 working level review – CPSU / implementing agencies
- Level – 2 Monthly reviews – state utility / REC
- Level – 3 Quarterly reviews – REC / Ministry of Power
- Operation and maintenance of completed projects
- Utility to take over once project is completed
- CPSU (where selected) can however handle O&M for limited period under separate mutually agreed arrangements
- Facilitating implementation and putting in place the institutional framework
- Interactive business meet of manufacturers
- Workshop of state utilities on technology and business procedures
- Sharing of experiences – interactive meet on successful revenue models / development of resources persons

Capacity Building and Training

Training / development of Utility's Personnel. On project specific basis, the working arrangements will be established with utilities to apprise and train utilities on project management.

Utilities will also be associated in the project reviews.

Frequent interactive workshops and working sessions to be arranged by REC at different levels of operations.

Preparedness of REC for Taking up the Task Organizational Operations

- Dedicated "Accelerated Rural Electrification" group in corporate office for the scheme, self-sufficient in appraisal
- Business units in 17 states, headed by "Chief Project Manager"
- CPMs of priority states report to AREP Group directly
- Manpower Augmentation taken up
- Trained executives from other CPSUs being taken on deputation.
- Fresh recruitments at entry level initiated.
- In house delegations being refined for facilitating implementation with focus on accountability
- Joint venture entered into with NTPC for promoting and operationalizing distributed generation.
- Pilot projects under formulation

- Documenting the procedures and guidelines for scheme implementation.
- Projects to be implemented through turn key contract.
- Complete turnkey packaging with all goods and services, or
- Two packaging concept
- All substitution works including lines and other installations except distribution transformer
- All other works
- REC specified specifications and standards for equipment and material
- Standardized bidding procedure for procurement of goods and services

Revenue Sustainability for Delivery in Rural Areas – The Concept

Stage 1: Sensitizing the consumers:

Stage II: Including system of accountability in operations metering at distribution transformer level.

- Determining the input power for which metering of D.T. is essential.

  Stage III: System of franchisee to make the arrangements sustainable:

- A franchisee's functions could also be done by the Panchayat, a co-operative society, any individual or even a private body

In the long run, this structure holds good even under umbrella of the state board / utility.

The Task Is Huge and Daunting

Completing this task, in a period of five years, if not possible, is highly challenging. Considering this challenge, the electricity manufacturing industry also who manufacture distribution transformers, cables, conductors, switch gears, poles and other hardwares. They have also emphasized that whatever might have happened in the past on distribution infrastructure the quality of equipment and supply must be improved. A common approach to better quality specifications has also been evolved and it would be expected that all the state utilities follow these.

Conclusions:

There has been a huge investment in the physical electricity infrastructure of the country since independence. There have been numerous programs in just the last decade for accelerating rural electrification. Additionally, investment in building management skills within newly created Distribution Companies (DisCom) would be needed. With a missionary zeal on the quality and reliability of electricity supply, it will be possible to charge industry (large and small) tariffs that will ensure full cost-recovery and more - resources needed to cross-subsidize social goals of the electricity sector.

Reliable 24-7 supply to schools, clinics, hospitals, water schemes (where needed), telecom facilities, government offices, rural markets and small businesses (e.g. grinding and agro-processing) is essential to meeting the services that the rural populations need.

The most important cause of the problems being faced in the power sector is the irrational and unremunerative tariff structure. Although the tariff is fixed and realized by SEBs, the State Governments have constantly interfered in tariff setting without subsidizing SEBs for the losses arising out of State Governments desire to provide power at concessional rates to certain sectors, especially agriculture. Power Supply to agriculture and domestic consumers is heavily subsidized. Only a part of this subsidy is reco vered by SEBs through cross subsidization of tariff from commercial and industrial consumers. The SEBs, in the process, have been incurring heavy losses. If the SEBs were to continue to operate on the same lines, their internal resources generation during the next ten years will be negative, being of the order of Rs.(-) 77,000 crore. This raises serious doubts about the ability of the States to contribute their share to capacity addition during the Ninth Plan and thereafter.

This highlights the importance of initiating power sector reforms at the earliest and the need for tariff rationalization.

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Book Review

The Palgrave Handbook of Spirituality and Business, Edited by Luk Bouckaert and Laslozsolnai, Palgrove Macmillan, New York, 2011

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Evolution of management thought over last hundred years can be broadly classified in terms of four eras viz. 'Scientific Management' era, Human side era, Ethics & values era and the emerging Spirituality in Management era. During each era, ideas, concepts and tools were developed on the basis of ontological, epistemological and praxis perspectives of the era. During recent years concerns for well being, environment, harmony at work place, social responsibility and good governance etc. have led to emergence of Spirituality in Management. Viewed in this context, Palgrave Handbook of Spirituality and Business is a timely contribution to the growing literature in the field of spirituality, business and management.

In reviewing this Handbook, we can take help of Gandhi's seven sins model. We can take the liberty of renaming Gandhi's model as 'seven wins-sins' model and the model is as follows:

I. Wealth based on work is win, Wealth without work is sin

II. Commerce with morality is win, Commerce without morality is sin

III. Politics with principles is win, Politics without principles is sin

IV. Pleasure with conscience is win, Pleasure without conscience is sin

V. Religion combined with sacrifice is win, Religion without sacrifice is sin

VI. Science with humanity is win, Science without humanity is sin

VII. Knowledge with character is win, Knowledge without character is sin

These seven advices relate to economics, politics, society, religion, science and knowledge and provide a holistic framework for critiquing the contemporary happenings in human society. In fact, this framework can be considered as a socio-analytic framework to understand inter-linkages between Business and Spirituality. Further these seven advices can also be viewed from Development STEPS (Sharma 2007) viewpoint wherein STEPS imply Social (S), Technological (T), Economic (E), Political (P) and Spiritual (S).

Another framework that can be used to analyze the contemporary management is to use Indian Guna theory of Tamas, Rajas and Sattava (TRS) qualities of human being. This TRS model can also be presented in terms of 3G viz. Greed, Goodness represented by and Godness. When self interest is driven by Tamas, it turns into sin and Greed becomes the prime driver of Business. When self interest incorporates some amount of Goodness, it leads to win-win situation and Business acquires a social meaning through 'enlightened self interest'. When Business is driven by Spirituality (sattava qualities) it acquires a social and spiritual meaning as it is driven by 'enlightened collective interest'.

The Handbook on Spirituality and Business can be viewed from the viewpoint of these perspectives.

Concept of spirituality has many different interpretations, however for the purpose of the Handbook a working definition has been adopted as a guide to all the contributors: "Spirituality is people's multiform search for a deep meaning of life interconnecting them to all living beings and to "God" or "Ultimate Reality" (p. 7). This is an all inclusive definition and will satisfy

rationalists and atheists as well as "believers" in various concepts of "God"/"Gods".

To appreciate the idea of contemporary academic interest in spirituality we need to take historical perspective in terms of evolution in human thinking from Religion (s) to Science to Spirituality. Basic question we need to ask is – Why there is so much of interest in spirituality in whichever way we define spirituality? Answer lies in the observation that 'Modernity created many side effects, which became its main defects' (Sharma 1996). Many believe that defects of modernity can be corrected through spiritual approach. This is what Gandhi believed when he talked about seven sins. Most contributors to this Handbook are implicitly or explicitly trying to address this issue in the context of modern Business and provide new solutions based on Spirituality.

If we have to consider a typology of spirituality, we can define it in terms of following three types:

Type I: Spirituality with its origin in organized religion (s)/ 'Church'

Type II: Spirituality with its origin in science including scientific perspectives on consciousness

Type III: Spirituality with its origin in 'inner search'

'Church' (organized religion), science (research) and inner search are the three routes to spirituality. Depending upon one's background, a person can follow any one of the routes to practice spirituality in one's profession or in Business. Various papers presented in the Handbook can classified as per this typology. In fact there is a good mix of papers belonging to all the three categories and this represents uniqueness of this Handbook.

There are 48 articles in this Handbook and we find them insightful, inspiring and providing some new directions for Social, Technological, Economic, Political and Spiritual (STEPS) perspectives. As it may not be possible to comment on the specific details of each one of them due to paucity of space, some key points emerging from the Handbook have been discussed below.

Handbook is divided in five parts viz. Part I: The nature of spirituality, Part II: Spiritually inspired economics, Part III: Socioeconomic problems in spiritual perspective, Part IV: Business spirituality and Part IV: Good practices and working models.

In Part I, nature of spirituality has been viewed from the perspective of religion (Paul de Blot), from the perspective of rationality (Luk Bouckaert), from the perspective of neuroscience (Andrew Newberg and Daniel Monti) from the perspective of transpersonal psychology (John Drew), from the perspective of moral agency (Laszlo Zsolnai), from the perspective of gender (Veerle Draulans) and from the perspective of critique (Suzan Langenberg). A paper from the perspective of inner search would have further enriched this section of the Handbook.

Focus of Part II is on spiritually inspired economics.

Most of the papers are rooted in Religion though the phrase used is spiritually inspired economics. Religion inspired economics would have been a better title for the papers included in this section. There is a wide range of perspectives such as Buddhist Economics, Jewish Perspective, Catholic Perspective, Protestant Economic Principles, Indian Perspective, Islamic Economics etc, A very significant contribution is missing viz. Gandhian Economics though Schmacher's People Centered Economics is included. Problem with religion inspired economics is that in many religions wealth is "sin". In fact Adam Smith in formulating the idea of self-interest liberated human beings from the idea of wealth as "sin" and this was a significant revolution in economic thinking.

Focus of Part III is on socio-economic problems within the spiritual perspectives. New challenges posed by Globalizaton such as materialistic value orientation leading to environmental issues in terms of climatic change, responsibility for future generations etc. can be tackled only through spiritual perspective of interrelationship between human beings, nature and technology. In general papers presented in this section highlight the need for 'modification of modernity' through a spiritual perspective to overcome the socio-economic crisis.

Focus of Part IV is on Business Spirituality. Key ideas include spiritual-based leadership (Peter Pruzan), Deep Leadership (Gerrit Broekstra & Paul de Blot), meaningfulness at work (Marjolein Lips-Wiersma & Lami Morris) and corporate conscience (Kenneth E. Goodpaster). This part is more focused on the specific linkages between spirituality and business that is also the focus of the Handbook. While papers in Part I, Part II and Part III provide us philosophical perspectives, this part provides us application of such perspectives in day to day context of the business and in what ways spirituality can actually be practiced.

Focus of Part IV is on Good Practices and Working Models. From the practitioners point of view this part is most inspiring as it provides several working models wherein spirituality is in practice in managing day to day activities. A common question that practitioners raise about spirituality is about its practice in managing day to day activities. The examples given in this part of the Handbook will convince every enlightened professional that 'spiritual praxis' within organization context is not merely an empty philosophy but a process that can lead to great improvement in performance. Examples of edgewalker organizations, the economy of communion, ethical branding, fair trade movement and ethical branding have considerable learning value for those who want to create a better world.

This Handbook provides new directions to the corporate world to move beyond the Greed paradigm and work for Goodness and create a new world where Wealth creation is rooted in values, Commerce incorporates morality, Politics is based on principles, Pleasure is rooted in conscience, Religion is combined with sacrifice, Science is coupled with human values and Knowledge and character are integrated. Is such a world a mere Gandhian ideal? Contributors to this Handbook suggest that this is not merely an utopia but a realizable possibility in Business and Society.

This Handbook is a seminal contribution to the growing field of Spirituality in Management and Leadership. It is particularly appealing to the researchers and doctoral students who will find many researchable ideas for further research. This Handbook is also useful for MBA students as it provides insights for Self Leadership and Responsible Management Practices. B-Schools striving for introducing United Nations 'Principles for Responsible Management Education' (PRME) will find in it useful resource material.

References

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