ISSN 2319-6157

THE ADMINISTRATOR

Journal of LBSNAA

Special Issue
December, 2012
Volume 53, Number 2

LBSNAA

Lal Bahadur Shastri National Academy of Administration

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

The Administrator

Volume 53 December, 2012 Number 2

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Foreword

The challenge of Governance is now more complex than ever before. The importance of cross cutting themes and cross sectoral issues has grown. Even as the subject matter of policy has become increasingly complex, the demands from citizens have become more vocal. To enable the Civil Service to meet with this twin challenge, it is necessary that they undergo regular training. The policy papers that are included in this volume were produced by participants as part of the Phase V mid career training in 2012 at the LBSNAA.

These papers cover a wide range of subjects: a passionate plea for giving hydro power its due; outline of policy for information security; a novel idea for promotion of affirmative action for SC and ST community; an appraisal of the need for reforming of the UP's AMPC Act and a discussion of how to go about it; ways of ensuring timely completion of disciplinary proceedings; creating an enabling environment for private investment; challenges of meeting the urban water needs in Odisha; ideas on how to develop the corporate bond market; discussion on how to move towards a guaranteed land titling system ; and lessons from Haryana on issues of land acquisition.

I am confident that this volume which presents analysis by practitioners, of some critical policy issues facing India, will be of interest to policy makers, administrators, students of public policy, as well as commentators interested in India.

Padamvir Singh
Director & Chairperson Editorial Board

India's Energy Matrix - Whether Hydropower?

Arvind Mehta*

Preface

This is a paper being written for use of policy practitioners. Being one myself, I am often besieged by reams and reams of data. Having read all the data, my uppermost question always is "what is the take-away"?

Often there is none, except to enlighten me with the data and 'state of play'. For true policy wonks, the essence should be – 'what is the change you wish to see?'- and to say so with brevity. I shall attempt to remain within this policy framework.

Introduction

The 'takeaway' of this paper is simple. The country needs to have a more proactive policy for realizing its full hydropower potential.

Not to do so, is a waste of precious energy resource and runs into an opportunity cost of a lost revenue stream of more than 30.2 Billion $ (Rs. 1,60,000 crore) per annum. *(Every one MW of hydropower translates into between 4 to 5 million units of kwh, per year).*

Though attempts have been made in the past there is an urgent need to be more proactive for further acceleration of the ongoing efforts to harness our hydropower potential. India has an assessed hydropower potential of more than 1,20, 000 MW. Sixty Five years after Independence, we have harnessed only about 40, 000 MW of this potential, i.e. about 615 MW per annum.

Going by this rate we shall need another One Hundred & Thirty years to realize our balance potential. Are we happy to state that in year 2143, India shall realise its full potential?

We must have a policy and implementation plan to harness the next 50,000 MW over a maximum of Fifteen years, i.e. an average capacity

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addition of about 3300 MW per annum. ***This implies that over the next five years, we must have hydropower projects aggregating 50,000 MW under actual construction.***

Background

Around ten years ago, Ministry of Power came out with a policy to develop 50,000 MW of hydropower. Actual capacity addition of hydropower has been from 26,000 MW in 2002 to 39,000 MW in 2012, i.e. an average increase of 1300 MW per year. This is almost double the average increase per year of 700 MW for the previous decade from 1992 to 2002.

Can we now rest on these laurels and continue business as usual? This BAU of our last decade progress rate still condemns us to another 62 years to our full potential. Are we going to be happy with a 2075 timeline?

Our coal based power generation capacity increases are facing the problems of paucity of domestic coal, import issues of high fuel costs and inability of the distribution companies to absorb and recover from consumers, the higher pass through fuel costs.

Gas based plants are running at sub-optimal capacities because of the same fuel linkage issues. Nuclear power continues to languish at total capacity of less than 5000MW. Wind and Solar energy are promising. In the long run, solar would be more reliable in India. But we are right now looking at the medium term policy strategies not at the long term ones. While our energy matrix certainly needs to fast track all potential areas, can we afford the relative neglect of hydropower ?

At the time of Independence, hydropower contributed almost 40% of the energy source mix. This is down to less than 20% now.

Why not hydropower?

Opponents of hydropower have many sets of arguments against it. Let me summarise them:

- Environmental damage caused by large dams.
- Balance hydropower potential mostly in the Himalayan region which is ecologically fragile.
- Geological surprises during project construction phase leading to heavy time and cost over-runs.

- Financial closures are difficult due to the inherent higher risks and longer gestation time periods. Banking system is already overstretched in its exposures to the power sector.
- Other alternatives such as coal/gas/nuclear/wind/solar, which would be faster and more reliable.

Why Hydropwer?

Proponents of hydropower would use the following constructs:

- Large dams would have huge downstream benefits of flood control, irrigation and drinking water, livelihood through fish farming, tourism, etc.
- Zero fuel costs mean that variable cost of power production is negligible. Life cycle cost of power being low, manufacturing competitiveness of the economy benefits from such projects. (Bhakra power costs are estimated at less than one cent a unit, one-tenth of present day tariffs of about ten cents a unit)
- Given climate change issues, Hydropower potential is now recognised as a clean energy source and projects thereof can earn carbon credits.
- Since silt of the rivers would harm the turbines of the project, there is in fact an alignment of the producer's interests and environmentalists to undertake better forestry programmes in the water sheds/catchment areas of the project.
- Hydropower projects give the country 'peaking power'. This peaking power is much more valuable, unit for unit, as compared to base-load power of thermal power stations. Hydropower stations can ramp up and back down more smoothly as compared to thermal/nuclear power. Therefore this hydropower is much better in managing grid efficiencies for managing the volatility of power grid demands.
- Run of the river projects in the Himalayas have proved themselves to be ecologically reliable. Example- Himachal Pradesh has the Nathpa-Jhakri project of 1500 MW (bigger than the Bhakra storage dam project) running for nearly a decade now- the relative environmental costs have been negligible. (In fact Himachal has already completed various hydropower projects aggregating more than 7000 MW. Another 10,000

MW of projects are expected to be completed by 2017. For all these completed and started projects, the environmental impacts have been relatively benign, compared to the economic benefits of the peaking power made available to the national grid.)

What is the urgency- why not business as usual?

- Most of the balance hydropower potential of the country is in the "special category" Hill States of Arunachal Pradesh, Meghalaya, Tripura, Assam, Mizoram, Nagaland, Sikkim, Manipur, Uttarakhand, Himachal Pradesh and Jammu&Kashmir.
- These "special category" are economically unviable states and the Central Government has to transfer large amount of financial resources each year (Plan and Non-Plan) to these states, for meeting the committed liabilities and developmental plan needs of these states. (In fact, the Centre has a separate Ministry/Department for the North-Eastern States.)
- If the Central Government develops a coherent plan to develop the balance hydropower potential of the country, much of the lost annual revenue stream of Rs. 1,60,000 crore could accrue to the benefit of the special category states.
- This would kill two birds with one stone- the Union Finance Ministry would save itself the headache for finding the necessary future financial resources for these states and our country would benefit by the injection of 320 billion units of power into its energy grid.
- If we add the fact that the fuel cost of hydro is nil, the case should rest with the 'policy makers'- to galvanize themselves for a faster roll out of hydropower, rather than business as usual.

Some additional considerations

- With the current shortage of domestic coal being faced by the Power producers, India imported $17.5 Billion (Rs. 92,750 crore) worth of Coal in 2011-12. (DGCIS figures).
- Coal has now become the 6th highest commodity of import by India.
- The import figure of 2011-12 for coal is 79% higher than the figure for year 2010-11. (The real Coalgate!)

- Coal is now being sourced from whichever countries possible including Indonesia, Australia, New Zealand, USA, South Africa, China, Japan, Russia, Ukraine, Canada, Colombia, Poland, Vietnam, Austria, Israel, UK, Germany, Iran, Saudi Arabia, Singapore, Netherlands, Mozambique, Romania, Taiwan, Thailand, Malaysia, Venezuela, Nigeria, Spain, Pakistan and others. (Total of 57 countries- source, DGCIS).
- India is facing total import bill scenario of 500 Billion USD in 2012-13 (Rs. 26, 50, 000 crore). The current account deficit (CAD) scenario risks India's crashing in its fiscal ratings in world financial markets. Can the country therefore afford to see imports of coal grow at 80% year on year?
- Gas fired power plants in India are now on hold/ running at sub optimal capacities because of shortage of domestic gas- high prices of imported gas.
- New capacity addition plans (including ultra mega power plants) are being put on the backburner now, because of the severe fuel linkage problems being encountered.
- Fuel 'pass through' costs of ultra mega power projects are running into legal problems because the bidding was tariff based without fuel price linkages, whereas now the operators cannot complete the projects due to the coal price increase (Indonesian taxes, general price rise.)
- Power distribution companies are not willing to either absorb or pass through the full fuel cost increase charges to their consumers. (Costs to consumers of their power tariffs are already very high- check the way your domestic energy bills have been increasing lately!)
- Our Industries are becoming un-competitive in the world's export markets because of rising input costs of power and even worse, the unreliable supply of power/scheduled and unscheduled power cuts.
- In the meanwhile China accelerated on hydropower and completed projects such as the 20,000 MW Three Gorges Dam, which supplies ample and cheap power to the manufacturing juggernaut of Chinese factories.
- World over countries such as USA, Canada, European Countries, Australia, New Zealand, China, Brazil, Russia etc. – raced to first realize their hydropower potential.
- Why has India remained enamoured with coal over hydropower?

- Did the environmentalists' clamour drown out the sane voice of Pandit Jawaharlal Nehru when he described Bhakra etc. as the 'temples of modern india'?
- If the environmentalists were indeed right, how come the most environmentally sensitive nations of USA, Europe, New Zealand, Canada, etc. did not give up the unlocking of their hydropower projects?
- Please arise my fellow countrymen and its illustrious policymakers- if you continue sleeping you have much to lose- including the annual revenue stream of Rs. 1, 60, 000 crore!

My main purpose through this paper is to focus attention to the need for the urgency in harnessing our country's hydropower. The need is urgent because the special category states of India shall forever remain poor and "basket" cases for Finance Commission, Planning Commission, Finance Ministry doles and grants, in the absence of quick rapid action on this front. More so, because the solar power feed in tariff rates are expected to reach grid parity within a five year span.

If and when this happens, the fiscal argument for investment in hydro would have vanished. This would be a pity because a clean and zero fuel cost energy resource would have been beaten to death by the 'dirty coal' lobby, which will triumph and take many years to be eventually replaced by solar and wind energy.

If I have been able to impart the sense of urgency- the sole purpose of this paper would have been accomplished.

The first question is "Should we get hydro moving fast".

If we all agree upon the urgency- the next logical question would be "How do we get this moving fast"?

I will now pre-suppose, that the ones who read further are convinced about the Should part and therefore willing to explore the How part.

The How

Can we speed up the harnessing of our hydropower resources?

Sure we can, provided all our relevant policymakers and implementation agencies are willing to synergise.

As compared to even just a decade ago, we now have a much greater pool of

engineers and construction companies which understand this business better.

If they are given the necessary financial support and requisite clearances, we can easily add 50,000 MW in the next 15 years.

What do we do?

First and foremost, we need to get the Central Electricity Authority (CEA), strengthened and rejuvenated to do the required techno economic clearances much faster.

As per the CEA website, at present it is managing to clear only about three hydropower projects per year. The institutional capacity of the CEA must be increased to be able to clear 10 to 12 mega hydropower projects per year.

Second and related, the required environmental clearances will need to come in faster. The urgency of the nation must be that the environmental clearances come in faster, with a shared 'environmental lobby' responsibility for getting the projects quickly off the ground.

I am not suggesting that environmental safeguards need to be jettisoned. I am only saying that the timelines for clearances need to be much tighter and more pragmatic.

On the Government side, we must have better communication skills with the environmental lobbies, NGOs, civil society and the local community, to better address their fears and Relief and Rehabilitation (R&R) issues.

On R&R, based upon my past experience in this sector, I can vouch that the State/Central Government should be far more supportive in the R&R of the local community.

Typically, the operating companies (State, Central or private) tend to be miserly on R&R issues, as compared to the benefits to be reaped from the project.

The local community must be more incentivized for early completion of the projects, so that their economic interests are more clearly aligned with the national interest of completing these projects expeditiously. (At the same time, better ways need to be found to deal with the "middlemen", who jump in to delay settlements, simply so that they can extract their economic cuts for arranging the settlements

Similarly, the host state governments also need to be more clearly incentivized, so that they too have a greater stake in the fast track completion of these projects. **One pointer is that just as in the thermal projects, the Central Govt policy now allows the host state governments to get at least 50% of the power produced at the generating cost; for hydropower too the host state government should get at least 50% of the power produced at the generating cost. Such a policy has no financial impact for the power producer, since he gets the CERC determined tariff, but it strongly incentivizes the host state government to ensure fast track completion of the project.**

Better communication is also required with the public/ environmentalists that India's balance hydropower potential generally does not involve large dams, but run of the river projects which use the natural gradients off of the Himalayan rivers to produce energy. Being located in sparsely populated areas, the R&R issues are also more manageable as compared to the earlier larger dams.

The Government policy also needs to be proactive to ensure that these projects remain 'bankable' and financial closures can be done more easily. A PPP mix would help boost the required financial engineering to support the physical engineering challenges.

Central Government's first order of priority should in fact remain to help state governments with plan loans/grants, to ensure that the state governments' own these projects to the maximum extent possible. This is because it is in the central govt. interest to ensure a revenue stream for the state governments from these projects. This will drastically cut down future financial support required by the special category states from the central kitty. *(In the case of Himachal in fact a lot has already been achieved with the Central Govt. supporting World Bank/ADB loans for the hydropower sector in this state.)*

Central Government has also taken a good step by allowing the private producers to tap into merchant power sale. This boosts the profitability projections, attracts private investment interest and ensures faster financial closures.

Where different IPP structures are to be created, Himachal has given the lead

in various forms of bidding structures which were formulated. In essence the following principles may be best for the competitive bidding:

- Take some upfront premium (say Rs. Ten lakh per MW), to prevent 'squatting'. The successful bidder's interest is thus better aligned with the national interest to have the project completed early.
- The power royalty sharing could be fixed in the range of 13% to 25%. Centre need not fix this, leave it to the wisdom of state governments- if they set the range too high, the requisite bids would not come in.
- The competitive bidding parameter could be the BOOT (Build own operate and transfer) period. Though no state government has as yet used the BOOT period for the competitive bidding, my assessment is that for good projects, the BOOT period may be as low as 12 to 15 years. The Net present value (NPV) stream is generally zero or negligible after ten/twelve years. Thus, through such bidding system, state governments can hope to fully own the IPP projects, within 12 to 15 years of their first commercial operations

Epilogue

There is an old adage which wisely states that 'where there is a will, there is a way'.

I personally feel that due to the general antipathy of the environmentalists against large dams, the nation lost its will towards hydropower.

This is unfortunate because in the public perception large projects were equated with large dams, which is not necessarily true for the run of the river projects. Even for large dams, the nation seems to have forgotten that these dams are our water security against drought.

America has large dams, which give it water security for two years against failure of rains. In India, our water security is not even for two months against such precipitation failure.

Can India afford its relative neglect of hydropower?

Can it give up on what Pandit Nehru wisely termed as the temples of modern India?

Can we be foolish in continuing to be sanguine about 80,000MW worth of 'oil' flowing into the sea, year after year?

Please wake up fellow policy makers in the Power Ministry and the Planning Commission.

Let us blueprint for 50,000 MW of hydropower capacity addition in the next 15 years.

This is certainly doable- provided we are determined to do it.

Land Acquisition – A National Issue: Lessons from Haryana

Yudhvir Singh Malik*

Abstract

This paper is based on the first hand experiences of the author in handling land acquisition matters during a period of last 15 years in the state of Haryana. The State has come out with a series of policy measures since March 2005 and the author has been actively associated with the drafting of Land Acquisition & R & R Policies of Haryana, the latest being the 'Land Pooling Scheme' notified on 14th August 2012. The State of Haryana has been responding to the problem through its dynamically responsive policy interventions and has become a trend setter in this behalf. The paper may appear to be representing a myopic view of a mega issue as it is based on the experiences of one small state, which has emerged as a leading agriculture producer, has 44% of its geographical area forming a part of the National Capital Region and hence faces a tremendous pressure on its land resources on account of an ever growing pace of urbanization. The paper analyses the problem in a national perspective, the current issues and suggests a way forward based on the lessons learnt in Haryana.

Outline of the Policy Problem

- **Full statement of the problem**
  - Acquisition of private land by the government for a 'public purpose' in exercise of its powers under the Land Acquisition Act, 1894, referred to as its 'Eminent Domain' has recently faced a lot of opposition and resistance from the landowners. Various State Governments have come out with their own response mechanism to counter the problems and engaged in introducing all kinds of benefits to the landowners. The Central Government in the Ministry of Rural Development has taken a call to come out with a completely revised new legislation on the subject, which has evoked very strong responses from different stakeholder groups. The strength of landowners lies not in their being the 'landowners' but because a very large majority of them constitute the politically sensitive 'farming' community.
  - It is an admitted position that, given its stage of economic development, India needs to invest heavily in the infrastructure sector, be it connectivity by rail or road, or planned urbanization or civic infrastructure like electric power stations, substations, transmission and distribution network, water supply, sewage and drainage systems or social infrastructure like schools, colleges, technical institutions or hospitals. It is also not disputed that the most critical resource or dependency for implementation of these projects rests on the availability of land. The increasing pace of urbanization has brought a huge pressure on the lands in adjoining areas with ever expanding boundaries. Private sector has developed its own capabilities in terms of execution of basic infrastructure projects but it has its limitations and constraints in aggregating land for the purpose. As such, acquisition of land has become an enigma today and poses one of the major challenges before the governments. The most important imperatives remain
    - afair compensation to the landowners and their resettlement,
    - development of basic infrastructure which largely takes place in a linear fashion following the pattern of ribbon development,
    - planned urbanization, and
    - the sanctity of implementation of law so as to minimize the discretion and abuse of the 'eminent domain' by the governments. The recent judicial pronouncements have added another complex dimension to the whole issue.

The problem in Indian historical context

- Historically, land vested in the crown and the farmers cultivated it as tenants and not as owners. The cultivating farmers paid rent to the crown for using the land. Further, land constituted the most important instrument of awards and rewards by the kings, as a potent source of empowerment of their favourites and the administrative hierarchy. Ownership of land in individual hands came to be recognized progressively over time and with the land reforms introduced by the British (read, East India Company). Recognizing the need for acquiring

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Annexure mentioned in the articles have not been printed due to space contraints. The publisher can be contacted through e-mail to obtain the same.

private lands for public purposes, most important being the expansion of Railway network at that time, it was in 1894 that the British India enacted the Land Acquisition Act, which continues to survive today, with a few important amendments made in the year 1984. The basic law of land acquisition has seen its variables through a total of 16 separate statutes for acquisition of land by the Railways, the National Highways Authority of India and a few other laws entailing requisition or acquisition of Right of Use for the laying of underground gas pipelines, communication (telecom and other communication devices) and the overhead electricity transmission lines.

- Not much of un-surmountable problems surfaced on account of exercise of its 'eminent domain' by the governments during the initial post-independence era of about 30 years. This was the time when not much value was assigned to land. Village communities readily agreed to part with land at no costs for development of roads and infrastructure facilities. Vast stretches of land were lying uncultivated, agriculture was largely rain-fed, mechanisation of agriculture (with the incoming of tractors) had just commenced, and alternate sources of irrigation were developed. The process of urbanisation had just commenced and land emerged as an important asset holding promise of a future value. The 1984 amendments (with the prescription of validity of time for the acquisition notifications, and increase in the solatium rate from 15% to 30%) had their positive effects. However, the last 15 years or so have faced resistance from the landowners, which have at times acquired overtones of organized and violent agitations during the last 10 years or so.

The problem in the global context

- Acquisition of land has become a major issue across the world, especially in developed economies. Even the African continent nations are increasingly becoming protective about the sale of land to outsiders. It is extremely difficult in a country like Japan to widen their major road arteries due to prohibitive costs involved in land acquisition.
- Indian economy attracted global attention post-1991 economic liberalization reforms. It offered the promise of a huge consumption market and has witnessed record economic growth. China's emergence as a major economic power in Asia, enormous FDI and economies of scale posed a major challenge to the other developed economies. Acutely conscious of the poor infrastructure conditions in India, one comes across comparisons being made regarding the development scenarios in two Asian giants at various forums, always deprecating the pace of project implementation in India, conveniently forgetting the two vastly different political economies, one being a highly controlled command economy and the other being a democracy, albeit with fractured mandates. Everybody has started asking the question: How come China is able to achieve overnight what India could take an infinite time to do ? It would require a separate paper by itself to draw up the comparisons. However, the basic difference remains that in case of China, the individual rights are completely subjugated to national priorities. A decision is taken in the evening to create and develop a Manufacturing Zone and the evacuation begins the following morning with nothing to impede the process. In India, firstly our political executive may take its own time to take decisions, and if it does, the political system, along with its flawed bureaucratic procedures, coupled with diverse judicial pronouncements, and a poorly informed fourth estate play their respective roles in erecting all kinds of speed breakers.

Current symptoms and manifestation of the problem in India

The current problem manifests itself through the questions raised at various levels

- the agitations organized by or on behalf of the landowners, political and executive actions, diverse judicial pronouncements and media coverage on the subject. The main issue revolves around the imbalance created on account of inadequate compensation paid to the landowners and the sustainability of the development agenda of the country. These problems manifest themselves through the following questions:

- Should the government be allowed to exercise its 'eminent domain' and forcibly acquire private lands in the name for fulfilling its development commitments ?
- What is a 'public purpose' and how sanguine is such 'public purpose' that curtails the constitutional rights of an individual from enjoying his property the way he wishes to do that ?

- How and to what extent a landowner should be adequately compensated for acquisition of his land and how the issues pertaining to the resettlement and rehabilitation of those affected be addressed ?
- Perceptions about misuse of discretion by the Government and creation of opportunities of unearned gains for one section of the society at the cost of another ?
- To what extent the agricultural land should be allowed to be diverted for nonagriculture purposes and as to whether the increasing pace of urbanisation will pose a threat to the nation's food security ?
- Has the existing legal framework become archaic which calls for a holistic review and, if yes, to what extent and in which direction ?

Underlying causes of the problem

- An insight into problem and its dimensions require taking stock of the various stakeholders and understanding the conflicting interests of these groups. These are briefly stated in the following paragraphs:
- Landowners - a large majority of whom are farmers:
    - The landowners constitute the first and most important stakeholders. However, for everybody's convenience, every landowner is considered to be a farmer even if he is an absentee landlord or engaged in activities other than farming. A number of recent judicial pronouncements have also bracketed the 'farm-house' owners with the 'poor farmers' primarily because they have enough money to engage the best legal professionals. Be that as it may, the expression 'farmer' has been interchangeably used for a 'landowner' in this paper. If the landowner is a cultivating farmer, owning land through inheritance or self acquisition, and using the same for agricultural operations, unless he is a farmer owning more than 10 acres of land by Haryana standards, he is largely content with living hand to mouth.
    - In a state like Haryana, which has a large network of irrigation canals and where close to 6.00 lakh tube-wells are energized at virtually no operational costs (thanks to the highly subsidized agriculture power tariffs), the net annual earnings from one acre of land vary between Rs. 5,000 to Rs. 35,000/- depending on its location, fertility, irrigation facilities, quality of sub-soil water etc. It may not be wide off-the-mark to average these net annual earnings at about Rs. 10,000 to Rs. 12,000/- per acre across the state. The average price of agricultural land was ruling between Rs. 2.00 lakh to Rs. 6.00 lakh per acre till about 10/12 years ago. In case the land of this farmer was situated on a good connectivity artery (say, a National or a State Highway), it could fetch him a price of about Rs. 10.00 Lakh to 15.00 Lakh about 10/12 years ago. At such a juncture, if a businessman investor offered double the amount to a farmer, he perceived the same as an opportunity and could not resist selling his land. The wiser among those (which have not been a larger percentage) also invested the sale proceeds in buying agricultural land elsewhere virtually doubling their land holdings. It was shocking to observe in the year 2002 that almost entire land situated alongside the NH-1 along a stretch of about 70 kms from Delhi had been purchased by businessmen from Delhi or areas around. Today, the asking price of these land parcels varies anywhere between Rs. 50.00 lakh to Rs. 1.00 crore per acre. The original landowners feel cheated, though for nobody's fault, except their own economic compulsions or their incapability to assess the future value addition in the land prices and hold on to their lands. While making these comparisons, they conveniently ignore the concept of opportunity cost in having realised the value at an earlier point in time.
- The opposition to acquisition of land by the government, especially in areas with potential for urbanization, is generally led either by the political parties in opposition or a handful of omni-present self styled farmers' leaders, who would oppose the acquisition in the name of diversion of 'fertile lands' for agricultural purposes or on account of 'highly inadequate' compensation paid to the 'farmers'. Instances of some of the agitation leaders themselves having acquired interests in the lands situated in these areas are quite commonly known. The fact is that very few of them are actually motivated by the 'holy' cause of 'agriculture and food safety'. The opposition is partly to increase their bargaining power for demand of higher compensation amount. The real reason is that they would like

to sell these lands in the open market at higher prices, with a dominant unaccounted cash component forming part of the transactions. Hence, the opposition or resistance to acquisition of such land by the government lies in taking away the landowner's negotiating power for fetching a better price for himself. And, there is nothing wrong with his perception.

- The system of Town Planning and assignment of different land uses for different parts of the land (which is a necessary requirement) adds another dimension to the pricing and value of land. These different land uses are generally residential, commercial, industrial, institutional, open spaces and agricultural zones. If the land of 'A' happens to be situated in a 'residential' zone, where the real estate developers are allowed to purchase land through direct negotiations and obtain licenses for development of residential colonies, it becomes a windfall and the landowner may fetch three to four times the price of another land parcel situated in an abutting 'Agriculture Zone'. Thus the designated 'land use' becomes a major driver and adds another dimension in determining the market value of land.

Government and its acquiring agencies

- The Government acquires land for two major purposes i.e.
  - government owned and developed infrastructure projects, and
  - for meeting the requirements of 'planned urbanization' which takes into account the residential, commercial, institutional, industrial, and other supporting activities. The infrastructure projects, which admittedly serve the larger public purpose, are further divided into two major parts i.e.
  - linear projects such as canals & drains, roads, and rail links, and
  - economic and social infrastructure components comprising powerplants, electric substations, drinking water supply and storage systems, sewage treatment plants/ common effluent treatment plants, solid waste disposal and treatment sites, schools, institutions, hospitals etc.
- Land constitutes a basic requirement for development of all these facilities. The dividing line between government ownership and private ownership of any such project and the ultimate beneficiary of land in such cases is increasingly getting blurred with the increased emphasis on PPP mode of execution of projects. The concept of PPP mode of execution of such projects has gained ground primarily because of lack of capital resources and the required expertise for execution, operation and maintenance skills with the Government, wherein the Private Sector has been able to demonstrate its superiority.
- While there may be nothing wrong with the government action so long as the land is acquired and put to use for the projects aforementioned, its role comes under scrutiny where the acquisition is carried out or dropped which benefits the private interests more than what meets the eye. There have been instances of this nature where the Government has acquired land and allotted the same to the intermediaries as in the case of Greater NOIDA in UP. Any such action amounts to misuse of the 'eminent domain', except that jumping to any such conclusion in the case of PPP Projects has to be examined with a lot of care and caution as the Private Sector engaged in the process of infrastructure development also becomes a stakeholder in this process.

Private Sector engaged in the planned development - real estate developers

- Of late, the private sector has emerged as a major player in planned urban development. The presence of private sector has been witnessed in the development of residential infrastructure (group housing and plotted development), commercial establishments, institutional areas, corporate hospitals and institutions. Now, some of these have also started moving towards development of industrial estates also. It has to be understood that the forte of private sector lies in capitalizing on market opportunities and optimizing their gains as they are not in the market for charity. One cannot and should not grudge their capacity to capitalize on the opportunities in a developing economy. But their contribution to the development effort cannot be belittled only because they are profit making.
- Perhaps Gurgaon and Faridabad would not have been what they are

today but for the important role played by the real estate majors like the DLF, the Ansals, the Unitech, IREO, Eros, BPTP and the presence of a number of new players who have emerged in the market place during the last two decades or so. However, the eminent domain cannot be exercised for their benefit and they should be allowed to carry on their operations so long as they buy the land through direct negotiations with the landowners/farmers. At least this has been the general practice followed in Haryana state. However, any positive intervention by the Government, including disposal of acquired sites through a transparent process of open bids, should not be construed as something subservient to the private interests.

Speculative investors

The maximum mischief is played by the land sharks in the process who are adept at short term speculative investments, without contributing to the process of development and who create ripples in the land market. It is this group of stakeholders who specialize in land deals and who vitiate the entire process of development but nonetheless occupy the position of an important stakeholder group. They are small time operators with a large determining role.

Judicial interventions

- There have been very effective judicial interventions on the subject, both in the areas of checking misuse or abuse of the eminent domain by the governments and payment of inadequate compensations to the landowners. However, the mutually varying positions taken on the 'principles' by different courts at different points in time have added to the complexity of the whole issue. Lack of consistency in rulings and decision-making has thrown up challenges of a different kind. The dangerous trend of the so-called 'media trials' has taken its toll. The judicial pronouncements are often punctuated by individual philosophies and perceptions in which the interpretation of law often takes a back seat. It is high time that the Hon'ble Supreme Court considers constituting a larger bench to lay down the principles on various important issues and manifestations, which serve as guiding and binding principles for the executive as well as the courts.

- The judicial pronouncements regarding enhancements in compensation, after a gap of 10 to 20 years, have added another dimension to the problem. The time lag between the acquisition of land and the final decision making often tends to ignore the actual market rates that would have prevailed at the time of acquisition. One is certainly influenced by the price levels prevailing at the time of awarding the enhanced compensation. The legal practitioners are most often known to be settling their professional fees in terms of percentage of the enhancements and sharing of the enhanced amount is well known. Another influencing factor arises from the difference between the price of land paid to the farmers and the prices at which the developed land is sold/ allotted by the Government development agencies in the case of urban development projects. It is often observed that the 'poor farmer' has been paid 'X' amount of compensation, whereas the acquiring agency sold the developed land at '4X' or '5X' of the price or even the price prevailing on the day. To a layman, it may appear to be a justified reason for enhancement forgetting that the process of planned development does not leave even 50% of the gross area as the net plotted saleable area. There are huge costs involved in development of infrastructure in addition to the administrative costs and the holding costs of land. An indicative list of these costs is enclosed as **Annexure - I**.
- While the farmers are beneficiaries of the enhancements awarded by the Courts, there is another segment which bears the consequence/ burnt thereof. These are allottees of the developed residential, institutional, industrial plots. There have been instances where the developing agency allotted residential plots in Gurgaon Haryana) in the 1990s at a rate of Rs. 4,500/ per sq. meter but the additional demand on account of enhancement announced by the Courts has worked out to Rs. about 30,000/- per sq mtr. A pensioner, who constructed his house over a plot of 300 sq. mtrs. in 1998 and who is leading his retired life out of his pension, is required to pay an amount of Rs. 90.00 lakh on account of the enhancement. He can sell his house today and meet this liability but cannot purchase even a small flat for his living. The HSIIDC allotted industrial plots to the industry in IMT Manesar @ Rs. 1500/- per sq. mtr. during 1998-2002 but the additional impact of enhancement by the

Hon'ble Supreme Court announced in 2011 has worked out to about Rs. 3,500/ - per sq mtr. The uncertainty about the determination of prices and a finality to the same becomes a big setback to the end users.

Response to the manifestations

- It may appear simplistic and sweeping to attempt an answer to the issues and posers raised under para 4 above. However, having discussed the stakeholders and their interests above and keeping the superiority of national interests uppermost in mind, the response to the above questions is as under:
- Yes. There is no alternative to acquisition of private lands by the government for infrastructure creation and achieving planned development.
- The Public purpose has already been defined through a series of judicial pronouncements and the scope can be further refined through a set of rules and elaborate illustrations to check any possible misuse;
- Undoubtedly, the landowners have to be duly compensated and a detailed mechanism can be evolved for the R& R measures for the purpose through the rules. Some of the options have been suggested under the alternative approaches;
- Need for tightening the loopholes through a set of rules;
- Each state should be required to come out with its detailed master-plan for land-uses. The solution lies in converting idle and barren lands fit for agricultural use and focusing on improving the productivity;
- The existing law is complete by itself. There is no need to throw it out, make minor adjustments and amendments to fill in the gaps. Leave it to the states to frame their own framework rather than providing a single solution for the whole country.

Policy alternatives

- **Policy alternatives**
  - The proposed LARR Bill, 2011
  - There is hardly any segment of Indian polity who have not commented on the proposed Land Acquisition, Rehabilitation and Resettlement Bill, 2011 (LARR Bill). The initial draft was prepared by a

committee of the National Advisory Council, which was further shaped up as a Bill by the line Ministry of Rural Development. The Bill, as of now, stands referred to a Group of Ministers (GoM) in view of serious reservations expressed by the Ministers in charge of infrastructure sectors. **The Hindu** of 28th August, 2012 carried a report on the subject and reported as under: "Rural Development Minister Jairam Ramesh recently admitted that economic worries have forced him to make changes to the Bill in order to dispel the impression that it was pro-farmer and anti-industry. For instance, he had changed his mind on retrospectively applying the law.

"Had the economy been growing at nine percent per year, I may not have changed my view," he said. "But the current economic circumstances dictate the need to make the Bill perceptively more investor-friendly."

- The Times of India published a report containing the response of the Rural Development Minister, who was steering the proposal, in its issue of 4th September, which are extracted as under:

  "This bill is part of the political agenda of Congress and we are a political party. These people should know we are in government, they are ministers because of Congress."

  "Compensation, R&R and social impact assessment, provision like consent of 80% landowners, are like the basic structure of the Constitution. They cannot be tampered with and are non-negotiable,"

  "I have already made concessions against my instinct keeping in view larger economic challenges – like the bill would kick in with prospective effect and not touch past acquisitions. The livelihood losers' consent has also been waived."

  "Some people have not read the bill, it does not include linear projects like highways and railways."

- It is disappointing to note that a legal framework, envisaged to replace a 118 year old law, is being decided keeping in view the transient economic conditions. Further, it is even more disappointing to note that a Bill on the subject is being spearheaded as a political party's agenda rather than a national agenda. If that be the case, the Rural Development Minister has already lost his opportunity. The worst thing to happen politically is to first raise the

expectation levels of the constituents (farmers in this case) and then retrace from the same. The damage to that extent has already been done and is irreversible.

- A critique of the basic flaws, including the non-negotiable components in the proposed Bill is given below:
  - The process of land acquisition is envisaged to commence with a Social Impact Assessment (SIA) of the proposed land acquisition in an area. The concept of SIA appears to have been borrowed from institutions like the World Bank and highly developed economies. Notwithstanding the limitations, it is perfectly in order in cases involving large acquisitions (e.g. for hydro power projects, dams etc.) displacing the habitat of the population itself. Subject to the above exceptions, it is difficult to operate the concept in the Indian context where there is a vacuum even on the availability of professionally competent SIA experts. The greater challenge lies in a huge potential of subversion of the entire process by the speculative investors. The moment this 'interest group' comes to know that land is proposed to be acquired in an area, they would step in to buy lands in the area, some of which may be at artificially inflated rates to disturb the balance of price discovery and defeat the process. In case the SIA is considered as one of the pillars of the proposed bill, it should be envisaged that no cognizance of any transactions taking place after commencement of the SIA would be taken into account for price determination;
  - The inclusion of "affected" families is fraught with a rent seeking opportunity as correct identification of the affected families would be a major challenge especially in societies where traditional societal linkages (the Jajmani Pratha) are no longer in existence and substituted by cash based wage systems;
  - Contrary to a well defined system of price determination under Section 23 of the Land Acquisition Act 1894, the price discovery mechanism as proposed in the LARR bill is arbitrary and disturbs the balance between payment of compensation and the loaded development costs. Transactions in land and real estate account for one of the single largest use of unaccounted money. The real value transactions are not recorded for reasons of black money, stamp duty, income tax on the capital gain etc. Instead of addressing this menace, the bill seems to recognize that it is an evil to stay and also allowed to prosper. What is required is a correct application of these determinants. This function could be entrusted to an institutional mechanism like a Tribunal which could even be headed by District Level Judicial Officers (as the objectivity of Executive has been projected as questionable) along with representatives of the farmers and the acquiring agencies on board. Raising the bar of solatium from the existing level of 30% to 100% in lieu of compulsory acquisition is not sustainable and a serious distortion of pricing. It could at best be increased to 50% of the basic price;
  - Prescribing a limit on the acquisition of agricultural land is another nonimplementable proposition. In a State like Haryana, where 88% of its land is arable, of which 98% is under cultivation, it would mean that Haryana State should stop at that. The proposition is ill founded as it simply cannot regulate diversion of such agriculture land for non-agriculture purposes in the hands of landowners or private markets nor would such a proposition be implementable and enforceable. Will anybody in this country be able to stop sale of agriculture land in an area holding urbanization potential for non-agriculture purposes ? It would only give rise to un-planned slum like development which is a decision to be taken by those who are entrusted with this responsibility;
  - The bill proposes that where land is acquired for planned urbanization, consent of 80% of the landowners and the affected families is required. It is an absolute dismissal of the concept of 'eminent domain' of the government. It is fiat almost akin to a political system where only a candidate securing 80% of the electorate votes would be deemed to have been elected as a public representative ? Surely, one has to undergo the rigour of election process in order to understand the complexities of ground realities in this behalf.

- The proposed bill does not take into account the administrative complexities and additional costs associated with the acquisition of land. The Bill miserably fails the test of 'ease of implementation'. One has to think of the scale and size of the administrative machinery that would be required for acquisition of lands for a number of government departments at the same time. The additional costs are simply unsustainable;
- The provisions of R&R are sweeping in nature. Actually, these need to be site specific, project specific and based on actual displacement of the affected persons. The requirement of additional land for the R&R itself would itself be a huge burden. The costs associated with the prescription would be prohibitive, which a developing country like India can ill afford;
- While the government recognizes the merits of PPP mode of execution of projects, and where the only substantive input from the government (public) side is land, the proposed bill looks at the private sector almost as an un-touchable. If the private sector is to be admonished like this, the country's polity should have no role for them in the economy. What is important is to check any opportunity for excessive and undeserved profit-making by the private players, which is more of a regulation function;
- There is no logic and rationale for bringing the private purchases of land within the ambit of the Bill where the price discovery is mutually settled between the parties. Prescribing a threshold of 100 acres in this respect would only lead to circumvention of the law where multiple entities would be created to buy land below 100 acres.
- The position taken by the Rural Development Minister, that the States would have the flexibility to make amendments to the law and provide add-ons to the provisions of the Bill, is a misnomer especially when the threshold itself is being raised so high. The Bill retains the 'Central' supremacy on a matter where bulk of the 'accountability' rests with the states. Ideally, the States should be given the freedom to frame their own laws on the subject.

Policy Imperatives

- **Value addition to land and future wealth creation**

  Agricultural land by itself has minimal potential for 'value addition' or 'wealth creation' unless non-agricultural development takes place in the area/ vicinity. Any agricultural land acquires value only with the development of some major catalytic initiative in the area which is invariably initiated and taken by the government. Times have gone where the price of agricultural land was dependent upon its fertility and assured access to irrigation facilities. The Pricing of land today is a factor of:

? • Its location along a good access artery – a large front on a wide road - fetches the best premium even if the land is useless from fertility angle. It is this factor that places a premium of land abutting any road artery.

? • Its potential for non-agricultural uses e.g. commercial, institutional, residential, and industrial, which comes with the development in the area.

Planned versus unplanned growth

Pace of urbanization in a state like Haryana, which accounts for about 44% of its geographical area as part of the National Capital Region, creates huge pressure on land for planned urbanization. The choice lies between (i) the government stops acquisition of land and allows unplanned growth like slums or (ii) undertake planned urbanization/ development which is dependent on land acquisition. It has to be kept in mind that the expansion of urbanisation is a contiguous process and it envelops the entire land abutting on all these sides notwithstanding its character or fertility.

Dichotomy of Indian Polity: at cross roads

- Following the international trends, the Government of India also decided about two decades back to shift its focus from the state driven economic development to an important participative role for the private sector. It has recognized the inherent basic implementation and operational weaknesses in the governmental machinery on the one hand and the comparative strengths of the private initiative on the other. The

dichotomy and irony of Indian polity is that that while it places reliance of the strengths of the private sector and advocates implementation of projects in PPP mode but when it comes to acquisition of land, it treats the same private sector as a profiteering 'untouchable'.

- Haryana Government takes pride in development of Gurgaon as a corporate hub but it cannot belittle the contribution of private developers like the DLF, Unitech and Ansals and a score of other developers in taking Gurgaon to the level where it is. The Finance Ministry and the Planning Commission advocate adoption of PPP mode for development of physical infrastructure like major highways and mass Rapid Transport Systems on account of the scale of capital investment, expertise and capability of the private sector to execute projects and more efficient management thereof. We talk of the Government establishing schools and universities but fail to match the quality of private initiative. IIMs and IITs are already resisting the increasing trend of government interventions. Why is it that every state would like to have an Indian School of Business? We talk of setting up hospitals by the Government but look up to the private initiative in providing efficient services and tertiary level healthcare facilities. It is in these areas that the private sector has come to play a definitive and superior role and we cannot wish away the growth and contribution of the private sector. In case it is here to stay, why treat the private sector as untouchables ?
- There is no end to a debate on the subject, especially in a country full of opinion leaders. It is the time for construction or reconstruction of a nation. It needs a heavy dose of infusion of capital in infrastructure development. The Rural Development Minister understands these imperatives very well. We also cannot afford to bear with unplanned and unregulated urbanization any further. Given these two major imperatives, it is critically important to balance the interests of all the stakeholders involved in the process.

What has been done elsewhere ?

- Different states have introduced policy interventions to address the issues suiting their local conditions. Haryana State has taken the lead in this behalf right since 2005 and it has been progressively amending its policies in order to dynamically respond to the situations and all this has been done within the existing legal framework. Never before there has been so much financial empowerment of farmers in the state of Haryana as it has taken place post-2005. States like Punjab, Rajasthan, Gujarat and UP have come out with their own policy measures.
- The Government of Haryana took an unprecedented and path breaking decision to prescribe floor rates for acquisition of land in April 2005.3 The State was divided into three broad segments and the floor rates were prescribed in April 2005. Further revision and rationalisation of the floor rates followed in April 2007.4 This was followed by another path-breaking R & R Policy with the introduction of concept of Annuity payment @ Rs. 15,000/- per acre per annum for a period of 33 years over and above the upfront compensation paid.5 The Policy was again comprehensively revised in November, 2010 with further rationalisation of floor rates, and a substantial addition to the R & R basket along with revision of the Annuity rates from Rs. 15,000/- to Rs. 21,000/- per acre per annum.6 Continuing with its policy changes, the Government has now come out with a Land Pooling Scheme with effect from 14th August 2012.7 It would be worthwhile to draw a few lessons from the policies framed by these states before coming out with a central legislation.

Objectives to be sought from the policy and critical constraints

- This paper is an attempt to suggest a framework which objectively balances the interests of all the important stakeholders i.e. the landowners, predominantly the farmers, the Government, and the process of development. The paper looks at a scenario where the planned development process takes precedence over various conflicting interests and does not get impacted or checkmated on account of genuine or made-up grounds. The landowning farmers should not feel cheated at the hands of Government and should get paid a fair compensation for their land keeping in view its future value potential and the Government is not allowed to misuse or abuse the process for sub-serving the private interests in the name of larger public interest. The landowning farmers have to be assured a secure future rather than being left in the lurch and fend for themselves having been unsettled from their traditional vocation.

- The critical constraint is the thought process of the central government and a mind set with those at the decision making levels. In the first instance, they believe that the existing Land Acquisition Act is archaic (only because it has survived 118 years by now) and that it requires a replacement. They also seem to believe that it is only the central government which should and can bring a new legislation and that the states cannot be trusted with such an important matter.

The proposed approach

In the first instance, each state should prepare its macro level land use plan which should earmark the different land uses over a perspective period so as to address the concerns of increasing diversion of agricultural land for non-agricultural purposes. It is for the state to decide the share of different land uses. These macro level plans then get translated into micro local level plans over a period of time.

Legislative Domain

- India is a vast country with a wide diversity. 'Land' is a State subject under Entries 45 to 48 under List II of Seventh Schedule and on the Concurrent List under Entry 42 of the List III of the Seventh Schedule. As per recommendations made by the Commission on Centre-State Relations, the Central Government should restrain itself from legislating on such matters in the Concurrent List. This is because the ground situation varies vastly from state to state and, therefore, the current system of one law for the entire country needs to be reviewed.
- It is high time that the Government of India restrains itself from laying down a uniform prescription following the concept of 'one-size-fits-all'. Respecting the spirit and principles of a true federal structure, the Central Government should simply let the state governments legislate their own amendments to the existing legal framework as the States are as much governed by elected governments, who in turn have to fulfil the expectations of all the stakeholders, with greater accountability in this case than that of the Central Government. In the interim, following amendments to the existing Land Acquisition Act would perhaps suffice:
    - The period for filing objections under Section 5-A may be increased from 30 days to 60 days;

- Amend Section 18 of the Act to (a) prescribe a maximum time frame for giving finality to the references under Section 18, (b) the courts also to take into account the sale/ allotment price of developed land to the end consumers, (c) the courts may be required to examine the development costs as well as the non-saleable area while settling the references for enhancement, and (d) permit the third parties (allottees) to represent their interests before the Courts;
- Section 23 may be amended to make provision for determination of price through constitution of Tribunals/ Committees consisting of representatives of landowners and the acquiring agencies and arriving at negotiated settlements over and above the existing provisions.
- Amend Section 55 of the Act to mandatorily require the state governments to frame and notify rules with regard to:
    - A Definition and scope of 'public purpose';
    - Determination of compensation;
    - Laying down the criteria for release of land parcels forming
    - part of the acquisition notifications;
    - Criterion for allotment of acquired land to private sector;
    - Formulation of R & R Policies.

Pricing of land for determination of compensation

- It is an accepted position that the landowners should get a 'fair' compensation for their land when acquired by the Government under the force of law. The expression 'adequate' compensation is a relative proposition which may vary from person to person. The term 'equitable' has very deep and complex connotations and a far fetched position as it would take one to the questions of a 'perfect' or 'imperfect' market. It is in this context that it is intended to achieve the position of a 'fair compensation package', which refers to a price at which the landowner would be willing to sell his land in the open market.
- The initial value addition to agricultural land in any area is a function of some major development initiative whether it be through a major infrastructure project (e.g. a major road artery, or a railway connectivity or a Mass Rapid Transport System (MRTS) facility) or through a major

development project (e.g. establishment of a University, a Medical College or a major Hospital), or planned urban development strategy. Thereafter, the stage and status of development in the area starts ruling the price.

- The nature of infrastructure works and planned development for which land is acquired have already been discussed under para 5.3 (i). Haryana's latest 'Land Pooling Schemes' offering opportunity to a landowner of becoming a partner in the development process are restricted only to the 'Industrial Infrastructure Projects' and the 'Residential Infrastructure Projects' in the state, which may account for approximately 40% to 50% of the total land acquisition. It has been observed that the landowners, whose land is acquired for linear projects which actually create and add wealth and bring value to a certain area, and those whose land is acquired for other purposes (say, creation of town level infrastructure and facilities) need to be compensated appropriately, without any discrimination and without any land use linked considerations.
- It is clear from the above that there are two broad categories of cases involving land acquisition: one, where the land owners could be given an option of becoming partners in the development process and, second, where such feasibility is nonexistent.

  Those who have the option of becoming partners also become entitled to any future appreciation, whereas it is not the situation in the second category.

Compensation for linear projects

Discrimination in payment of compensation on the ground of nature of a project, especially the linear projects, which actually add value to the land, and act as instruments of future wealth creation, cannot be supported. It is no fault of a landowner if the alignment of a road/ railway line is through his land and not through the land of his neighbour who is actually the beneficiary of a jump in the price of his land on account of the facility created. There is a strong case to address this issue. The actual impact of projects undertaken in this category is discussed as under:

- **Road Projects including Expressways/ Highways etc**.

The value of land abutting the access controlled 135 kms long Kundli-Manesar- Palwal Expressway in Haryana or a Yamuna Expressway in UP

increases overnight especially in areas in close proximity to access intersections. The farmers whose land is acquired for the Expressway do not get any benefit from this value addition unless some portion of their land is still left out of the acquisition. Further, this value addition takes place over a period of time and keeps on increasing with the flux of time. Thus the other landowners gain at the cost of those whose land is acquired. Therefore, it is important that the influence zone of such projects is defined upfront and all those, who benefit from such value addition, share a part of their earnings with the landowners who have lost their asset for such project. This could be recovered in the form of a cess, say, equal to 10% of the transaction value, on every first transaction taking place up to a period of ten years after conceptualisation of the project and the amount thus collected from this cess is used as a reimbursement of the extra payment to the affected landowners in the form of compensation.

- **Canal/ Drain Projects**

In the case of a canal or drain project, there is value addition for the adjoining landowners be it though augmented irrigation facilities or an efficient drainage system thus contributing to their agricultural operations. The value addition of land in this case is not likely to be in proportion to a Road Project. It is, therefore, feasible that apart from one time compensation determined for acquisition and other R & R Benefits admissible in these cases, the landowners are additionally compensated recovered through a betterment levy imposed on the beneficiary farmers over a fixed period of time, say 5 to 10 years. The beneficiaries in these cases would be those who are part of the command area covered and whose water allowance improves with any such new system.

- **A railway line Project**

In the case of a railway line project, the value addition is largely confined to the areas in the influence zone of the railway stations while for the rest of the areas on both sides of the railway line, it might lead to depletion in land value. On the other hand, the value increases substantially in the case of urban MRTS Projects. Hence, the principle of loading the beneficiaries for part of the compensation to the landowners sacrificing their asset could be followed in these cases as well.

Recommendations on the compensation packages

The above formulations are only indicative ropositions and the states should have the complete freedom to adjust any such policies to suit their specific conditions, requirements and public expectations.

Sr. No.	Purpose of Land Acquisition	Recommended approach/ options
1.	Linear Infrastructure Projects e.g. Roads, Railway lines, Canals & Drains etc.	a) Haryana model as prescribed in its policy of November 2010 (Annexure V) punctuated as per the context of each state and updated on an annual basis; b) An additional compensation over a period of ten years from the date of compensation as per the formulations given under para 10.4 above; Or c) Pay an additional solatium equal to 30% of the basic price taking the total solatium to 60% in these cases, and d) All the benefits as admissible under the R & R Policy.
2.	Urbanisation Projects for development of planned Residential and Industrial infrastructure	a) Haryana model as prescribed in its policy of November 2010 (Annexure VI) punc tuated as per the context of each state and updated on an annual basis along with all the benefits as admissible under the R & R Policy; or b) The options given under the Land Pooling Schemes of the Haryana Government (Annexure VII).
3.	Acquisition for other infrastructureprojects or public facilities	a) Haryana model as prescribed in its policy of November 2010 (Annexure VI) punctuated as per the context of each state and updated on an annual basis along with all the benefits as admissible under the R & R Policy; and b) Pay an additional solatium equal to 30% of the basic price taking the total solatium to 60% in these cases.

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A Proposed National Policy on Information Security in India

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Outline of Policy Problem

Full Statement of Problem

Security attacks pose serious threats to the sensitive information, possessed both by public and private sector, and could potentially jeopardize national security. Security of the information requires a focused policy initiatives to sensitize public and private sectors towards national security concerns and drive their actions for securing the information.

The Digital World is a reality today in all of our lives. Digital infrastructure is increasingly the backbone of prosperous economies, vigorous research communities, strong militaries, transparent governments, and free societies. Lacs of people across the country rely on the electronic services in the cyber space every day. As never before, information technology is fostering transnational dialogue and facilitating the global flow of information, goods and services[1].

Cyber Espionage: Stealing Sensitive Info		
Operation 'Shady RAT'	**Widespread cyber-espionage**	5 Years/ 14 countries/ 70 Public & Private Cos
Operation 'Night Dragon'	Trageted Oil & Energy Cos	5 Years/ 14 countries/ 70 Public & Private Cos
Nitro Attack	Info on B1 Bomber	25000 pages of sensitive info
Rockwell & Boeing	Info on B1 Bomber	25000 pages of sensitive info
German Insider	Economic Espionage	Helicopter technology
Large Data Breaches	TIX Max	45 million card info
	Heartland Payment	130 million card info
	National Archives	76 million records
US Cyber Consequences Unit	Cost of Cyber Attack	Economic Cost of Cyber Attack USD 3.7-6.9 Trillion

[1] INTERNATIONAL STRATEGY FOR CYBERSPACE - Prosperity, Security, and Openness in a Networked World May 2011

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These social and trade links have become indispensable to our daily lives. Critical life-sustaining infrastructures that deliver electricity and water, control air traffic, and support our financial system all depend on networked information systems. The reach of networked technology is pervasive and global. For all nations, the underlying digital infrastructure is or will soon become a national asset[2].

Information Security is one of the important components of cyber security and is gradually taking center stage in the national security deliberations and discussions. In fact, it has become a key component of national security design and is shaping international strategies of the nations too. Information Security brings up a set of different problems that have the potential to challenge the comfort in the conventional methods of managing security issues. Cyber threat does not respect the physical boundaries. It explores and innovates new methods to compromise security. The identity of the attacker and the source is difficult to ascertain. Attribution in cyberspace is difficult. In most cases, it is extremely difficult to collect irrefutable evidence against a cyber attacker, and almost impossible to link any cyber attacks to nation-states, even if clearly established. In strategic discussions, cyber space restraint is being equated with nuclear restraint[3].

Current Symptoms of Problem in India

Securing sensitive information is increasingly becoming important for the strategic deterrence of a country. Economic stability, which is becoming an important parameter of defining country's national security, is also critically dependent on Information Technologies, as financial sector in India found a leading adopter of technologies. On the other hand, intellectual property developed both in public and private sector contributes to the fate of a nation in a knowledge based economy. The examples of Stuxnet and Flame provide us an evidence of how a cyber attack leads to a kinetic and long lasting damage to strategic capabilities of a nation , [4,5]

[2] INTERNATIONAL STRATEGY FOR CYBERSPACE - Prosperity, Security, and Openness in a Networked World May 2011

[3] 'The paradox of power, Sino-American Strategic Restraint in an Age of Vulnerability', David C. Gompert and Phillip C. Saunders, Published by By National Defense University Press, Washington, D.C.

[4] What Stuxnet's Exposure As An American Weapon Means For Cyberwar, http://www.forbes.com/sites/andygreenberg/2012/06/01/what-stuxnets-exposure-as-an-american-weapon-means-for-cyberwar/

[5] Flame, http://www.forbes.com/sites/parmyolson/2012/05/30/3-things-flame-tells-us-about-the-future-of-cyber-warfare/

Public sector, although increasingly relying on IT, has not been completely awakened to the challenges of information security. While private sector, otherwise seen investing in information security for intrinsic requirements, may not be alive to the concerns of national security. The time has come to drive both sectors towards a strong information security culture, which is sensitive to national imperatives.

Economic Cost of Cyber Attack by Sector	
Sector	**Estimated Cost (in U.S. $ Trillions)**
Electric power	0.3-0.4
Oil and gas	0.1-0.4
Telecom/Internet	0.4-0.7
Banking and finance	0.9-1.3
Water and sanitation	0.1-0.1
Chemical industries	0.3-0.6
Airtran sport	0.1-0.3
Ground transport	0.3-0.6
Health care	1.0-2.2
Total	**$ 3.7-6.9 Trillion**

There have been revisions of Departmental Security Instructions to streamline and tighten up the various aspects of documentation, personnel and physical security procedures. However, a comprehensive approach for managing information security affairs is still missing.

Problems in Global and Indian Context

Global Context

In an estimate of US Cyber Consequence Unit, the total economic impact of cyber attack is between USD 3.7 to 6.9 Trillion[6] . There have been alarming instances of cyber espionage, stealing of sensitive information and challenging commercial and security interests of nations. The cyber espionage instances revealed as 'Operation Shady Rats[7] ', 'Nitro Attack [8]' and 'Operation Night Dragon[9]' demonstrate how security attacks are becoming focused, organized and targeted against governments, defense establishments and private companies looking for most sensitive pieces of information. This warrants a very high level of attention in securing the key information assets.

[6] USCCU, How cyber attack will be used in 'International Conflicts', http://www.usenix.org/events/sec10/tech/slides/borg.pdf

[7] Intrusion into global companies, governments and NGOs, http://www.mcafee.com/us/resources/white-papers/wp-operation-shady-rat.pdf

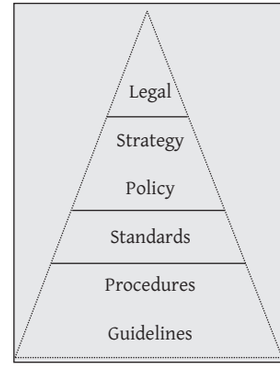
[8] Stealing Secret from Chemical Industry, http://www.symantec.com/content/en/us/enterprise/media/security_response/whitepapers/the_nitro_attacks.pdf

[9] Global Energy Cyber Attack, http://www.mcafee.com/us/resources/white-papers/wp-global-energy-cyberattacks-night-dragon.pdf,

Indian Context

India also observed a significant increase in the number of cyber security attacks on vital installations and key government ministries like PMO and Union home ministry. A total of 8,266, 10,315 and 13,301 security incidents were reported to and handled by Cert-In during 2009, 2010 and 2011, respectively.

India has also a victim of cyber espionage, over 250 Indian websites including the Ministry of Defense, Ministry of Railways and several Indian missions abroad have been attacked in the recent past. And, worse, the number and frequency are only growing



National Security	**Cyber Security**	**IT Asset Security**	**IPR Protection**	**Privacy**
Strategic Deterrence	Health of Cyber Space	Security of IT Asset	Protect Key Org Information	Limit Information Collection
Protection of Critical Assets	Critical Infrastructure Protection	Maintain Security Baseline		Transparent Info Usage
Economic Stability	Cyber Threat Management	Manage Vulnerabilities	Secure Commercial Interests	Protect Information
Commercial Stability	Cyber Crime Prevention	Limit Exposures		Protect Consumer rights

According to data compiled by the home ministry, 1,791 cases were registered under the Information Technology (IT) Act in 2011 against 966 in 2010 — an increase of over 85%. Cyber cases under the Indian Penal Code went up by 18.5% in 2011

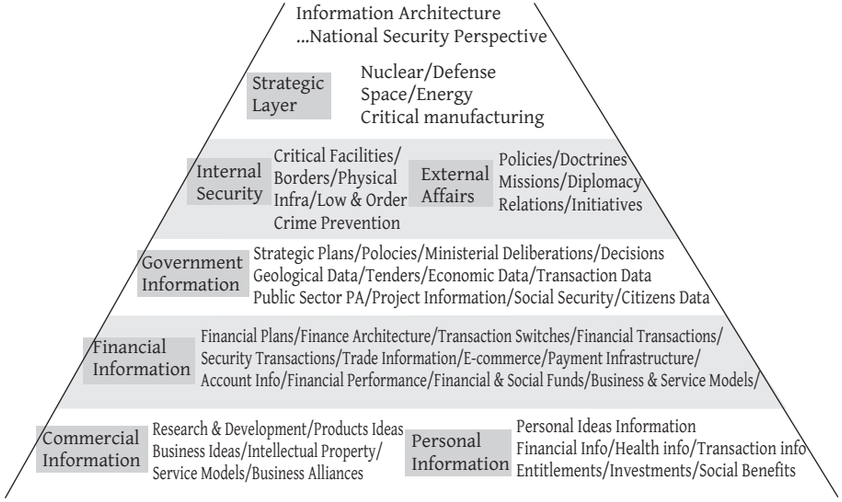
Consideration of the underlying basic causes of the problem

Information security derives its strength from the legal and regulatory framework. However, for successful and optimized implementation of security, organizations need to weigh their strategic options, establish a policy framework to set directions, define or comply with standards for ensuring baseline, establish procedures for ensuring consistency of operations and issue guidelines for implementation.

However, drivers of security go beyond securing IT Asset and protection of IPR, where public and private entities seen investing their resources and

efforts. Recently, privacy as a consumer rights has been catching the attention of public and private sectors in response to increasing regulatory pressures. Cyber Security and National Security have been emerged as significant drivers in the recent times. These drivers expect a certain level of response from organizations. Organizations may seen awakened to these drivers. However, there has been significant gaps in the alignment of their efforts to the cause of national security.

Information security policy measure should address the requirements of legal framework, strategic measures and have a mechanism to address various problems



related to standards, procedures and guidelines . The policy needs to be aligned to the bearing it has on National Security, Cyber Security, IPR and Privacy

To achieve the national goals of information security, sensible behavior of the organizations in both public and private sectors is imperative. This calls for a policy response that defines the direction, sets expectations, stipulates compliance norms and guides security implementations. The policy initiative should also outline a mechanism, which is empowered to direct, coordinate, and seek assurance over information security initiatives undertaken by different sectors, entities,and units.

Information Architecture: National Security Perspective

Distribution and spread of information across different entities and sectors add significant complexity in achieving goals of national level policy for the

security of the information, which is critical for national security. There need a comprehensive visibility over the sensitive information that is being created, received, accessed, processed and disposed across the entities and sectors. Comprehension should lead to evaluate priorities from the perspective of national security. The following figure reflects the information architecture from that perspective. Information that is in the domain of nuclear, defense, space and energy is strategic in nature. Sensitive information leakage in these sectors, intentional and unintentional, will cause great damage to the prospects of the country. Internal security function and external affairs forms the next level from the national security perspective. Information as mentioned in the figure would be critical and needs specific efforts. Increasing computerization and rising momentum towards egovernance lead to transformation of sensitive physical information into digital form, exposing it security threats. Financial information is critical for economic stability of the country. Commercial information is critical for competitive advantage of the country. Personal information, collected by companies and governments, may be a lucrative target for cyber attacks.

The objectives sought from the National Policy and Critical Constraints

Objectives

The objectives of the National Information Security Policy are as follows:

- Ensure the new age goals of national security are met convincingly and confidently, namely strategic information security deterrence, economic stability through reliable information security and protection of intellectual property
- Establish an ecosystem in the country for information security with proactive role and participation of the private sector
- Establish a sense of information security in the sectors, entities and units that are involved in creating and processing sensitive information
- Provide coherent, reliant and convincing directions to information security initiatives in the country
- Drive security initiatives, desired actions and investment for information security in the country

- Harmonize and standardize security in order to bring consistency in managing information security affairs
- Provide guidance for the implementation of information security

Constraints

- **Lack of a legal framework for a national information security :** Although there has been significant development with respect to regulating cyberspace in India, the coverage of legal provisions and protections is limited to cover cyber offense, primarily focused on cyber crimes and cyber contraventions. There have been some provisions with respect to cyber terrorism and critical infrastructure protection. However, there hasn't sufficient empowerment for establishing a national level policy for information security, which can cover aspects of economic stability, protection of intellectual property, protection of sensitive information possessed public and private sector
- **Policy gaps:** Policy initiative for protection of sensitive information remained unaddressed in the impetus seen recently for cyber security initiatives. Information security initiatives deserves a focused and comprehensive policy level approach ,
- **Varied level of security preparedness:** Level of preparedness, sensitivity of information assets and perception towards security vary across the government departments, private sectors and individual organizations. The intrinsic and extrinsic considerations driving security also significantly vary, posing considerable challenges to achieving a common goal
- **Entities & their roles limiting efforts to drive towards a common goal:** Different entities and their roles, executing their responsibilities either as a facilitator or protector of information security in public and private sectors would have built their own interest and may claim their entitlement of driving security in their own way. This may constrain efforts of bringing the various industry sectors under a common fold.
- **Private networks carrying sensitive information payloads:** 88.60 % of India's traffic travels over the private network[10] . Secondly, there are

[10] Service Provider wise Market Share as on 31st July, 2012, http://trai.gov.in/NewsDetails.aspx?NEW_ACT_ID=738&pg=0

many foreign players handling core telecom and network switching. Economic, political, global and business interests limit the extent of imposing obligations on networks owned by the private sector.

- **Private sector:** The process of liberalization has opened up many sectors for the private industries, transferring control of sensitive data to them. The private sector makes its investment solely on business consideration; it may not be ready to invest at a higher level for a proactive defense, because it may not be able to justify to its shareholders. Any attempt to enforce security to the private sector is encountered with resistance by private-sector representatives who hold that forcing companies to comply will harm their flexibility and ability to innovate[11] .
- **Integrity of ICT Supply Chains:** Demand supply gaps in the electronics industry in India will be USD 300 billion by 2020, which means that the country will be importing the devices and chips[12] . ICT, in particular, is created, supported and integrated into complex, globally distributed networks of ICT supply chains[13] . The components, products and services sourced from global markets are posing serious challenges to cyber security posture. However, any attempt of pushing sovereign interests for security in the age of globalization meets with stiff resistance from businesses. Secondly, such attempts have serious ramifications to global trades[14] .
- **Globalized trade & localized obligations:** In the globalized environment, organizations are operating in the multi-geographies and have complex business relationships with their clients. Security compliances of these organizations are primarily driven by the requirements of clients, their end customers and respective geographical regulations. This limits the extent of local obligations for

[11] Private Sector Neglects Cyber Security, http://nationalinterest.org/commentary/private-sector-neglects-cyber-security-6196

[12] National Policy on Electronics 2011, http://deity.gov.in/sites/upload_files/dit/files/Draft-National PolicyonElectronics2011_4102011(2).pdf

[13] Modern ICT Supply Chain, Managing Risk in Global ICT Supply Chain, Booz, Allen & Hamilton Report, http://www.boozallen.com/media/file/managing-risk-in-global-ict-supply-chains-vp.pdf

[14] US raps India's tough stand in draft telecom security policy,http://articles.economictimes.indiatimes.com/2012-03-01/news/31113920_1_telecom-gear-telecom-network-supply-chain

[15] US Cyber Security Act of 2012, http://www.wired.com/images_blogs/threatlevel/2012/02/CYBER-The-Cybersecurity-Act-of-2012-final.pdf

security, as they may result in dampening force, prohibiting business growth.

- **Privacy & National Security:** Privacy is a serious contender of national security, which is much more pertinent to cyber security. National cyber security concerns empower authorities with surveillance powers like lawful interception in addition to protection of critical infrastructure. US Cyber Security Act of 2012[15] was proposed to empower the authorities for proactive defense. However, in an overwhelming majority of Senate Republicans rejected the bill on account of privacy[16]. Civil liberty groups across the globe, to an extent in India also, are considerably awakened to national cyber security issues and its impact on personal rights[17].
- **Catching up with technology evolution:** New technology evolutions such as virtualization, cloud computing, mobility and big data revolutionize the computing and the way information is processed, challenging many considerations that drive policy responses. On the other hand, the threat environment is evolving, adding new and innovative attack methods that result in serious damage and data loss. This raises doubts about the relevance of policy and the ability of policymakers to keep pace with technology and security trends.
- **Lack of indigenous development:** Lack of indigenous ICT products significantly limits the options for ensuring the desired level of security and protection.

Policy Alternatives, Discussions and their Evaluations

In order to achieve national goals envisaged for a strong security culture, implementation and assurance, there are many contemporary approaches and experiments that have already been tried or are under experimentation. Some of the discussions and assessments of alternative policy instruments are as follows:

[16] Statement by the Press Secretary on Cybersecurity Legislation Vote, http://www.whitehouse.gov/the-press-office/2012/08/02/statement-press-secretary-cybersecurity-legislation-vote
[17] National Cyber Security and Privacy, http://www.business-standard.com/india/news/national-securityprivacy/436846/
[18] Federal Information Security Management Act (FISMA) http://csrc.nist.gov/groups/SMA/fisma/index.html
[19] PATRIOT Act, http://en.wikipedia.org/wiki/USA_PATRIOT_Act
[20] Homeland Security Act of 2002, http://www.dhs.gov/xabout/laws/law_regulation_rule_0011.shtm

Regulatory Requirements driving Security & Privacy in the Private Sector

HIPAA	Health Insurance Portability & Accountability Act	Protection of health related data
GUBA	Gramin-Leach-Bliley Act	Privacy of Financial Data
EU DPD	Europeon Union Data Protection Directive	Data Protection
SB 1386	California Breach Security Information Act	Data Breach Reporting
SB 1950	California Protection of Personal Data	Privacy Code
PRIVACY ACT 1988	Australia's Privacy Act	Regulating 'Information Privacy'
IPA	Japan's Personal Information Protection Act (IPA)	Protection of Personal Rights

- **National/ Federal Regulations:** There are many contemporary examples of national governments driving information security through a regulation or a set of associated regulations. Federal Information Security Management Act, 2002[18], specific regulations like USA-PATRIOT Act of 2001[19] and the Homeland Security Act of 2002[20] are the most pertinent examples. FISMA 2002 is such a law, which drives security of federal departments in the US[21]. Stipulating liability conditions for inability to implement security practices is an important tool to enforce security standards. IT act of India, which was amended in 2008[22], provides comprehensive regulatory requirements for driving responsible behaviors of different entities involved in the processing of information, facilitating Internet transactions as intermediaries, etc. It also empowers Adjudicating Officer with the power of imposing fine up to Rs 5 Cr for failure to implement reasonable security practices. Recently, US Cyber Security Act of 2012 was introduced in the US

[21] Federal Information Security Management Act (FISMA) http://csrc.nist.gov/groups/SMA/fisma/index.html
[22] Cyber Laws, http://deity.gov.in/content/cyber-laws

Congress for establishing a strong cyber security framework in the country.

Evaluation of Policy Alternative

A strong national regulation does contribute to driving security initiatives and investment. Regulatory approach is an important aspect of national policy for security. However, it should be flexible and forward-looking, while still well-defining the issues, offenses and remedies in order to be proved effective[23] . Secondly, the ability of a regulation to understand the sensitivity of the different sectors, comprehend the security matters of those sectors, and stipulate provisions relevant to the sectoral and functional requirements has always been debated. There have been many doubts about a strong, unilateral, all-encompassing one-size-fits-all law. As a result entity and functional laws too have evolved.

- **Entity and Functional Laws:** Regulations can be segregated based on whether they cover a specific sector or whether they cater to a functional area / domain spanning across sectors. Regulations which cater to the requirements of a sector/ industry can be classified as Entity Regulations, while regulations which belong to a functional area and span across various industry sectors can be classified as Functional Regulations. For the energy sector, the US regulator 'Federal Energy Regulatory Commission (FERC)'[24] had approved cyber-security standards for the sector. For Healthcare & Pharma, a 'Health Information Portability & Accountability Act of 1996 (HIPAA)'[25] provides security standard and implementation specifications. Regulations such as 'Gramm-Leach Bliley Act (GLBA)'[26] and standards such as 'Payment Card Industry- Data Security Standards (PCI-DSS)'[27] are more functional in nature as they cover specific functions such as financial processes and credit card processing. In India, Reserve Bank of India has been proactive in regulating the banking industry for information security.

[23] GSR Discussion Paper, role of ICT regulation, http://www.itu.int/ITU-D/treg/Events/Seminars/GSR/GSR10/documents/GSR10-paper6.pdf
[24] Federal Energy Regulatory Commission (FERC) www.ferc.gov
[25] HIPAA, http://www.gpo.gov/fdsys/search/pagedetails.action?granuleId=CRPT-104hrpt736&packageId=CRPT-104hrpt736
[26] GLBA, www.ftc.gov/privacy/privacyinitiatives/glbact.html
[27] PCI-DSS, https://www.pcisecuritystandards.org/

Evaluation of Policy Alternative

Although the approach that focuses on entities and functions goes near to the sectoral and functional challenges, it may not be sensitive to the requirements of national security. The governing bodies of sectors may not have the competence of handling security issues or may not be empowered enough, resulting in varied levels of preparedness and assurance.

- **Self-regulation:** The role of self-regulation has been widely debated in driving security in the industry segments. National regulation is slow, cumbersome and static to address the issues of ever changing dynamic world[28] Self-regulation is recommended as an answer to bring the agility and relevance. Self-regulating organizations (SROs) apart from possessing industry-specific knowledge, are supposed to be better placed to create awareness about security, explaining the sensitivities of security protection both within the industry as well as to the public in respective sectors. The modern self-regulation started in the US with industry associations defining their own code of conduct and only those who adhered to these self-defined rules were entitled to become members. Recently published Dutch 'National Cyber Security Strategy (NCSS)'[29] prescribes a principle *'self-regulation is possible, legislation and regulation if necessary'*.

Evaluation of Policy Alternative

However, the approach has been equally criticized for its inability to invoke an adequate response from the private sector. Self-regulation has shown its limitation in the failure of banking and financial sectors and global housing sectors. Even for privacy, known widely for adopting a self-regulatory mechanism, its role is debated at a great length[30] .

- **Generic versus Prescriptive Guidelines**

Security guidelines mandate implementation of reasonable/

[28] A Cybersecurity Executive Fiat Is a Very Bad Idea, http://blog.heritage.org/2012/09/07/a-cybersecurity-executive-fiat-is-a-very-bad-idea/
[29] Dutch National Cyber Security Strategy (NCSS), http://www.enisa.europa.eu/media/news-items/dutch-cyber-security-strategy-2011
[30] Many Failures:A Brief History of Privacy Self-Regulation in the United States, World Privacy Forum, http://www.worldprivacyforum.org/pdf/WPFselfregulationhistory.pdf

appropriate/ necessary/ minimum security practices/ procedures /measures /controls. Their degree of prescription varies. Security guidelines, usually defined by regulations, avoid prescribing the detail level of controls. National/State level regulations maintain the level of guidelines at a level, and leave it to the organizations to select controls. Non-regulatory security guidelines tend to prescribe the security

Refer Annexure 3 for details on ISO 27001 Standard

controls. Their scope may be confined to a specific issue or sectors.

Evaluation of Policy Alternatives

Prescribing controls do clarify the expectations in clear terms and ensures a specific type and level of assurance. However, prescribing of controls may lead to rigidity in security, as organizations may tend to buy comfort of complying with the external requirements irrespective of their risk posture. As evolving security threats always challenge the existing strength of controls, it should be the responsibility of authority issuing guidelines to maintain their content of prescription relevant.

Prescriptive controls tend to make organizations complacent since they create bulky documentation to satisfy the compliance requirements, without worrying about the threat environment that is specific to their business.

- Defining and mandating security standards: Another approach towards ensuring or driving security is to define and mandate security standards. The efforts of the standards bodies contributed a lot for the cause of Information security. A list of information security standards is depicted in the figure below. ISO 27001 is leading international standard for information security, widely used by organizations both in public and private domains. On the other hand, FISM Act 2002 had entrusted the responsibility of defining security standards to 'National Institute of Standards and Technology'[31] . NIST, through its special publication, published more than 100 standard documents[32] . At this point of time, there are many global standards published and increasingly implemented.

Evaluation of Policy Alternatives

For global trade and supply chain, reliance on globally accepted standards is an important catalyst, as organizations can build a uniform architecture and service models to serve their clients across the globe. Tweaking the standards for local requirements, or defining a completely new local standards disrupts the global supply chain. Options for defining and mandating standards, thus, should be weighed against the trade and business compulsions.

Security Framework and Practices: *Apart from the standards, contemporary work of some institutions and professional bodies contribute a lot to the knowledge for managing complex affairs of security. Their work can be useful in implementing policy framework.*

*In India, Data Security Council of India set by NASSCOM had published its security framework as DSCI Security Framework (DSF). The framework provides a new approach of focusing disciplines of security like application security, secure content management, threat and vulnerability management, etc. There are 16 such disciplines. DSCI framework takes a careful note of the evolution of security under each of the disciplines. The framework presents an idea of brining dynamism in security by focusing its attention to the possible elements at a granular lev*el and aligning the effort to the contemporary approaches, trends and practices. It also

[31] Computer Security Division of NIST, http://csrc.nist.gov/about/index.html
[32] NIST Special Publication (800 Series), http://csrc.nist.gov/publications/PubsSPs.html

provides maturity metrics in each of the disciplines. Refer Annexure 3 for more details on DSF.

Standardisation Testing and Quality Certification (STQC), under DeitY has developed a EGovernance Security Standards Framework (eSAFE)[33] for eGovernance in India. It recommends on categorization of information system, advocates selection of baseline security controls and risk assessment, refinement of security controls, implementation of controls and monitoring those controls. The eSAFE is also recommended categorization based on low, medium and high impact systems and developed Low Baseline, Medium Baseline, and High Baseline.

- **Departmental instructions and guidelines:** Use of departmental procedures and administrative guidelines to provide specific instructions and guidelines.

Evaluation of Policy Alternatives

Issuing departmental instructions and guidelines is probably is the most effective way of achieving goals of policy. It is a definitely an option for seeking assurance from the government departments, and may not be applicable means for the private sector companies and public sector units.

- **Procurement norms:** Notifying sourcing norms for security[34] or putting conditions for acceptance of devices and products[35] or defining contract norms for procurement of services and products.

Evaluation of Policy Alternatives

This has been effective in the sector, which are regulated by a strong regulatory body. However, the option of procurement norms as a tool for seeking assurance towards national security has been debated across the globe as it tends to inhibit business innovations and disrupt the global supply chain.

[33] eSAFE standards, www.egovstandards.gov.in/

[34] 80% of security sensitive telecom equipment must be sourced locally by 2020: DoT, http://articles.economictimes.indiatimes.com/2012-08-15/news/33216658_1_equipment-from-indian-companies-telecoms-foreign-vendors

[35] All telecoms gear may have to undergo TEC test before deployment, http://articles.economictimes.indiatimes.com/2011-05-30/news/29598807_1_telecom-equipment-certification-tec

- **Setting up audit and assurance mechanism:** The mechanism with a mandate of auditing and assessing organizations' practices. Rules under the IT Act mandate the body corporates to get their practices audited annually by the government approved auditors[36].

Evaluation of Policy Alternatives

Setting up such mechanism goes long way in ensuring assurance towards the policy goals. However, there requires a vigorous effort, capacity building, skill deployment and an effective governance structure for the success of such a step.

- **Incorporate information security rules in other compliance instruments:** The US Securities and Exchange Commission (SEC) incorporated the section 404[37], requiring listed companies to file information on IT control system as a statutory requirement. In India, SEBI notified clause 49 for corporate governance that gives specific focus on Internal Control System[38].

Evaluation of Policy Alternatives

Incorporation of specific clauses in instrument enforcing corporate governance for seeking assurance towards the policy goals has been advocated as one of the effective policy options. This alternative operationalizes the actions of corporations, as it solicits a statement from the executive management on the state of compliance.

- **Provide incentives:** An option of incentivizing of private sector for their proactive resources efforts allocations to the national security has been debated across the world[39].

[36] Rules under IT Act, http://deity.gov.in/sites/upload_files/dit/files/GSR3_10511(1).pdf

[37] SOX, http://www.sec.gov/news/press/2006/2006-112.htm

[38] Clause 49, http://www.sebi.gov.in/commreport/clause49.html

[39] Tackling cyber security challenges, http://blog.heritage.org/2012/09/20/cybersecurity-will-not-be-solved-by-a-new-executive-order/

Evaluation of Policy Alternatives

A point of the government's responsibility for proactive defense as against mandating corporate to contribute more to the goal of national security has been widely debated across the globe. However, the global experience of which instruments and tools should be used for incentivization and their effectiveness is still inadequate.

Assessment of the Policy Alternatives

The government has a big responsibility to manage the strategic vulnerabilities associated with sensitive information while not disturbing the ICT evolution. This requires a strong leadership and vision at the central level. While there are multiple policy alternatives, as mentioned in the previous section, each of the options should be evaluated for their merits and ability to generate desired results. The policy alternatives can be assessed based on the following parameters:

- **Focus on the outcome:**

  Ensuring desired actions from the different players that are involved in managing security of information and getting required assurance over security preparedness should be the prime objective of an alternative that are available. The ability of each alternative and its ability to impact should be assessed before selecting it as a policy option

- **Coverage of the program and justice to the desired dimensions:** Policy alternatives can help extend the the coverage of security initiatives to the required levels and ensure incorporation of all important elements. Secondly, the alternatives should jointly give attention to all desired dimensions that can potentially drive national security concerns with respect to the sensitive information.

- **Coordinated approach:**

  There are many stakeholders who have potential to influence success of information security policy. There are either influential in driving, managing and operating different elements that have bearings on information security. The policy alternatives should take cognizance of these stakeholders and present a coordinated approach for achieving policy goals. For example, NIC has been engaged in managing the security

aspects of endpoints deployed at the government departments. The policy options should be derived to leverage this rather than presenting isolated approach

- **Anchorship, clarity in roles and responsibilities:** As the information security policy, as envisaged in this paper, is looking for a specific goal that need to to be achieved on the backdrop of many other ICT and cyber security initiatives, it is an imperative that a dedicated function of the government anchoring this. Ministry of Home Affairs has been entrusted with this responsibility. Secondly, roles and responsibilities of different stakeholders should be defined clearly. The policy alternatives, outlined in the previous section should take a note of this part.

<table>
<tr><th colspan="7">Coordinating Agency-NSA</th></tr>
<tr><td colspan="2">Ministry of Home Affairs (MHA)-</td><td>Ministry of Defence (Mod)</td><td>MCIT (DeitY)</td><td>DOT</td><td>Critical Infrastructure</td><td>Facilitating Agencies</td></tr>
<tr><td colspan="2">Internal Security</td><td>Dir MI</td><td>Cert-In</td><td>DoT</td><td>NTRO</td><td>Regulatory Bodies</td></tr>
<tr><td>Police 1</td><td>Int Sec 1</td><td>DIARA</td><td>NIC</td><td>TRAI</td><td></td><td>Industry bodies</td></tr>
<tr><td>Police 2</td><td>Int Sec 2</td><td>Navy, Army Int</td><td>NIC-SI CDAC</td><td>TRAI</td><td></td><td>Private Sector</td></tr>
<tr><th colspan="7">User Departments</th></tr>
<tr><td colspan="2">Central Government Departments</td><td>State IT Departments</td><td>Public Sector Units</td><td colspan="2">e-governance Project</td><td>User Department</td></tr>
</table>

- **Pragmatism and progressiveness, not resorting to regressive, restrictive and inhibiting options:** Policy alternatives range from enacting a stringent national law to icentivize private sector. The policy options may tend to go in the direction of imposing restrictive and inhibiting propositions on the public and private sectors. In the long run, it may hamper innovation, business growth and efficiency. Each of the alternatives, thus, should be weighed carefully.
- **Cost efficiency:** Policy alternatives imposed on the corporate and different stakeholders necessitate them to invest in security or introduces a bureaucratic process or reduce operating efficiency. There requires a vigilant cost /benefit analysis for each of the policy alternatives.

Alternative arrangements for implementation of Policy framework

Though the responsibility of securing the nation lies with the government in case of a security incident or a cyber attack, it is important to have a comprehensive framework which requires a coordinated response from the center, state government and various ministries & Departments, private entities, academia and international allies. Apart from the policy alternatives mentioned above, there may be multiple arrangements that can be sought for implementation of the policy framework. Some of them are:

- Set up an authority for overseeing information security initiatives and programs
- Setting up a coordination mechanism for information security to engage stakeholders and private sector
- Setting up Incident reporting management
- Undertake Public-private partnership initiatives focused on achieving specific goals of policy
- Undertake training and skill building program of government officials
- Notify the reference technical architecture for securing sensitive information
- Undertake education and awareness program
- Establish response and recovery plans to handle information leakages
- Developing reporting thresholds, and set up performance reporting mechanism
- Establish information sharing mechanism

Policy Environment

Stakeholder Map

Information Security ecosystem in India is characterized by the presence of stakeholders from different spheres. The players responsible for coordinating national efforts for security, promoting IT deployment, managing public infrastructure and applications, governing the affairs of telecom networks, for protecting of critical infrastructure, responding to computer incidents, seeking compliance and assurance from public and private sectors, contributing to education and awareness, and facilitating private sector involvement are relevant to security policy discussion. The figure below shows the stakeholder map.

Primary and Secondary Stakeholders, their interests and power

- **Coordinating agency:** The country has recognized the need for high attention to cyber security in view of its increasing relevance to national security. The intent of the country has been publicly articulated by the highest authorities [40,41]. The prime minister in his address at the Annual Conference of DGPs/IGPs reiterated government's commitment of building a robust cyber security structure[42] . A process of establishing a national level coordinating function of overseeing cyber security initiatives is already underway.
- **Ministry of Home Affairs:** Ministry of Home Affairs has been entrusted with the responsibility of coordinating and overseeing information security initiatives of public as well as private sector. It is empowered to define national information security policy, define procedures for handling information and issue guidelines for the security of critical information asset.
- **IT Ministry (DeitY):** Department of Electronics and Information Technology (DeitY)[43] is primarily focused on research, promotions, development and infrastructure management activities through its organizations such as C-DAC, C-MET, ERNET, ESC, NIC, NeGD, NICSC, NIXI and STPI. It also performs a significant role for security through ICERT, CCA, CAT and STQC. The role of DeitY is quite crucial for national information security policy. The department can serve well in implementing and monitoring goals of information security in public as well as private sectors.
- **Computer Incident Response:** India Computer Emergency Response Team (ICERT) has been established to enhance the security of India's Communications and Information Infrastructure through proactive action and effective collaboration. It is a legally empowered entity under section 70 A of IT (Amendment) Act, 2008, which gives it power to 'call for

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[40] Govt creating comprehensive cyber security policy: Cyber security mechanism soon: NSA, http://www.hindustantimes.com/India-news/NewDelhi/Cyber-security-mechanism-soon-NSA/Article1-856934.aspx

[41] Govt creating comprehensive cyber security policy: NSA, http://articles.timesofindia.indiatimes.com/2012-05-16/security/31725642_1_cyber-war-cyber-attacks-cyber-world

[42] PM's speech at the Annual Conference of DGPs/IGPs, http://pmindia.nic.in/speech-details.php?nodeid=1216

[43] DeitY, http://deity.gov.in/

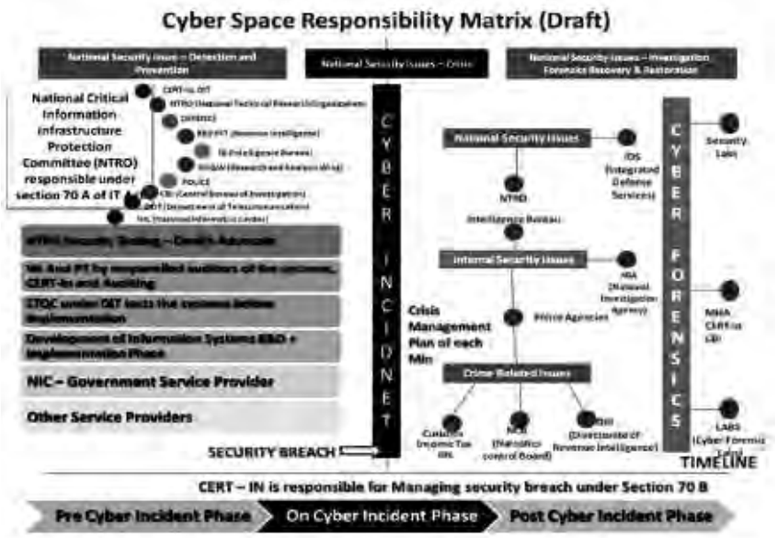
information' from public and private sectors. It can issue guidelines, advisories, vulnerability notes, and white papers related to information security practices. It has fairly entrenched connects with organizations in the public and private sectors. CERT-In is an important vehicle to carry the policy goals to end user organizations and to seek desired assurance.

- **The Ministry of Defense:** Ministry of Defense is the lead agency when it comes to safeguarding the integrity of the nation against external aggressions. The Ministry is responsible for providing policy directions on all defense and security related matters The role of Ministry of Defense has expanded because of the broad array of challenges both existing and potential to the National Security in the fast changing Geo-strategic security environment and should be consulted for specific initiatives on Technologies/equipment for counter terrorism; and Surveillance, communication equipment, and sensors for border management.
- **Governing telecom and backbone networks:** Department of Telecommunications (DOT) is a leading agency behind the telecom and network development in India. It has tools such as licensing conditions to drive the sector, which is leveraged for driving information security initiatives at ISP level. The telecom regulatory body, TRAI, can also be activated for achieving specific goals of security policy.
- **Critical Infrastructure sectors:** Section 70 A of the IT Act prescribes a nodal agency for critical infrastructure protection. It is responsible for all measures including Research and Development relating to protection of Critical Information Infrastructure. It could serve as an important facilitator for driving information security specific initiatives in the critical sectors.
- **User departments:** Line ministries, central government departments, e-governance projects, state IT departments, and public sector units are becoming biggest consumers of IT. Driving information security specific initiatives can be direct effort or through different agencies of IT ministry and state administration. For example, through NIC the infrastructure, endpoint and application specific actions can be driven, whereas NeGD could be a vehicle to drive actions at state data centers and e-governance projects

SWOT Analysis

Strength	***Weakness***
• Ministry of Home Affairs is placed and empowered to dictate & mandate guidelines • A national strategy for cyber security is in place, MHA can derive the strength from it • IT Ministry and its constituents have ability to drive security initiatives at tactical and operational level • There are significant policy alternatives available for achieving policy goals • Sectoral regulators can be a vehicle to push policy goals • Private industry is vibrant, IT/BPO is world leader, industry bodies are responsive national concerns	• Private and public sectors may not be sensitive to the national concerns associated with sensitive information • Legal and regulatory route is time consuming • Multiple stakeholders, their interests and powers may hinder implementation of policy framework • Failure to communicate decisions across functional groups, stakeholders and departments • Possible conflicts with the civil society groups and political factions • Likely prevalence of commercial interest over security interest • Traditional work culture, may not be agile to respond to cyber space challenges
Opportunities	***Threats***
• Increased awareness towards national security concerns can be leveraged for pushing policy • Contemporary practices and learning experiments are available for selecting policy alternatives • Possibility of leveraging stakeholders such as DietY, CERT-In, DOT, etc and sectoral regulators such as RBI • Increased collaboration with Private Sector and other International established players	• Increasing exposure of sensitive information possessed by public and private sector • Targeted threats and attacks against the sensitive information, increasing cyber espionage instances • Involvement of state and non-state actors perpetrating information centric attacks • Easy to access security tools and commoditized execution of security attacks

- **Facilitating agencies and bodies:** Apart from government agencies, there are many facilitators and bodies, which can be be helpful in driving information security. These facilitators can be categorized in two parts:
- **Regulatory bodies:** Industry regulators are empowered to regulate affairs of the respective industry sector. These regulators are better placed to drive any initiatives in their respective sectors. Reserve Bank of India (RBI), for example, is the most aggressive regulator in terms of driving security initiatives in the banking sector.
- **Industry bodies:** Although as compared to regulators, the industry bodies may not be empowered, they can serve as a good catalyst for driving information security in the private sector. These bodies can channelize the private sector expertise, educate and create awareness in the user organizations, promote best practices, and facilitate compliance. There are some private sector institutions, specialized in



information security. Data Security Council of India[44] , set by by NASSCOM is most pertinent example of that. Industry bodies are also an important stakeholder in the the public policy with respect to information security. The efforts for national information security policy efforts should recognize their role and engage them accordingly.

- **Private Sector:** As more than 86 % of traffic flows over the private network and the private sector controlling key economic assets, their participation in the national information security policy is essential. The different tools, vehicles and mechanisms can be explored to drive security in the private sector.

Strategies to enhance support and reduce opposition

Soliciting support from all the stakeholders and entities mentioned above is a critical step towards implementation of a national policy framework for information policy. Each of them have their interest and powers, which may create a hurdle in implementing policy framework. The following strategies are likely to help seek the support from the stakeholder and reduce their opposition:

- Border consultations and engagement with stakeholders for sensitizing them towards national security concerns associated with information

[44] DSCI, http://www.dsci.in/

- Notification of a national strategy that clarifies the role and responsibilities stakeholders and entities involved to achieve goals of national security. It will be easy for Ministry of Home Affairs to derive its authority to manage affairs of security sensitive information
- Specific workshops for stakeholders and entities involved in the area of ICT and cyber security space for driving them for a common goal
- Constitution of a steering or joint committee, which is represented by the key stakeholders and entities. Deliberation in these meetings should help sort out issues that may create hurdle in implementing policy framework

SWOT Analysis

The SWOT analysis for implementation of the information security policy framework is as below:

Responsibility Matrix

A draft cyber Space responsibility matrix has been formulated. The figure below highlights the role of various players with respect to security of the cyber space. The same exercise should be undertaken in the developing responsibility matrix for information security.

Political Context and Assessment of Political Environment

- **Security and privacy:** The political affiliation and thought process may tend to align either with security or privacy or balanced approach between the two. Any new security initiatives of a government, in today's time, face scrutiny of civil society and political forces, which lead to more parliamentarian oversight of security[45] . UID, the flagship program for national identity, will significantly improve national security[46] . However, the standing committee of the parliament rejected 'National Identification Authority Bill', citing a reason of privacy.
- **Security and freedom of expression:** Security initiatives are also contested for their likelihood of infringing fundamental rights. Not only does the domestic political forces, but international political pressures also contest a specific security initiative[47]. Political forces may

[45] Congressional Oversight on Privacy and National Security, https://www.cdt.org/blogs/jim-dempsey/congressional-oversight-privacy-and-national-security
[46] UID No will improve national security: Nilekanihttp://www.indianexpress.com/news/uid-no-will-improve-national-secur
[47] Balance Internet freedom with national security: US to India,

consolidate against the empowering legal provisions that help national security[48,49].

- **State and non-state actors:** Depending on a revelation or a hint of the actors, state or non-state, involved in a particular security attack, the political pressure could mount on the information security function.
- **Security and commercial interest:** Security initiatives may inhibit or restrict certain type of transactions or prescribe monitoring for the interest of national security. The businesses, their representative bodies, foreing government, international trade bodies and even commerce wing of the government may garner political support against such security initiatives[50].

Policy Communication

National Information security policy will probably drive stakeholders and entities towards a new dimension. It may expect their response in terms of their actions and compliance towards the goals of policy. Lack of communication creates a scope of confusion among these stakeholders and entities. Society witnesses different actors, whose opinion, perceptions and action matters actions of those stakeholders and entities. They may express their doubts and objectives behind the policy initiatives as security initiatives are usually debated from the different political context as explained in the previous section. This necessitates to have a policy communication plan for the policy.

Communication Issues

- Lack of awareness in the stakeholders and entities towards which the policy initiatives are targeted
- Issues in accessing policy, inability to find, locate and search the policy and policy components
- Confusion and lack of clarity about the objectives behind the policy initiatives
- Government stakeholders raising questions about the role of anchor and

[48] http://www.indianexpress.com/news/balance-internet-freedom-with-national-security-us-to-india/992548/

[49] Practise what you preach, http://www.indianexpress.com/news/practise-what-you-preach/941491/

[50] Motion in RS to annul rules to control internet content, http://www.indianexpress.com/news/motion-in-rs-to-annul-rules-to-control-internet-content/950639/0

its jurisdiction. Those entities that are already dealing with cyber security may raise these questions

- Interpretation of policy initiatives and its items by different actors in society raising doubts about the true motive behind the policy. These actors could be media, industry bodies, industry leaders, bloggers, foreign governments and civil society

Communication Plan

To address the above issues, a comprehensive communication plan is required. The following points should be considered while deriving the communication plan.

- Involvement of stakeholders and entities in the policy formulation stage to avoid post policy notification confusion
- Departmental circulars and instructions notifying policy initiatives, its objectives and key focus area
- Clarity in messages, roles and responsibilities. Articulation of what the new initiatives will do and what it will not and how will it coordinate with the entities already involved in security tasks
- Targeted communication initiatives for the different actors, who have potential influence on policy implementation. This includes a special drive from industry bodies, engaging industry leaders, pre-intimation to key foreign governments and special engagement with civil society if required
- Making policy accessible by wider circulation of the drafts and by putting it on the website
- Media engagement plan, trenches where media communication will be released
- Statements from the leaders notifying policy initiatives and talking about its objectives

Media Relation

Security has been catching the interest of media, print, TV as well as online. Security has been debated furiously by civil society. Personal rights, privacy and freedom of expression are usual contenders of security. It will be prudent to engage media carefully for communicating information security policy.

As social media is evolving as one of the important tools for driving public opinion, the media relations deserve diligent attention.

Conclusion

In the knowledge economy, nation's strategic deterrence and economic prospects and financial and commercial stability are critically dependent on technology. Cyber attacks have the potential to cause trillion dollar impact to the world economy. Increasing digitization of information, expanding exposure of organizations due to connectivity and the use of external providers, rising dependence on the global ICT supply chain, and reducing efforts and cost for cyber attack leading to big impacts posing serious threats to information sensitive to national security. Growing instances of cyber espionage calls for action at a higher level. The government India recognizes this challenge, and attributes significant importance to it in the national security initiatives.

Before proceeding to the policy level discussion, an attempt should be made to bring clarity in the goals that are expected from a national level effort for information security. The discussions around organization security, cyber security and national security should be analyzed to recognize what is information security, its components and its dependencies. This is an important step toward developing a national information security policy.

National information security policy, which focuses on security of sensitive information possessed both by public and private sector, is an important step towards achieving new age goals of national cyber security. The policy should be directed to create an ecosystem for information security that establishes a sense of national security in the organizations operating in public as well as private domain. It should drive organizations in both sectors towards a common goal of national security. Towards achieving these objectives, the initiatives may have to face some of the pertinent constraints. It has to weigh its options against different priorities, conventions, and interests. It should evaluate carefully the alternatives that can be useful to achieve desired goals. The strength of existing institutions, policy tools and instruments, and best practices should be derived to suggest an effective and workable way forward. An understanding of political movements, forces and drives will help lay down a pragmatic approach of driving information security initiative at national level.

Creating a Cadre of Scheduled Caste and Scheduled Tribe Contractors for Executing Government Works by way of Affirmative Action

K. Pradeep Chandra*

Outline of the Policy Problem

In the memorandum submitted by Babasaheb Ambedkar to the Governor General on 29th October 1942, among other things, Ambedkar wrote that out of a total of 1171 approved contractors of the CPWD only one belonged to the "depressed classes" (Bharadwaj, 2002). Babasaheb Ambedkar stated quite correctly that though a large number of workers and employees of the CPWD Contractors were persons belonging to the depressed classes, there was no opportunity for them to become contractors themselves. That was the situation in 1942. Post-independence a number of affirmative action initiatives have been taken by the Government to improve the educational and economic status of Scheduled Castes and Scheduled Tribes. It will not be far from fact to say that the situation after 70 years is only marginally better. An exhaustive search of a number of data bases conducted by this author has not shown any results for an official list of the percentage of SC/ST contractors in any Government Department—Central or State. It may not be an exaggeration or far from fact to say that the situation after 70 years is only marginally better—the number of SC/ST contractors approved and doing work for Central and State Governments would be in single digits as a percentage of the total number of contractors. This policy initiative recommendation provides a process for creating a number of SC/ST contractors for executing Government works at various levels can be created and increased by way of affirmative action.

Introduction

The Scheduled Castes and Scheduled Tribes of India have historically been disadvantaged groups, both socially and economically. The SCs and STs make

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up around 18% and 7.5% respectively of the population of India, or around 25.5% altogether. Though they constitute a quarter of India's population, these groups have been marginalized in the development process of the country, still subject to social exclusion and discrimination. The Indian Constitution officially abolished untouchability (Art.17 of the Constitution), forbade discrimination (Art.15), and set the goal for social justice and equal opportunity by introducing special measures (seats reserved in political representation, quotas in education and public service). A number of laws were enacted to implement the provisions in the Constitution. Examples of such laws include The Untouchability Practices Act, 1955, later converted as the Scheduled Caste and Scheduled Tribe (Prevention of Atrocities) Act, 1989, and The Employment of Manual scavengers and Construction of Dry Latrines (Prohibition) Act, 1993. However, there is adequate research evidence to show that despite Constitutional guarantees in the Fifth and Sixth Schedules, the social, educational and economic progress of the SCs and STs has not kept pace with those of the other communities.

Two of the important policies of the Government to improve the social, educational and economic status of the Scheduled Castes and Scheduled Tribes has been affirmative action—reservations in education and Government employment—and financial assistance for entrepreneur economic activity.

Previous Initiatives of Affirmative Action

The first initiative of providing reservations in education and Government employment has had partial success. While reservations by itself cannot take the place of comprehensive societal changes, they constitute a very important and necessary step in the process of compensating for centuries of (and ongoing) discrimination. They promote integration in the upper strata of society by increasing the access of highly disadvantaged and under-represented communities to elite occupations and decision-making positions. For example, in central government services, reservations for SCs and STs have been operational for a few decades, and this has resulted in a rise in SC representation in all four categories of central services. However, the representation of Scheduled Castes and Scheduled Tribes in upper levels of Government has not been in proportion to the population and upper castes continue to disproportionately occupy the more prestigious Class I

services, while SCs/STs/OBCs have been relegated to jobs lower in the hierarchy. Furthermore, the cumulative percentage of SC/ST employees in Central government services continues to be below their percentage in the general population. In a statement in the Lok Sabha, the lower house of the Parliament, the government said the proportion of Dalits in the top layers of Indian bureaucracy may be lower than their overall representation in the administrative services as no reservations are provided at such levels. According to the government numbers, the representation of Scheduled Castes is better at lower levels of the bureaucracy. At the levels of Joint Secretary and Directors -- two steps below 'Secretaries' --- their representation is 6.5% and 2.9% respectively. There is not a single person belonging to the scheduled castes among India's top ranking bureaucrats -- the 149 'secretaries' to the government of India. Table I below shows the percentage of representation of SC/ST officers in various levels in Central Government organizations.

The situation in the private sector could be significantly worse. Though there

Table I. Percentage of SC/ST Officers in various Categories

Depts/Bodies	Class I		Class II		Classes III & IV		All Classes	
	SC / ST	OBC	SC / ST	OBC	SC / ST	OBC	SC / ST	OBC
Ministries / Departments	7.18	2.59	13.66	3.98	30.95	8.41	16.83	4.83
Autonomous Bodies	6.64	5.09	18.16	11.74	20.78	20.98	18.06	14.43
Public Sector Undertakings	4.51	4.59	18.74	9.91	31.72	15.77	19.95	10.61
Total	5.68	4.69	18.18	10.63	24.40	18.98	18.72	12.55

(Source: National Election Study, 1999, Center for the Study of Developing Societies, New Delhi)

are no detailed studies to show the proportion of SC/ST officers working in various private sector organizations, SC/ST populations still lag behind the rest of India, even as they have experienced gains as the country's economy has expanded. A recent analysis of government survey data by economists at the University of British Columbia found that the wage gap between other castes and Dalits has decreased to 21 percent, down from 36 percent in 1983. However, this wage gap of 21% is still quite considerable and shows by implication that SC/ST persons with similar qualifications earn considerably

less than their other caste counterparts. One study by the Center for Development Studies relating to the year 1999 shows that the percentage of SC/ST persons working in higher professional cadres in the private sector is less than 1% while a majority of artisans, blue collar workers and service providers are form the SC/ST communities. A summary is provided in Table II below.

Table II: Occupational profiles of different caste categories

Occupation / Landholding			Castes/Communities (% of total)				
	Brahmin	Rajput	Other Upper Castes	Peasant OBCs	Other OBCs	SCs	STs
Higher Professional	3.8	0.6	3.5	0.5	0.8	0.3	0.5
White Collar Employees	34.7	21.3	21.2	7.5	9.0	10.0	7.2
Large Business	3.6	2.0	10.1	0.9	1.6	0.2	1.6
Petty Business	13.4	7.0	25.8	5.8	10.0	5.3	12.5
Artisan / Blue Collar Workers / Service Providers	9.0	8.7	9.5	14.6	34.1	25.5	23.7

Source: National Election Study, 1999, Center for the Study of Developing Societies)

Thus is it quite clear that even after 65 years of independence, affirmative action to provide for educational and employment opportunities for the SC/ST communities has been partially successful in the Government sector while there is no impact of such affirmative action in the private sector.

The second major initiative of the Government for the welfare of the Scheduled castes and the Schedule Tribes has been in the economic activity sector. A number of agencies starting with the Small Farmer Development Agency (SFDA), subsequently transformed into the District Rural Development Agency (DRDA), implemented various economic development schemes for SC's/ST's. The flagship program was the Integrated Rural Development Program (IRDP) was introduced in the year 1978-79 as a pilot program and extended throughout India by 1980. This was the most significant poverty alleviation program implemented by the GOI after the famous "Garibi Hatao" slogan of Prime Minister Indira Gandhi. It was a self-employment program intended to raise the income-generation capacity of target groups among the poor. The target group consists largely of small and marginal farmers, agricultural labourers and rural artisans living below the poverty line. The pattern of subsidy is 25 per cent for small farmers, 33-1/3 per cent for marginal farmers, agricultural labourers and rural artisans and 50 per cent for Scheduled Castes/Scheduled Tribes families and physically handicapped persons. Similar programs were implemented in the urban areas under programs like the Jawahar Rojgar Yojana. In addition, entrepreneur development programs for encouraging SC/ST technically qualified youth were also implemented. Additional subsidy, training and project implementation help was provided through various agencies like the NSFDC, SIDBI, State Finance Corporations, State Small Scale Industries Development Corporations and State SC/ST Finance Corporations. The aim was to create a new generation of SC/ST industrialists with the support of the Government at the State and Central levels.

Evaluation of Previous Alternatives

The result of the massive expenditure from both the Government by way of subsidy and from the banking sector by way of loans was quite discouraging. The Planning Commission in its 2006 document titled "Scheduled Caste Sub-plan—Guidelines for Implementation" has observed that though a number of strategies were introduced for the economic benefit of the Scheduled Castes by way of the Scheduled Castes Sub-Plan in the Fifth and Sixth Plan period, these strategies have not yielded the desired results. The document observes that even though the SCP and the TSP have been in operation for more than 20 years, the funds under the Special Central Assistance under the SCP and TSP have not been utilized effectively and purposefully. Anecdotal evidence also exists to show that SC and ST populations did not benefit much from the self-employment schemes of the flagship Integrated Rural Development Program and in fact went further into debt under this program. A study by Sukhdev Singh (1995) has found that "for most of the scheduled castes, the IRDP loans turned out to be bad debts". In a study of IRDP in Kerala (Thankappan, 2010), it was found that 48% of the Scheduled Caste Beneficiaries of the IRDP went into debt after being selected as beneficiaries of the IRDP. Jean Dreze (1990) writes that there was no evidence to show that the IRDP had any effect on the living condition of its beneficiaries. The experience of Scheduled Tribes will definitely be no different. Thus it is quite clear that the impact of economic development programs of the Government intended to raise the SCs and STs by way of economic and self employment

opportunities has been marginal if not totally insignificant.

The situation of SCs and STs in the economic field is no better. The not-so-insignificant progress of Dalits in Indian politics has not translated well to the sphere of economics. They may have revolutionized local politics in electing the iconic Mayawati chief minister of Uttar Pradesh, but members of the multi-caste Dalit community - who historically worked as manual laborers - have been conspicuous by their absence in India's business history. Despite gains for some Dalits, a recent paper from the Harvard Business School (Iyer, Khanna and Varshney, 2011) that used government data from 2005 found that even after the economic liberalization, Dalits "were significantly underrepresented in the ownership of private enterprises, and the employment generated by private enterprises." The Harvard Business School paper found that Dalit entrepreneurs are significantly under-represented in both the ownership of private enterprises and the employment generated by them. Enterprises owned by members of SCs and STs tend to be smaller, are less likely to employ labor from outside the family, and more likely to belong to the informal or unorganized sector. The Study also found that SC and ST entrepreneurs face significant obstacles in entering entrepreneurship, and in expanding the scale of their enterprises. While the Scheduled Castes accounted for 16.4% of India's population in 2001, but owned only 9.8% of all enterprises in 2005 which employed 8.1% of all non-farm workers. Significantly, the HBS study also found that the pattern of under-representation in enterprise ownership and employment generation is widespread even within states i.e. these results do not appear to be driven by a few pockets of underdevelopment. Credit disbursements to dalit entrepreneurs through 20-odd schemes run by the Ministry of Social Justice have dropped 33.8% to Rs1,670 crore between April and October 2011, according to data released by the Reserve Bank of India. This implies that the problem of SC and ST entrepreneurs cuts across the entire country, even in the industrially developed States.

Table III shows that the share of SCs and STs in the entrepreneurial sphere is low even in urban areas, where we might expect to have lower levels of explicit caste-based discrimination. Table IV shows Enterprise Ownership and Employment Generation by Caste Category, 1990-2005 and Table V shows Firm Scale Characteristics by Caste Category.

Table III. Share of Enterprises and Employment by Caste Category

Caste category of enterprise owner						
		General	**OBC**	**SC**	**ST**	**Number of private enterprises**
Population share		35.0%	40.9%	16.4%	7.7%	
	Rural	72.1%	18.2%	9.7%		
	Urban	86.2%	11.7%	2.2%		
Share of Enterprise ownership		42.9%	43.5%	9.8%	3.7%	35,951,686
	Rural	36.9%	46.8%	11.5%	4.8%	21,890,552
	Urban	52.3%	38.4%	7.3%	2.0%	14,061,134
Share of employment		48.5%	40.0%	8.1%	3.4%	74,754,978
	Rural	40.3%	45.0%	10.1%	4.7%	34,177,965
	Urban	58.2%	34.1%	5.8%	1.9%	40,577,013

Table IV. Trends in Enterprise Ownership and Employment Generation by Caste Category, 1990-2005

		1990	**1998**	**2005**
Population share				
	Non SC/ST	75.8%	75.8%	75.9%
	SC	16.6%	16.5%	16.4%
	ST	7.6%	7.7%	7.7%
Share of Enterprise ownership				
	Non SC/ST	87.5%	87.3%	86.4%
	SC	9.9%	8.5%	9.8%
	ST	2.6%	4.2%	3.7%
Share of Employment Non	SC/ST	90.6%	89.4%	88.5%
	SC	7.4%	6.9%	8.1%
	ST	2.0%	3.8%	3.4%

Table V. Firm Scale Characteristics by Caste Category
(The source for the above data is the 2005 Economic Census of the Government of India)

	Caste category of enterprise owner			
		1990	**1998**	**2005**
		Non SC/ST	**SC**	**ST**
Average size of enterprise		2.13	1.72	1.89
	Rural	1.89	1.63	
	Urban	2.47	1.93	2.27
% firms with only one person		56.9 %	64.7%	55.9%
	Rural	61.6%	66.2%	56.4%
	Urban	50.1%	60.9%	54.2%
% firms with no outside labor		68.0%	77.3%	76.9%
	Rural	76.5%	81.4%	81.3%
	Urban	55.7%	67.3%	60.6%

	Caste category of enterprise owner			
		1990	1998	2005
		Non SC/ST	SC	ST
% firms with no outside finance		92.8%	93.5%	92.0%
	Rural	92.6%	93.4%	92.4%
	Urban	93.2%	93.8%	90.7%
% firms with institutional finance		3.6%	2.6%	3.6%
	Rural	3.6%	2.5%	3.3%
	Urban	3.7%	2.7%	4.5%
% unregistered firms		77.4%	88.1%	87.4%
	Rural	86.5%	92.7%	92.6%
	Urban	64.3%	76.7%	67.8%

Though there are few Dalit millionaires now—based on media reports—it is observed that the typical Dalit business tends to be smaller than those originating from other groups, and less reliant on labor from outside a single family (Birkwood, 2012). And the numbers of success stories are dwarfed by the struggles being faced by the typical SC or ST entrepreneur.

It appears to be true that recruitment at all levels at both the Central Government level as well as the State level has stagnated and reservation in employment in government services has reached a plateau. The traditional rural development programs like the IRDP have not succeeded. Though there is evidence to show that the new rural development programs linked to self-help groups is working, this is aimed mainly at rural uneducated women. Entrepreneurship among the SC/ST educated persons appears to be the answer. In this scenario it makes sense that Government plays an active role to provide an environment which creates opportunities for the SC/ST entrepreneurs in the new, free-market/global dispensation. At a trade fair organized by the Dalit Indian Chamber of Commerce and Industries (DICCI) in Mumbai in 2011, Godrej Group Chairman Adi Godrej and Ratan Tata Chairman of the Tata Grouptoday appealed to corporate India to help Dalit entrepreneurs as part of their corporate social responsibility (CSR) initiative. “Dalit entrepreneurs need to be encouraged. Companies need to come forward and help them.

International Experiences

Affirmative action by Government to help disadvantageous and socially backward groups of a nation can be found even in western capitalist countries like the United States of America. By executive order 10925 in 1961

by John F Kennedy, executive order 11246 in 1965 by Lyndon B Johnson as amended by executive order11375 by Richard Nixon in 1974 provided for affirmative action in government contractors (Leonard, 1990). This meant that all federal government contractors had to prove before the Office of the Federal Contract Compliance Programs that the contractor was taking affirmative action steps to improve minority employment within the company. The contractor was required to submit a written affirmative action program to identify and analyze potential problems in the participation and utilization of women and minorities in the contractor's workforce. A study showed that, between 1974 and 1980, due to this affirmative action black male employment grew faster in the Federal Contracts than for white males.

In the Republic of South Africa, after the country adopted democratic majority rule, the Government launched the Black Economic Empowerment (BEE) program. The BEE was launched by the South African Government to redress the inequalities of apartheid by giving previously disadvantaged groups (black Africans, mixed-race, Indians and some Chinese) of South African citizens’ economic privileges previously not available to them. The BEE included measures such as employment preference, skills development, ownership, management, socioeconomic development, and preferential procurement. Some of the specific actions under the BEE were to ensure that black-owned enterprises benefit from the government's preferential procurement policies and to increase the extent to which black women own and manage existing and new enterprises, and facilitate their access to economic activities, infrastructure and skills training.

In the 1970s, the government of Malaysia implemented the New Economic Policy (NEP), designed to be a more aggressive form of affirmative action for the Bhumiputra—or son of the soil. The Government realized that most of the economic activity was concentrated in the hands of a small group of Malaysians, mainly Chinese and foreign investors. As part of the NEP, a number of projects were earmarked for bhumiputra contractors to enable them to gain expertise in various fields. Many government-tendered projects required that companies submitting tenders be bhumiputra owned.

Thus it can be seen that affirmative action by way of earmarking certain government contracts to a specific disadvantaged population of a country was adopted both in developed as well as developing countries.

Appropriate Political Setting for Policy Initiative

The Government of Andhra Pradesh vide Government Order GO Rt. No. 1640 General Administration (Cabinet) Department dated 13/4/2012 constituted a cabinet sub-committee to examine the matters relating to the implementation of the Scheduled Caste Sub Plan (SCSP) and the Scheduled Tribes Sub-Plan (TSP) under the Chairmanship of the Deputy Chief Minster as Chairman and 8 other Ministers as members with a certain terms of reference. The Cabinet sub-committee prepared and submitted its report to the Government of Andhra Pradesh on 25/08/2012. In its report the cabinet Sub-Committee observed that policy guidelines given by various departments on the on the spending of SCSP and TSP funds provided in the budgets of departments have not been able to bring about significant changes in the process of planning and allocation of resources for SCSP/TSP. Even amounts budgets have not been effectively spent. Therefore, the Cabinet Sub-Committee strongly and unanimously recommended that there be a State Legislation to ensure effective implementation of the SCSP and TSP to promote accelerated development of the Scheduled Castes and the Scheduled Tribes. When the report was submitted to the Government, the Chief Minster noted that though the sub plans were being implemented for decades, the Chief Minister admitted that social inequalities continued to persist as the funds meant for the weaker sections had either lapsed or were not spent for their exclusive benefit.

In this background, where the Government of Andhra Pradesh is going to set apart all SCSP and TSP funds from all departments in a pool and monitor the spending of these funds through a special mechanism, an affirmative action policy aimed at earmarking a certain percentage of the works component of these funds for SC and ST contractors makes eminent sense.

System of Classification of Contractors

Every "works" department, whether PWD, Irrigation or Panchayati Raj, has a classification system of contractors based on a number of criteria. For example, Annexure I shows the classification of CPWD Civil Contractors into 5 classes based on criteria like past experience, financial soundness, engineering establishment and T&P Machinery. Annexure II shows the Classes of Contractors in the Government of Andhra Pradesh Irrigation and Command Area Development Department.

There are two approaches to preferential contract allotment to SC/ST contractors. The first is to encourage existing SC/ST contractors in all classes by earmarking certain value of works for them. The second approach is to create a base of SC/ST contractors for the future. My policy recommendation is for the latter approach. Given the dearth of SC/ST contractors and the onerous financial and prior experience requirements of the higher classes of contractors, it may not be possible to help a large number of SC/ST persons if an across-the-board approach is taken.

The target for building a cadre of SC/ST contractors is proposed to start at the bottom of the Class since the requirements of this Class of contractors is the least onerous. For example, the requirements for a Class V CPWD contractor is "Unemployed diploma engineer" with the financial requirement of a Banker's certificate of Rs.7 lakh or Certificate for working capital of Rs.1 lakh for at least last six months. This is the requirement to be able to bid for a work estimated up to Rs. 7.00 lakhs. For a Class V contractor in the I&CAD Department of the Government of Andhra Pradesh, no monetary limits for past experience is prescribed for Class-V but the applicant should have functioned as an Agent or an employee under Registered Class-I Contractor and a Certificate to that extent should be produced. This is the requirement to be able to bid for a work estimated up to Rs.10.00 lakhs. A similar requirement exists for Class V eligibility for the Panchayati Raj and Rural Development Engineering Department.

Procedure for Implementing the Policy

The goal is to create at least 200 SC/ST contractors in the state of Andhra Pradesh in the next one year. This will create a contractor pool adequate to execute Class V works for the PWD, I&CAD and Panchayati Raj Department works. It is estimated that the works component under the SCSP and TSP components will be worth more than Rs.2000 crores each year. Government should earmark 10% of this works component under the SCSP/TSP exclusively for SC/ST contractors. Most of this work will be in the eligibility limit of the lowest class of contractors. It could take 6 months for the GOAP to create the process of planning and allocation of resources for SCSP/TSP gets formalized. In the meantime, Government would select and train SC/ST engineers to become Class V contractors.

The Implementation Secretariat of the SCSP/TSP contemplated under the GOAP Cabinet Sub-Committee recommendation would be responsible for selecting the candidates. The exact modalities can be worked out by the Implementation Secretariat. The framework suggested is as follows.

Government will call for applications from interested and eligible civil engineers belonging to SC/ST communities with at least a second class aggregate in their engineering degree. Preference can be given to those who have been working as employees of existing government or private contractors. A written test framed by a reputed agency like the Institution of Engineers will be conducted and the top 250 (leaving scope for some attrition) be selected. The selected candidates will then be trained in the National Academy for construction in Hyderabad for a period of one year. The curriculum for the training module will be developed by the NAC in consultation with the PWD, I&CAD and PR&RD Departments. The curriculum will be a mix of technical theoretical and practical material, aimed at providing all inputs necessary for the candidates to be able to successfully bid for, supervise and complete works of Class V contractors. The training will also provide financial management, human resource management and administrative management (filling of tender documents, submitting bills to government agencies etc.). The candidates will also be made to work hands on in civil projects being implemented in the government or private sector. NAC has the network with private contractors and builder associations to facilitate this practical training and government departments can help with practical training in government works.

Sourcing of funds for the training program will be through the Government of India sponsored schemes by the National Skill Development Council or the State Government though its inter-departmental Rajiv Yuva Kiranalu skill development program. Once training is completed, the certificate issued by the NAC should be treated by the various Government works departments as fulfilling the education and experience qualification requirement for Class V contractors. Government would then tie up with State SC/ST Finance Corporations or commercial banks to provide the required bank guarantees, adequate working capital and a grant to buy the initial equipment required to start the business of construction.

The program is proposed for Government contracts as a first stage since State Governments can make such a reservation of contracts for SC/ST contractors possible. It has not been possible for Government to impose reservation in jobs in the private sector and hence it will be even more difficult to implement this in the private sector contracts. Though the numbers are small, only 250 to start with, previous experience has shown that new initiatives are best implemented on a pilot basis to evaluate the program. Once the program is reviewed after a period of 3 years, the program can be ramped up. In the meantime, a small and competent cadre of Class V SC/St contractors will be created.

It is not possible for a contractor to be inserted at the highest level, say I or II, without working up the ladder as the prior experience and financial requirements are daunting and beyond the reach of SC/ST engineers. There is no way to make them eligible for Class I or II without the experience. It is for this purpose that the policy is suggested to be implemented at the starting class V level. Over a period of time, these V level contractors will work their way up the ladder.

A typical criticism is that the SCP and TSP funds are not spent and/or misused. It is for this very purpose that the Government of Andhra Pradesh is proposing an Act of Assembly to ensure that SCP/TSP funds are spent for the purposes intended. Once the Act is passed, the spending of SCP/TSP becomes statutory and deviation would attract penal provisions. The Implementation Secretariat of the SCSP/TSP contemplated under the GOAP Cabinet Sub-Committee recommendation would be responsible for monitoring and implementing this proposed policy initiative.

Conclusion

A number of affirmative action programs have been implemented by the Central and State Governments for the social, economic and educational welfare of the Scheduled Castes and Scheduled Tribes. While there has been some progress and benefit of reservation in educational institutions and in government jobs, the situation is far from satisfactory. Only a few SC/ST community members have risen to the top echelons of Government service. Though reservations in education have provided higher education opportunities, there is barely any presence of SC/ST professionals in top corporate positions. Though off late there is some evidence to show that a

select few SC entrepreneurs have taken advantage of the economic boom and have become millionaire industrialists in their own right, these numbers are in double digits.

Evaluation of a number of Government funded economic development programs like IRDP and other entrepreneur development program has shown that the impact of such programs has generally been very marginal and in a number of cases even negative. Therefore, there is a need to look at other forms of affirmative action programs to economically empower SC/ST educated youth.

The operational policy initiative proposed here is one such new initiative. It piggy-backs on a Government of Andhra Pradesh macro-policy of pooling all SCSP and TSP program funds and creating an implementation secretariat that will ensure that all SCSP and TSP funds are budgeted departmentally in proportion to the SC and ST population of the State and ensure that they are spent on an annual basis without allowing the funds to lapse. With opportunities in government employment stagnant, creating a cadre of SC/ST contractors would be an appropriate economic measure for the economic development of educated-technically qualified SC/ST youth. Once these new contractors get some experience executing Government contracts at the lowest class, they will become independent entrepreneurs on their own. It is hoped that not only will they move up the contractor class ladder in the Government contracting system, but will also become capable of executing contracts in the private sector for Mr. Godrej and Mr. Tata. Ashok Khade and Milind Kamble are two of the new Dalit millionaires who rode the previous economic boom to success. It is hoped that this new policy initiative will create many more Khade's and Kamble's who will ride the next wave of economic boom appearing in the horizon to greater success.

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Policy for redesigning the Regulatory Framework for Wholesale Marketing of Agriculture Produce in Uttar Pradesh

Rajeev Kapoor *

Introduction

Wholesale marketing of Agriculture produce – that includes Horticulture, some forest produce, Milk etc. – is regulated by the UP Mandi Adhiniyam of 1964. As per the provisions of the Act wholesale trade in agriculture produce may only take place at designated places in the market area, by licensees of the Mandi Samitits of that marketing area and as per the rules and regulations prescribed under the Act. Thus, Mandi Samitis set up under the Act have monopoly over regulating the wholesale trade of agriculture produce. It has been the experience that the Mandi samitis have not been able to meet the basic objective that farmers should get a fair price of their produce and the restrictions on the wholesale trade have discouraged the setting up of agro processing industries in the State, which has, in turn, negatively impacted on the growth of the agriculture sector in the state. The Government of Uttar Pradesh is reviewing the framework for regulating the agriculture marketing in the state and also examining whether any changes need to be made in UP Mandi Adhiniyam, 1964 to ensure that farmers get a fair price for their produce and to encourage setting up of agro processing industries.

The working of the Mandis has been a cause of concern in other states also. Government of India had, based on the recommendations of a committee, recommended that the laws relating to the wholesale marketing of agriculture produce may be amended in line with the provisions of the Model APMC ACT, 2003. The Model APMC Act, 2003 opens up the wholesale marketing to private sector Mandis also and has enabling provisions for direct marketing of agriculture produce to processors and for contract farming. Most of the states have already adopted main provisions of the Model Act while Uttar Pradesh, which is the largest producer of food grains and vegetables in the country, is yet to adopt these provisions. Government of India is constantly encouraging the State in this direction and there is also a possibility that funds under proposed ambitious scheme for improving agriculture infrastructure may be linked to adoption of these reforms. Thus Model APMC Act, 2003 provides a good basis for reviewing the existing legal framework. It is in this context that policy for reviewing the regulatory framework for agriculture produce marketing in Uttar Pradesh has been examined in this paper and recommendations given.

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Background of the Problem

- **Performance of the UP Mandi Adhiniyam**

  The Mandi Adhiniyam was promulgated in 1964 to regulate the wholesale Mandis where farmers brought their produce for sale. The purpose was to create a regulatory framework where each market area would have designated places where only wholesale transactions will take place on the basis of open auctions. The working of these sale yards (principal as well as sub yards) was to be regulated in the following manner:

  - Only traders who have been licensed by the market area committee would be able to operate in the market area.
  - The fees or margins that they could charge would be regulated by the Act.
  - The Market area committees would provide physical infrastructure for these Mandis and also facilities for the farmers and would supervise the functioning of the wholesale trade in the Mandis and will have powers to license the dealers and also take actions against them if they indulged in malpractices.
  - The most important aspect of the Act was that the market committees would be elected bodies with the majority of the board members elected from amongst the farmers of that market area.
  - The market committees would be self sustaining. A market fee not exceeding 2% will be imposed on all transactions which would not only be sufficient for meeting their operational needs but would also be used for development of Mandi infrastructure.

Thus, Mandis were supposed to be self sustaining autonomous bodies managed largely be the farmers to ensure that the exploitative practices of wholesalers – a wide variety ranging from arahtias, to commission agents to the main wholesaler- are curbed so that farmers get fair price for their produce. However, the experience of the working of the Mandis over the last 50 years shows that the Act has failed in achieving these objectives. The major failures are listed below:

- Mandis to be managed by elected bodies managed by farmers: Elections were held to the market area committees when they were initially set up. However, these bodies were superseded in 1974 itself. Subsequently, elected members were replaced by members to be nominated by the government and then again for majority of years no nominations have been made. The District Magistrates or the Sub divisional magistrates are ex-officio chairpersons of the local market area committee with the farmers or the traders having no say in the functioning of the committees. Thus, over time the Mandis and Mandi Parishad have become government bodies, without any local participation.
- Mandis to be autonomous: The idea was that Mandis would be self sustaining financially and it that were to happen they will function autonomously within broad guidelines set by the Act. However, very soon the state level body set up to oversee the market committees, called the Mandi Parishad, assumed all powers. The Parishad has all powers of recruitment, transfers and other personnel matters and has fully centralised the finances. As of now, the entire market fee collected by more than 600 Mandis of the state is transferred daily to the main account of the Parishad which then transfers funds to the Mandis. It may be noted that the Act provides that Mandis would transfer certain percentage of their earnings to the Parishad so that expenses of the Parishad could be met. However, as things stand today it is the Mandis who have to plead to Parishad for funds which have actually been earned by the Mandis in the first place. The entire basis of Mandis being autonomous bodies thus is no longer valid.
- Fair Price to the Farmers: There are few systematic studies but it is generally accepted that farmers have not benefitted from the Mandis. In the case of cereals farmers generally get a price that is even below the MSP during the harvesting season – during April- May 2012, the price of Wheat in Mandis ruled in the range of Rs 900 to 1050 per Quintal as against the declared MSP of Rs 1285 and within 3 months the prices have risen to Rs 1450 to 1600 per quintal in most Mandis. Thus wholesalers will be earning a margin of 50- 60% over their procurement price within 3 to 4 months. Clearly, the Mandi system coupled with the inefficiencies in the government procurement system has failed the farmer. Things are even worse in the case of perishables such as fruits and vegetables. Recently 4 districts close to Lucknow were surveyed with the help of SFAC and it was found that the share of the farmer in the final price of vegetables paid by the retail consumer was less than 40%, the balance 60% being pocketed by the middle men.
- Mandis to provide storage and other facilities to farmers: Although, Mandi Samitis have invested in rural infrastructure like roads in villages of the respective market area, they have failed to make investments in infrastructure such as rural godowns or cold chains that could have improved the bargaining power of the farmers and would have ensured better prices for them. In fact, a substantial investment by Mandis has been on projects which were politically more acceptable and not necessarily for direct improvement in marketing of agriculture produce.

On the whole, it may safely be concluded that the Mandis established under the Mandi Act of 1964 have failed to ensure that the farmers get a fair price for their produce and that the role of middlemen is effectively checked. At the same time, in the last 20 years the agriculture in the state has become more diversified with manifold increase in production of vegetables and fruits. These were also brought under the ambit of Mandis. Vegetables being perishable in nature require vastly different treatment. First, a good system for grading and sorting is required so that good produce may fetch better price. Second, a cold chain from farm gate to retailer is needed to ensure that the produce does not go waste. And finally, a thriving agro processing industry is essential for sustaining high growth in vegetables and fruit production. The absence of such a processing industry means farmers are compelled to sell their produce as soon as it is harvested, when the prices are at their lowest, and a large percentage of produce is wasted. The existing Mandi system in Uttar

Pradesh has been especially unfavourable to production and marketing of perishables.

Problem in National Context

- The national scene for agriculture marketing has not been much different. In the pre- green revolution period regulation of markets was considered to be the most important measure for improving agriculture marketing. Except few states such as Kerala, Manipur and J&K, marketing of agriculture produce came to be regulated through the Agriculture Marketing Acts of the respective states. Although, the legislation for each state were different in their wording they were very similar in their approach to regulating the markets and broadly had features similar to the UP Mandi Adhiniyam, with democratically elected market committees having been empowered to regulate the market. However, there were vital differences too. For example, while in the states of AP and HP all the agriculture products have been included in the relevant schedule, in Punjab, MP and Gujarat the commodities over which the Mandi Samiti exercised controls were very limited. At the national level also, while market committees served a useful purpose initially, inefficiencies in their functioning became apparent with the passage of time. In a comprehensive study of agricultural marketing system in India during the last fifty years (Acharya, 2004) several problems associated with regulated markets have been identified[1] :
    - The marketing committees do not allow the traders to buy from the farmers outside the specified market yards or sub-yards. This adds to avoidable cost of marketing;
    - Despite expansion in the number of regulated markets, the area served per market yard is quite high. The national average is 454 square km and in some states like Assam, Himachal Pradesh, Meghalaya, it is considerably higher. The farmers are, therefore, required to travel long distances to reach a market place. With small surplus to sell, most of the farmers try to evade these markets;
    - Though the Acts stipulate for the provision of some prescribed facilities and amenities in each market yard, in several markets, the facilities/ amenities actually created are far from the prescribed norms;

[1] Status of Agriculture Marketing Reforms by Gokul Patnaik, 2011.

    - Apart from the primary assembling markets, there are 21,238 Rural Periodic Markets (RPMs), where small and marginal farmers and livestock owners come in contact with the market economy. Most of these (80 per cent) have not been developed which hinders the market orientation of rural areas;
    - In several States, regular elections of APMCs are not being held. These have been superseded by the Government and, for long, are being administrated by bureaucrats. They have thus, lost the characteristic of farmers-dominated managerial bodies (APMCs). The staff remains overly occupied in collection of market fees and construction work rather than market development;
    - In several markets, malpractices like late payment to farmers are still prevalent and deduction of certain amount for cash or spot payment and non-issue of sale slips by traders have continued unabated;
    - By and large, the APMCs have emerged as some sort of Government sponsored monopolies in supply of marketing services/ facilities, with all drawbacks and inefficiency associated with a monopoly.

These institutional weaknesses led to a very fragmented supply chain for agriculture produce with large number of intermediaries. A study by Global Agri System of Fruit & Vegetable supply chain in four metros (Delhi, Mumbai, Bangalore and Kolkata) revealed that, on an average there are 5-6 intermediaries between the primary producer and the consumer. The total mark up in the chain added up to 60-75%. As a result the primary producers receive only 20-25% of the consumer price. Moreover, multiple handling by different intermediaries resulted in huge wastage of 15-25% of the value[2] .

- It is in this context that the Government of India appointed an Inter-Ministerial committee to examine the working of the APMC acts of states and all other issues relevant to agriculture marketing and to make suitable recommendations. The committee submitted its report in 2002. One of the major recommendations of the committee was:

"All the State Governments should amend the State Agricultural Produce

[2] Status of Agriculture Marketing Reforms by Gokul Patnaik, 2011.

Marketing Regulations Act (APMC Act) inter alia to provide specifically for the following:

- Enabling private and cooperative sectors to establish and operate (including levy of service charge) agricultural marketing infrastructure and supporting services.
- Direct marketing of agricultural commodities from producing areas and farmers' fields, without the necessity of going through licensed traders and regulated markets.
- Permitting 'Contract farming' programs by processing or marketing firms. The APMC within whose jurisdiction the area covered by contract farming agreement lies, should record the contract farming agreements and act as a protector of producer's and processor's interests with due legal support in its jurisdiction. Incidence of taxes by way of market fee, cess, duties, taxes etc. on procurement of agricultural or horticultural produce under the 'Contract farming' program should be waived or minimized.
- Rationalization of levy of market fee by introducing single point levy of market fee in the entire process of marketing in the State. Levy of market fee should be more in the nature of service charge based on the quality of services provided. The levy of fee can be at different slabs in consonance with the type of scale of services/facilities provided to all market users"

In addition, the committee recommended a slew of measures to improve agriculture marketing scenario. This included, introduction of Negotiable Warehouse Receipts, amendments to the Essential Commodities Act, use of IT and promotion of forward and futures market in agriculture marketing. These recommendations were broadly accepted by the Government and a Model Agriculture Produce Marketing Committee Act, 2003 was drafted and circulated to all the states for adoption. Recently, a Committee of State Ministers has also been set up to inter-alia oversee the implementation of these measures. The Committee, in its first report of September 2011 has again emphasised the need for amendments in the Act. It is in this context that the policy issue has come up.

- **The Policy Issue**

  In the context of the above, the policy issue that needs to be addressed is **how to redesign the regulatory framework for wholesale marketing of agriculture produce in the state. This issue will be examined keeping in view the comprehensive recommendations contained in Model APMC Act, 2003 and to achieve the key objective of enabling farmers get due and fair price for their produce.**

- **The Policy options**

  Government has the following options:

  Option 1: Do nothing or Business as Usual

  Option 2: Do away with the Mandi Adhiniyam – full deregulation.

  Option 3: Do away with the Mandi Adhiniyam for perishables.

  Option 4: Implement all or selective provisions of Model APMC Act.

Before these policy options are analysed and recommendation given it would be useful to examine following issues that bring out the context and considerations that should inform our evaluation of various options.

- **Why do farmers not get fair price for their produce?**

  While inefficiencies in the working of the regulated markets are one of the major reasons, there are several other factors that add to the problem. Some of the major ones are:

  - Large number of small and marginal farmers who have small marketable surpluses, low staying power and low bargaining power.
  - Absence of storage facilities for cereals and cold chains in the case of perishables.
  - Heavy dependence of small producers on the commission agents for short term finances. These Gram Vyaparis or aggregators purchase the produce from small /marginal farmers at very low prices and then bring this to Mandis.
  - Lack of Market Integration.
  - Lack of up-to-date information with farmers about prices prevailing in various markets.

Policy options need to be evaluated keeping these factors in view. Unless these issues are addressed the key objective of policy is unlikely to be achieved.

- **What are the key Provisions of the Model APMC Act, 2003?**

  Although, the model act contains large number of new provisions the thrust of these provisions is that monopoly of state organised Mandis should be done away with; private and cooperative players should be permitted to set up agriculture markets; special Mandis be set up for specific produce such as vegetables and fruits, fish etc. with infrastructure that is tuned to the needs of these specific commodities; single point taxation and unified licenses should be introduced; farmers should have the option to sell directly to agro business firms (Direct Marketing) and contract farming should be permitted but regulated by the Act. In addition, the act emphasises the need for setting up of cold chain infrastructure, reforming the management and administration of existing Mandis to bring in more professionalism and separation of functions of Director Mandis and Director Agriculture Marketing.

- **Adoption of Model APMC ACT by other States and its impact**

  Gokul Patnaik has documented the status of adoption of Model APMC Act in States (as on September 2011) which is given below:

Progress of Reforms in Agricultural Markets (APMC Act) as on 30.09.2011		
Sl. No	**Stage of Reforms**	**Name of States/ Union Territories**
1.	States/ UTs where reforms to APMC Act has been done for Direct Marketing; Contract Farming and Markets in Private/ Coop Sectors	Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Goa, Gujarat, Himachal Pradesh, Jharkhand, Karnataka, Maharashtra, Mizoram, Nagaland, Orissa, Rajasthan, Sikkim, Tripura and Uttarakhand.
2.	States/ UTs where reforms to APMC Act has been done partially	a) Direct Marketing: Madhya Pradesh, NCT of Delhi b) Contract Farming: Haryana, Punjab and Chandigarh. c) Private markets Punjab and Chandigarh
3.	States/ UTs where there is no APMC Act and hence not requiring reforms	Bihar, Kerala, Manipur, Andaman & Nicobar Islands, Dadra & Nagar Haveli, Daman & Diu, and Lakshadweep.
4.	States/ UTs where APMC Act already provides for the reforms	Tamil Nadu
5.	States/ UTs where administrative action is initiated for the reforms	Meghalaya, Haryana, J&K, West Bengal, Pondicherry, NCT of Delhi and Uttar Pradesh.

The table above suggests that a majority of states have adopted the key provisions of the model APMC Act. The question is the extent to which these have been implemented on the ground and whether it has improved the agriculture marketing scenario in these states. Despite efforts even one serious and comprehensive evaluation of the working of the APMC Act could not be accessed. S S Randhawa and Pratibha Bisht[3] have conducted one such study but its conclusions are not rigorous. However, for want of a better study the main conclusions of their study are listed below:

- Mandis are still the most preferred option although 25% respondents have preferences for Direct Marketing and 61% for Farmer/Consumer Market.
- Farmers are dependent on commission agents for the supply of inputs, especially seeds and credit.
- 100% farmers agree that they have benefited from Contract farming.
- 75% farmers were willing to operate in private markets primarily due to more transparency and better market management.
- Even APMC officials agree that private markets will create competition that will improve the efficiency of existing Mandis.
- Direct Marketing has found huge acceptance but very limited progress on setting up of private markets.
- Farmers have been benefitted by contract farming.

- **Previous attempts to amend Mandi Adhiniyam in Uttar Pradesh**

  In 2006 the then Samajwadi party constituted a Group of Ministers to recommend changes in the Mandi Adhiniyam. The group recommended that all the major provisions of the Model Act may be implemented excepting those relating to contract farming. However, these recommendations could not be acted upon. The BSP government, which came to power in May 2007, amended the Mandi Adhiniyam in August 2007 accepting almost the main provisions of the Model Act including those relating to Contract farming. This also coincided with the announcement of setting up of Reliance Fresh stores in the state. There

[3] Impact Assessment of Agri-Marketing Reforms in India, SS Randhawa and Pratibha Bisht.

were few protests in Lucknow against Reliance Fresh and within a month the ordinance by which these amendments were brought in was withdrawn. Considering that the BSP regime was known for not getting swayed by public protests on any issue this somersault in less than 20 days could not be explained. Be that as it may no further action was taken by the BSP government in this direction for the rest of its tenure. The new Samajwadi government which came to power in March 2012 has initiated a discussion on this issue and a Group of Ministers has again been set up to advise the government in this regard.

- **Analysis of Options and Recommendation**

The four options have been analysed in the above context.

- **Option 1- Business as Usual:** Given the need to attract investment in agro processing and the pressures from GOI, this option is not a real one. One key issue here is that of perception. The new government headed by Sri Akhilesh Yadav cannot afford to let a perception develop amidst public and industry that it is not doing enough to attract investments. Not doing anything will be bad for the image of government so it is unlikely to be a good option.
- **Option 2 – Do away with the Mandi Adhiniyam:** This option takes care of the concerns about the perception and image and is also good as far as removing restrictions on agriculture marketing are concerned. However, it is unlikely that a fully unregulated market will help farmers in getting better prices for their produce. As mentioned earlier, there are several concerns that need to be addressed to enable farmers in getting remunerative prices and all of them require investment. Complete withdrawal by the government without any substitute arrangement is likely to result in the same situation over a brief period that prevailed prior to setting up of regulated Mandis and will not be in the interest of the State or its farmers.
- **Option 3 – Do away with the Mandi Adhiniyam for Perishables:** This option will definitely help agro processing units in as much as they will be able to source their raw material from farmers directly at the farm or mill gate. Farmers are also likely to gain as they are likely to get better prices and wastages will reduce. However, there is no guarantee that agro processing units will not display the same monopolistic tendencies as the wholesalers particularly vis-a-vis small and marginal unorganised farmers. In the absence of any regulatory regime government will have little power to check this exploitation. Further, as perishables will be outside the purview of the Mandis, they will also not take any interest in improving the infrastructure. As mentioned earlier, perishable processing requires massive investment in cold chain infrastructure which is beyond the capacity of private sector on its own. Further, these chains will also require land which could have been provided in Mandi complexes if perishables were to remain within the purview of the Mandi Act. Also, agro processing will require procurement against long term contracts. Once perishables are out of the purview of the ACT, Mandis which could have acted as an independent arbiter in case of disputes will have no locus standi to play that role. In sum, without any regulatory regime, one set of monopoly (of wholesalers) will be replaced by another one (industry) and may not be in the interest of the farmers. Therefore, this option, although representing improvement over the current state of affairs, is unlikely to address the objective wholly.
- **Option 4 – Implement provisions of Model Act fully or selectively:** On the basis of the above discussion it is felt that some regulation would be in the best interest of the Farmers and State. Given the constraints in the current system, it is felt that State should adopt the provisions of the Model Act, even if some of the recommendations may not be accepted at this time. Provisions regarding direct marketing, private Mandis and farmer market are least threatening to all groups and may be taken up immediately. The UP Mandi Adhiniyam already has provisions for single point levy of Mandi fee and for unified licenses in certain cases. These may be fully aligned with the Model act. The provisions regarding restructuring and staffing of Mandis and other administrative matters may be postponed for the time being. Provision for contract farming invites most vociferous protests partly because it raises spectre of industry

claiming property rights over farmer's land. This is not the case and if provisions are drafted carefully and communicated well this provision should definitely be included as this will give a fillip to agro processing industry and will encourage them to make long term investments.

However, it is unlikely that only change in legal framework will help attain the policy objective of better prices for farmers. This will need to be supplemented by investments in marketing infrastructure, empowering farmers through various means such as organising them in producer companies and improving availability of storage and credit facilities. Unless marketing infrastructure is created only institutional changes in working of Mandis would not be helpful. This underlines the case earlier made that complete deregulation may not be the most apt response.

- **Recommendation**

The best option for the state is to amend the Mandi Adhiniyam on the lines of Model APMC ACT (Option 4), although it may not be necessary to bring in all the changes at the same time and the changes could be calibrated. However, if due to opposition it is not found advisable to amend the Mandi ACT, then the second best option would be to exclude the perishables from the scope of Mandi ACT (Option 3).

- **Issues in Implementation**

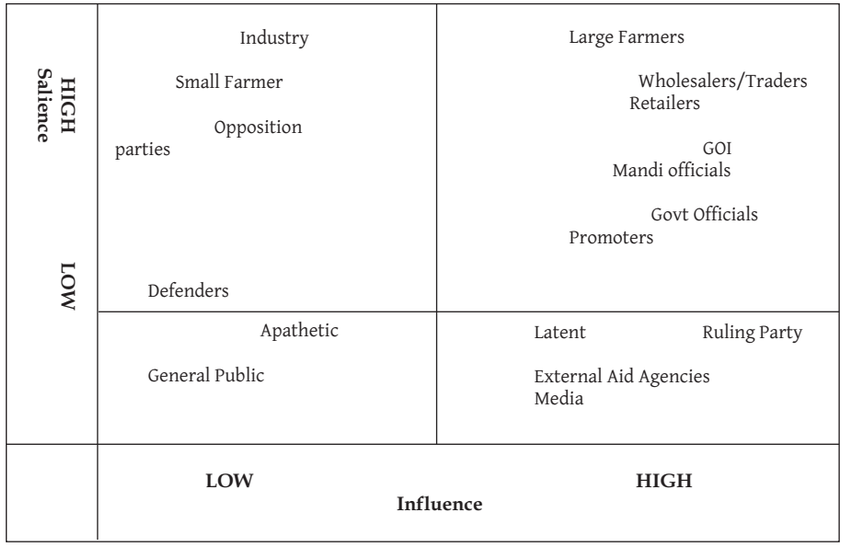
Given the composition of the political class in the State, changes in Mandi Adhiniyam are bound to generate strong reactions. Unfortunately, the consumers and small and marginal farmers who are likely to benefit a lot from these changes have poor voice and political parties, media and other groups who may not be severely impacted by these changes may exercise disproportionate power in influencing the policy choice. A detailed stakeholder analysis has been made to identify the likely opponents and proponents of the proposed policy recommendation and thereafter, a brief strategy for tackling some of the main opponents has been recommended.

- **Stakeholder Analysis**

Policy recommendation is to be informed by a stakeholder analysis to (a) ensure that the likely sources of support and opposition are identified and (b) to take mitigating action to reduce the opposition. The key stakeholders in this policy issue are listed below with their likely preferences for or against the policy change:

Stakeholder	Interest in policy (Salience)	Influence	Likely Preference for Policy Recommendation
Small Farmers	High	Low	Unknown as they have little information but likely to support if better informed
Large farmers	Very High	High	Likely to support
Wholesalers /Traders/ Gram Vyapari	Very High	Very high	Likely to oppose strongly
Retailers / Petty Traders	Very High	Medium	Likely to oppose strongly.
Ruling Party	Medium	High	Mixed depending on the core constituency of MLA.
Opposition Parties	Medium	Medium	Will oppose any policy.
Government officials	Low to Medium	High	Will likely support changes
Mandi officials	High	High	Likely to support some provisions and to oppose the provisions relating to private Mandis and direct marketing.
Government of India	Very High	High	Support for amendments
External Aid agencies such as World Bank	Low	Medium	Support for amendments. The influence will be through conditionality in new projects.
Media	Medium	High	Mixed but may support if properly educated.
Industry and its associations General Public	Very High Medium to Low	Medium Low	Will support amendments Will support if properly informed

These stakeholders have been mapped on the Influence-Salience (Interest) matrix as given below:



(Note: Red denotes strong opposition, green strong support; light green is medium support while brown denotes medium opposition).

Based upon the Salience-Influence matrix and the likely stance of various stakeholders, they may be classified into following categories:

	Promoters (High High)	**Defenders (HL)**	**Latent (LH)**	**Apathetic (LL)**
Proponents	Large Farmers GOI Govt. Officials	Industry Small Farmers Opposition parties	External Aid agencies Media Ruling Party	General Public
Opponents	Wholesalers / Traders Retailers Mandi Officials			

Given the above composition of the stakeholders and their likely preferences, the following actions would be required for garnering support for the recommended policy action:

Communication: to convert apathetic general public to a promoter. An active media strategy will be required to simultaneously educate them and to convert them into promoters.

Education: of small farmer groups so that they may exercise more influence.

Ruling Party MLAs: will need to be taken on board by the political masters so that they actively promote the policy amongst their constituents.

Get the Industry to push for change: Industry associations may play a big role in helping political bosses make up their mind in favour of policy change. Organizing large interaction with relevant industry associations and leaders may influence political decision makers particularly if at these interactions industry offers specific proposals for investments.

It would remain a challenge to align the wholesalers and retailers as they would perceive themselves as biggest loser of this policy change.

Conclusion

The current state of legislation regarding marketing of agriculture produce in Uttar Pradesh has not been able to serve the interests of the farmers of the state well and there is an urgent need for revisiting the regulatory framework for wholesale marketing of agriculture produce in the State. . The framework provided by the Model APMC ACT, 2003 is fairly adequate for this purpose and it is recommended that the UP Mandi Adhiniyam, 1964 is amended on the lines broadly recommended in the model act. While it may not be necessary to incorporate all the provisions of the model act, the amended Mandi Act should end the monopoly of state sponsored Mandis, should facilitate procurement by agro processing units and should provide alternatives to farmers. However, the main objective of the legislation- to enable conditions so that farmers may get remunerative prices for their produce – cannot be achieved only through legislative changes. There is urgent need to create marketing infrastructure (Storage / cold chains); to integrate markets through use of IT; to support small and marginal farmers reduce their dependence on middlemen for meeting their requirements of credit and other inputs; and to encourage aggregation of produce of these groups by encouraging them to organise as produce companies and other similar means. Unless legislative reforms are accompanied by these measures the state of agriculture marketing especially for small and marginal farmers (which constitute 92% of farmers in the state) will not improve. The recommended amendments will meet with resistance from many stakeholder groups and even from within the ruling party and it will require strong political will as well as a well designed and targeted communication plan to push these measures through which are likely to be in the long term interest of the farmers and State of UP.

Justice Delayed: Reducing Inefficiencies for Timely Completion of Disciplinary Proceedings Against Public Servants

Sanjeevanee Kutty*

Introduction

A democratic and responsive system of governance is supported and sustained through a system and network of public offices which is expected to deliver wide-ranging public goods and services in a timely and efficient manner. The system expects the incumbents of these offices to respond to peoples' needs and grievances in a sensitive manner, and lays down ethical norms and standards for their conduct. A system of incentives, recognition and punishment for the public servants is, therefore, an integral part of the functioning of public service. This paper deals with the delay in the conduct and culmination of disciplinary proceedings against erring public servants in India.

Generally, it is seen that disciplinary cases against government servants tend to be long drawn taking years, sometimes even decades to complete. The issue of delay is a major concern. If a government servant is not guilty of the charge, then the delay leads to a long period of stress and the stigma of being under investigation. Once a departmental inquiry starts, several normal career developments are affected, such as empanelment, promotion, consideration for foreign training/travel. Thus, an officer who may have been wrongly charged has to suffer prolonged ignominy even if he or she is ultimately exonerated.

On the other hand, if the officer is indeed guilty, it is all the more necessary that he or she be brought to book swiftly. As observed by the Administrative Reforms Commission (ARC), there is a public perception that government servants are unresponsive to the needs and concerns of citizens and the system does not address the problem because the mechanisms to ensure accountability and integrity do not appear to be adequate. The long delays in disciplinary cases only feed this perception. In its Report on 'Ethics in Governance' the ARC made the observation that dilatory disciplinary proceedings often seem to undermine any attempt to instill discipline and accountability within the government departments.

In fact, the Second ARC, in its Tenth Report went to the extent of saying that Articles 311 and 310 of the Constitution should be repealed; the argument being that "with the provision of Judicial Review now available in the Constitution, the protection available to Government employees is indeed formidable even outside Article 311".

The paper aims to address the issue of the dilatory procedures and systems that lead to a denial or miscarriage of justice, both in terms of punishing the culprit and in terms of exonerating the innocent. It presents a historical perspective on the system of disciplinary proceedings, analyses reasons for delay at different stages, and presents recommendations for reducing the delay and improving efficiency of the system.

Historical Perspective

Before we proceed to discussing the issue of delay, it would be appropriate to have a historical perspective on disciplinary procedures.

For the first time, the Government of India Act, 1919 provided that, subject to provisions of the Act and the Rules framed thereunder, every person holding a civil post in British India holds it during the "pleasure of His Majesty" and may not be dismissed from service by an authority lower in rank than the authority which appointed him.

A set of Rules was framed under the Government of India Act, 1919 called the Civil Services (Classification, Control and Appeal) Rules 1920. For the first time, the 1920 Rules provided for a properly recorded departmental inquiry

The 1920 Rules were the precursor to the Central Civil Services (Classification, Control and Appeal) Rules, 1965 framed under Article 309 of the Constitution, which govern disciplinary inquiries relating to persons holding civil posts in Civil Services in the Government of India.

After commencement of the Constitution on 26 January, 1950, different facets of Article 311 of the Constitution – particularly what constitutes

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Annexure mentioned in the articles have not been printed due to space contraints. The publisher can be contacted through e-mail to obtain the same.

"reasonable opportunity" for a delinquent government servant as contained in Article 311(2) – have been the subject of scrutiny of the Supreme Court, which has laid down principles and parameters in this regard. The scope and ambit of what constitutes "reasonable opportunity" as enunciated by the Supreme Court is given at **Annexure-I**.

With the emphasis on due process by the Courts, the Government of India has from time to time issued executive instructions to streamline the procedure for disciplinary inquiries in conformity with the pronouncements of the Supreme Court. This has resulted in considerable elaboration of the procedure. As noted by the Administrative Reforms Commission in its Fourth Report on 'Ethics in Governance', "the interpretations and requirements laid down by the highest courts have made disciplinary proceedings for major penalties very convoluted, tedious and time consuming involving a large number of sequential steps before a person can be found guilty of the charges and punished".

Stages of the Disciplinary Procedure and Expected Timelines

Disciplinary proceedings involve numerous stages starting from the detection of misconduct and framing of charges to the final action of awarding penalty or exoneration. The stages of the process are shown in the Figure reproduced at **Annexure II**. While there may be variations in this pattern, broadly speaking the 'flows' depicted in the Figure cover the entire community of central and state government employees, including those in the public sector and nationalized banks.

The time lines within which the CVC expects the various stages to be completed may be seen at **Annexure III.** From this it is seen that even if these time lines are adhered to, the estimated time taken to bring to culmination cases involving minor and major penalties are quite long (about ten and a half months and sixteen months respectively.) In addition, time required for consultation with the Union Public Service (UPSC) wherever required, is about 5 to 6 months.

Analysis of Actual Time Taken

In actual practice, however, it is seen that disciplinary cases take even longer than the estimates mentioned above. The data on cases received in the UPSC for advice were analysed in terms of the time taken at various stages. The

analysis of data for the last three years for top 10-12 Ministries is given at Tables 1 to 3 at Annexures IV, V and VI respectively.

From the data in Table-1 at **Annexure IV**, it is seen that in about 24 to 35 per cent cases, the time gap between issue of charge sheet and submission of Inquiry Report was more than three years. In about 9 to 14 per cent of the cases the time gap was even greater than five years.

From the data in Table-2 at **Annexure V** it is seen that in about 70% of disciplinary cases it took the Disciplinary Authority (DA) more than three years to refer the case to the UPSC after issue of charge sheet, of which about 35 to 40 per cent of the cases were delayed for even more than five years. Only 9% cases were sent to UPSC for advice within a year's time.

From Table-3 at **Annexure VI** it can be seen that even after completion of the Inquiry Report, it has taken these Ministries more than three years to refer the matter for advice of the UPSC in almost 35 to 45 per cent of the cases. In about 10 to 15 per cent cases, the delay was even more than five years. The number of cases which were referred to UPSC within a year of the Inquiry Report was only about 7, 12 and 7 per cent respectively in the last three years.

A study by the Indian Institute of Public Administration (IIPA) reports the time taken by various agencies in the disciplinary process. The findings of the study are presented in **Annexure VII**, which also show long delays at various stages. It is seen that the maximum time taken in the cases studied was at the level of the Administrative Departments (69%) and at the level of the Inquiry Officer (IO) (17%).

There is clearly a need to reduce the time taken by simplifying our disciplinary procedures.

Disciplinary Procedure in the U.K. Civil Services

Although our procedures have evolved from the British system, they are currently in sharp contrast with those in the U.K. Civil Service. The Indian system is highly centralized, multi-layered and long-winded as compared to the decentralized, relatively simple, flexible and quicker procedures in the U.K. This can be seen from the main distinguishing features of the procedure in the U.K. reproduced at **Annexure-VIII.**

Disciplinary procedures for civil servants in other developed countries also appear to be similar to the U.K system. While it may not be possible to wholly

adopt their system for historical, socio-political and legal reasons, there is clearly a need to rationalise our disciplinary procedures.

Rationalising Disciplinary Procedures in India

The Hota Committee has specifically addressed the issue of simplifying disciplinary procedures for government servants in India. The main recommendations are given at **Annexure-IX.**

In addition, the Hota Committee recommended the following procedure for summary disciplinary action:

"We recommend that Article 311 of the Constitution be amended to provide that if there are allegations against a civil servant/person holding a civil post of accepting illegal gratification or of having assets disproportionate to his known sources of income and the President or the Governor is satisfied that the civil servant/person holding a civil post be removed from service forthwith in the public interest, the President or the Governor may pass an order removing the civil servant/person holding the civil post from service and give him an opportunity in a post-decisional hearing to defend himself."

The ARC in its 10th Report also recommended that Article 311 of the Constitution should be repealed and appropriate and comprehensive legislation under Article 309 be framed to cover all aspects of recruitment and service, even with regard to dismissal, removal or reduction in rank. They further noted that the comprehensive Public Service Bill being prepared by Government of India should include appropriate provision for rationalization of the cumbersome disciplinary procedures. The ARC's recommendations in this regard are reproduced at **Annexure-X**.

Reducing Delay: Practical Measures for Implementation

Although delays can occur at any stage in processing the disciplinary cases, there are some crucial stages where such delays are quite visible or glaring viz. in framing charges, appointment of Inquiry Officer (IO) and Presenting Officer (PO), attendance of witness by the IO during proceedings, completion of IO's report, action on IO's report by Disciplinary Authority (DA), referring complete case records to UPSC, issuing final order after advice of UPSC. Some practical/implementable measures to overcome such delays drawn from the observations of the ARCs, recommendations of the Hota Committee and the experience of working in the UPSC are discussed below:

- **Timely framing of articles of charge**

  As a step to eliminate delays in framing the Articles of Charge, the Hota Committee held that at the time of submitting the proposal to initiate departmental inquiry, it must be accompanied by a copy of the draft Articles of Charge along with the imputations in support thereof and lists of witnesses and documents.

  It is equally important that the charge memorandum is properly drafted which is essential for expeditious and smooth proceeding of the disciplinary case. It has been observed in the UPSC, that often charges are not framed with the accuracy and completeness required. Ambiguity or flaws in framing of the charges not only result in avoidable delay but could sometimes have the effect of overturning the entire disciplinary proceeding, even at an advanced stage.

- **Appointment of IOs**

  The work of holding disciplinary inquiry is usually given to officers who are expected to handle this job in addition to their regular duties. This often leads to delays as the inquiry is kept on the back burner in the face of more pressing responsibilities of their day to day work. Hence, it would be better to have dedicated persons for conducting disciplinary inquiries. The Hota Committee recommended drawing up a panel of retired officers who have a reputation for integrity and who are well-versed with the rules and instructions relating to disciplinary inquiries. Appointment of IOs could be done from this panel, so that they would be able to devote full time and attention to the inquiry and ensure proper and expeditious conclusion of the proceedings.

- **Eliminating delays during the course of inquiry**

  There are various stages in the inquiry process itself that can cause delays. These range from the service of charges or notice of hearing on the Charged Officer (CO), to the actual inquiry report.

  - At times the latest updated address of the Charged Officer (CO) is not known (especially in cases of unauthorized absence). Or there may be cases where the CO himself tries to evade receipt and cause delay.
  - After receipt of the charge memo, the CO may ask for certain

documents for preparing his statement of defence. There is a tendency on the part of the CO to ask for unnecessary documents as well as to seek more time for giving reply to the charge memo. There is a tendency on the part of the Department to neither provide nor clearly refuse the requested documents. At times, there are genuine difficulties in obtaining required documents from field offices.

- There is a problem of non-attendance of witnesses to give evidence during the inquiry. Action is not taken by the IO to make their attendance mandatory.The Enforcement of Attendance of Witnesses and Production of Document Act, 1972 may be amended to authorize all IOs to exercise powers to enforce attendance of witnesses and ensure production of documents as these two areas often contribute to delays in inquiry proceedings.
- It is often seen that the Inquiry Report is flawed as it gives only a broad analysis rather than findings on each article of charge. At times, the IO's report is very sketchy, reaching conclusions without citing any oral or documentary evidence, or it comments on charges which are not part of the article of charge/statement of imputations.
- If DA disagrees with the IO, this is not specified clearly or the DA's disagreement is not conveyed to the CO.

The Government has from time to time issued instructions on procedures to be followed for conducting inquiries where provisions exist to deal with the various situations mentioned above. However, more training in the inquiry procedures and for handling exigencies that may arise, are required for IOs, POs and DAs.

- **Setting time limits**

  An obvious measure to curb delays would be to lay down strict time limits for completion of disciplinary proceedings. For minor penalty proceedings the Hota Committee recommended a time frame of 60 days as no detailed inquiry is required.

  For major penalty envisaged under Article 311(2) of the Constitution, the Committee laid down a maximum time frame of 12 months from service of Articles of Charge till referring the matter to UPSC. After due consultation with the UPSC, major penalty proceedings can be concluded within a period of 18 months.

It is further suggested that the above provision be made a part of the CCS(CCA) Rules and other relevant Rules, so that non-compliance may be treated as dereliction of duty.

- **Decentralisation of Disciplinary Authorities**

  At present, matters concerning disciplinary inquiries against government servants of Group A and Group B categories of the Central Government and officers of the All-India Services working on central deputation are put up to the Minister in charge of the Department/Ministry for orders, since the powers of the President have been delegated to the Minister. In order to reduce the time consuming process, there is a need to delegate these responsibilities to the Secretary of the Department/Ministry. The Hota Committee too has made a similar recommendation.

- **Two stage consultation with CVC**

  The procedure of a disciplinary inquiry involving lack of integrity or corrupt practice on the part of a delinquent government servant being sent to the CVC at two stages has been revisited. The first stage advice of CVC is sought after preliminary inquiry as to whether the case merits a major or a minor penalty disciplinary inquiry. After conclusion of the Disciplinary Inquiry, the case records are again referred to the CVC for the second stage advice as to the suitable penalty to be imposed.

  The Hota Committee recommended that the CVC need be consulted for the first stage advice only and need not be consulted for the second stage advice. This recommendation has recently been accepted by the DOP&T vide O.M. No. 372/19/2011-AVD-III (Pt.I) dated 26th September, 2011. **(Annexure-XI)**

- **Ensuring completion of documents/procedures while referring to UPSC**

The UPSC receives disciplinary cases for advice under Article 320 (3)(c) of the Constitution and relevant Pension Rules. Although there is a prescribed proforma or standard check list for referring the cases to the UPSC, in many cases the check list is not properly filled leaving out vital information about the case. This hampers proper analysis, scrutiny and verification in the UPSC and the resultant correspondence causes avoidable delays.

The data from the UPSC given in Table 4 at **Annexure-XII** show that every year a large number of cases are required to be returned to the concerned Ministries/Departments/State Governments on account of documentary or procedural deficiencies. While the UPSC has introduced a Single Window System to ensure completion of cases at the time of receipt, it is the primary responsibility of the Ministry/Department, which refers the case to UPSC.

Taking note of the above, the Hota Committee recommended that before the case records in a disciplinary inquiry are sent to the UPSC for advice, the concerned Joint Secretary/Director/Deputy Secretary in charge of establishment matters must certify that the case records being sent to the UPSC are complete, complying with all items in the standard check list. If this certificate is found to be incorrect, minor penalty proceedings may be initiated against the concerned officer. This recommendation has recently been adopted by the DOPT vide OM No. 39011/12/2010-Estt.(B) dated 14th September, 2010. **(Annexure-XIII)**

- **Delay in issue of orders after UPSC's advice**

  The experience in the UPSC has shown that in many cases there is a considerable time gap in issuing final orders by Disciplinary Authorities (DAs) even after receiving advice of UPSC. The data in the UPSC analysed in this respect for five major Ministries/Departments/State Governments with the highest number of cases for the last three years are given in Table 5 at Annexure XIV.

  From this it can be seen that only in about 64% of the cases, were final orders issued within three months of the advice tendered by the Commission. Whereas, in about 36% of the cases, issuing of final orders by the Ministry/Department took more than three months of which in about 15% of the cases, final orders were used after more than six months. In about 8% of the cases no report of action taken on the advice of the UPSC has been received even after a lapse of more than six months.

  In fact, after receiving advice of the UPSC, all that is left for the DA is to take a decision on the matter and issue final order either for imposition of penalty or exoneration. There are no other procedural steps. Hence, delays at this stage are quite unwarranted. It is suggested that a time frame of one month may be stipulated for issuance of final order by the DA, after receiving advice of UPSC.

- **Providing full time CVOs in all Ministries/Departments**

  The deficiencies pointed out above arise, among other things, from the lack of strong and effective vigilance divisions in the Departments/Ministries. Currently a Joint Secretary in the Department/Ministry is designated as the Chief Vigilance Officer (CVO), who has to handle vigilance functions in addition to his/her other official duties. Taking note as above, the Hota Committee suggested appointing full-time CVOs in Departments/Ministries or there could be CVOs in charge of more than one Department/Ministry with vigilance divisions headed by full-time Deputy Secretaries.

- **Plea Bargaining**

  "Plea Bargaining" is a new concept in the area of disciplinary cases, a suggestion that has also drawn media attention. (Newspaper report at **Annexure-XV)**

  The concept of "plea bargaining" began in criminal Courts in the USA. Following the recommendation of the Malimath Committee, the Government of India accepted plea bargaining in criminal trials in the year 2005.

  The Hota Committee has suggested that plea bargaining could be introduced in disciplinary proceedings except in cases with charges of lack of integrity or corrupt practice. Under this arrangement a delinquent government servant on whom articles of charge for major penalty have been served, could be given the opportunity to admit the charges on the understanding that if he admits to the articles of charge, a penalty other than major penalty would be imposed on him.

  It is felt that while "plea bargaining" might help reduce the time taken in some cases, it may result in encouraging public servants to commit misconduct knowing that they can get away with lesser penalty under the new concept. Further, this could increase subjectivity on the part of the DA and lead to disparities in awarding penalties resulting in differential treatment for the same offence.

- **Effective Monitoring**

  Effective monitoring by the nodal ministries like the Department of Personnel and Training for IAS officers, Ministry of Home Affairs for the

IPS and by the Ministry of Environment and Forests for officers of the Indian Forest Service and similarly other concerned Departments/Ministries of the progress of pending disciplinary inquiries is important. The focus should be on identifying the factors causing delay with a view to finding solutions. Similarly, there should be Monitoring Cells in each Department to review progress and ensure time lines.

There is also a recommendation that disciplinary case work be part of the performance appraisal of officers. The self-assessment report of the officers should include their performance in terms of disposal of disciplinary inquiry cases or their role as Presenting Officers. The Reporting and Reviewing Officers should also comment on this aspect.

- **Delay due to criminal proceedings**

  While there is no legal bar to start major penalty Departmental Enquiry against a delinquent government servant facing prosecution under the Prevention of Corruption Act, 1988, very often the plea taken before the court is that the simultaneous disciplinary inquiry against him is prejudicial to his defence in the criminal trial as the charges in the disciplinary inquiry are based on the same set of facts. It is common experience that criminal trials of corrupt government servants take such a long time that when they are convicted and sentenced, the impact of such conviction and sentence is either lost or dissipated. Thereafter, the process of appeals in higher courts also takes many years. The net result is a growing cynicism in the country that corrupt government servants thrive without fear of consequences.

  In Captain M. Paul Antony versus Bharat Gold Mines (AIR 1999 SC 1416) the Supreme Court have laid down the principles in regard to a Disciplinary Inquiry when a criminal trial is pending on the same charges. These have been reiterated by the Supreme Court in State Bank of India Versus R B Sharma (AIR 2004 SC 4144). The consensus of judicial opinion is that a disciplinary inquiry and a criminal trial can go on simultaneously except when both are based on the same set of facts and evidence.

  It must be noted that a criminal case and a disciplinary inquiry are distinct and belong to different jurisdictional areas. The standard of proof in a criminal trial is "proof beyond reasonable doubt" whereas in a disciplinary inquiry it is based on "preponderance of probabilities". This must be borne in mind while dealing with disciplinary proceedings which often tend to be handled like criminal trials.

- **Major versus Minor Penalty**

  It is also seen that there is a tendency among Disciplinary Authorities to initiate major penalty proceedings in almost all cases regardless of the kind of misconduct. This approach is probably to preempt any accusation of being soft towards the delinquent government servant. However, there are many instances where after going through long drawn major penalty proceedings, the Disciplinary Authority eventually awards one of the minor penalties. This means that a lot of time, often running into years, has been spent doing something that could have been completed in a few months, had minor penalty procedure been adopted to start with. As observed by the Hota Committee ".....a minor penalty swiftly but judiciously imposed by a disciplinary authority is much more effective than a major penalty imposed after years spent on a protracted inquiry".

Striking a Balance

It may be noted that the procedure for major penalty is designed mainly to ensure compliance with the principles of natural justice that no person should be condemned or punished without reasonable opportunity to defend himself/herself.

It is important to strike a balance between the interest of the State and the avoidance of injustice to the accused. What is needed is a reasonable and prudent view of the facts and circumstances rather than being bound by rigid limitations regarding admissibility of evidence and the degree of proof that is applicable in criminal trials.

Often unfamiliarity with the procedure or inadequate appreciation of the difference between a departmental inquiry and a criminal trial lead to over elaboration or lack of firmness in dealing with dilatory tactics. If necessary focus is placed on the main points, while at the same time, firmly resisting any attempt to introduce irrelevancies or deliberate delay tactics, there is no

reason why satisfactory expedition in disciplinary inquiry cannot be achieved, while also adhering to the prescribed procedure.

Much improvement could be effected if it is impressed upon all concerned that both public interest as well as humanitarian considerations demand that no undue or avoidable delay should occur in the disposal of the disciplinary case and that failure to give the disciplinary case due priority and delay thereof will itself be regarded as a dereliction of duty.

Conclusion

We have seen that the issue of delay in disciplinary cases against govt. servants is a major concern. There have been repeated references to this in the Parliament and the media too. The general impression is that the prescribed procedure is too elaborate and requires to be replaced by simpler and quicker procedures.

The CVC has noted that failure to take timely action in investigating cases of misconduct often results in destruction/tampering of valuable evidence eventually facilitating delinquent officers to escape the consequences of their misconduct.

The delay in handling disciplinary cases is viewed adversely by Courts also. There have been instances where the proceedings are quashed solely on the ground that there were inordinate delays in handling the disciplinary cases.

Even for the accused, during the time the case is languishing his/her future prospects are greatly diminished, apart from the prolonged stress he/she may have to undergo.

Setting up a just, fair and expeditious procedure for conducting disciplinary proceedings and awarding penalty in a judicious way is an important challenge of a formal and legalistic system like ours. In India, a system has come into place, in which disciplinary proceedings are delayed almost interminably, causing immense loss of trust in the governmental processes. A large number of cases of corruption at all levels go on for an indefinite period, with no satisfactory and judicious conclusion.

If the desired levels of integrity and transparency are to be reinforced and public faith in the system restored, it is important that the system of disciplinary proceedings be overhauled in the ways discussed above. It is an important area of administrative reforms that needs urgent attention.

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Policy Analysis of Solar Energy Program of Rajasthan

Shreemat Pandey*

Summary

Out of a total 1100 MW new project allocations, Rajasthan received the maximum share of 873 MW (i.e., 79.36% of all India allocations) through competitive bidding in the first phase of Jawaharlal Nehru National Solar Mission (JNNSM). Furthermore, 722 reputed companies have already registered their interest for setting up of solar power plants amounting to a total capacity of 16900 MW in Rajasthan. This preference is often attributed to geographical and climatic advantage of Rajasthan. Yet it remains unclear why some other States with similar climatic and geographical factors are less favoured by investors? In this policy analysis it is argued that the answer to this paradox lies in other determinants such as policy, infrastructure, facilitation and governance that make Rajasthan a lucrative investment opportunity. The fact that arguments presented here are robust is also validated by other studies that indentify critical barriers which if removed may provide enabling environment to solar energy development in India. Accordingly, this paper reviews the initiatives responsible for accelerated development of solar energy in Rajasthan. In addition, future course of actions for this promising solar hotspot in western India are also discussed. Understanding early ground-level efforts for solar energy development in Thar desert of Rajasthan may prove valuable for other regions in India and elsewhere.

Introduction

Solar energy is the largest exploitable renewal resource as more energy from sunlight strikes Earth in 1 hour than all of the energy consumed by humans in an entire year [1]. Solar energy is also appealing because stabilizing the carbon dioxide–induced climate change is mainly an energy problem, and thus stabilization will require the development of renewable sources that do not emit carbon dioxide to the atmosphere [2, 3]. Solar energy is abundant and offers a solution to fossil fuel emissions and global climate change. Earth receives solar energy at the rate of approximately 1,20,000 terawatt (1 TW = 1012 watt or 1 trillion watt). This enormously exceeds both the current annual global energy consumption rate of about 15 TW, and any conceivable requirement in future [4].

Driven by perpetually rising demand for energy, more than 100 countries including India have enacted policies and programmes for harnessing solar energy. The achievements, however, have been mixed so far. This review provides the practitioner perspective and reviews the progress made in development of solar energy in Thar desert, Rajasthan—among the most promising solar hotspots in India. Paper also critically evaluates the areas of concern. While envisioning the future, several critical areas are also identified that have implication for practice and research, including the data gaps where serious attention would need to be given by practitioners and researchers. Understanding early ground-level efforts for solar energy development is essential, as these insights can prove vital for other regions in India and elsewhere [5].

Rajasthan, the largest state of India constitutes about 10.4% geographical area of India. Notwithstanding the recently discovered large hydrocarbon reserves of more than 3.6 x 109 barrel oil and oil equivalent in Barmer basin [6], there are limited available traditional sources of energy such as coal. There are only two perennial rivers, Chambal and Mahi, whose hydroelectric potential has been almost fully achieved. In view of the above, Rajasthan faces two unique challenges in terms of power generation from the conventional sources: one, there are not many hydropower projects due to non-availability of large rivers; two, as coal needs to be transported from other states, the transportation alone contributes to 50% cost of energy production [5]. Rajasthan has about 2,08,110 km2 of desert land, which is 60% of the total area of the state. Interestingly, Rajasthan receives solar radiation of 6.0-7.0 kWh/ m2. As the area has low rainfall, about 325 days have good sunshine in a year [7], and in western areas in Thar desert it may extend up to 345-355 days as rains occur only for 10.4-20.5 days in a year [8].

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- **Potential of solar energy in India**

The average intensity of solar radiation received over India is 200 MW/km square (megawatt per kilometer square) with 250–325 sunny days in a year. Solar energy intensity varies geographically in India, but the highest annual global radiation (≥2400 kWh/m2) is received in Rajasthan and northern Gujarat [9]. India receives the solar energy equivalent of more than 5000 trillion kWh/year. Depending on the location, the daily incidence ranges from 4 to 7 kWh/m2, with the hours of sunshine ranging from 2300 to 3200 per year [10, 11]. Recent research has shown that India has a vast potential for solar power generation since about 58% of the total land area (i.e. 89 million km2) receives annual average Global insolation above 5 kWh/m2/day. Indeed, at present efficiency levels, 1% of land area is sufficient to meet electricity needs of India till 2031 [12, 13]. The cost remains a challenge as each megawatt of solar power installation costs around INR 11 crore (i.e. INR 110 million), while that of wind power is INR 5 crore (i.e. INR 50 million).

- **Current policy, practice and regulations in India**

In terms of all renewable energy, currently India is ranked fifth in the world with 15,691.4 MW grid-connected and 367.9 MW off-grid renewable energy based power capacity [12]. Development of alternate energy is administered through India's Ministry of New Renewable Energy (MNRE), National Thermal Power Corporation Vidyut Vyapar Nigam Ltd., (NVVNL) Energy development agencies in the various States and the Indian Renewable Energy Development Agency Limited (IREDA). In terms of solar, the amount of solar energy produced in India is less than 1% of the total energy produced. It is almost entirely based on PV technology, and about 20% of the capacity is being used for off-grid applications.

Promoting renewable energy has assumed great importance in view of high growth rate of energy consumption, high share of coal in domestic energy demand, heavy dependence on imports for meeting demands for petroleum fuels and volatility of world oil market [14, 15]. Even with a frugal per capita electricity need of 2000 kWh/annum and a scenario of stabilized population of 1700 million by 2070, India would need to

generate 3400 TWh/yr in future [16]. The Government of India's National Action Plan on Climate Change (NAPCC) released in mid-2008, by the Prime Minister's Council on Climate Change identifies eight critical missions, including Nation Solar Mission, National Mission for Enhanced Energy Efficiency and National Mission for Green India. Among these, the Solar Mission would be implemented in 3 stages, finally deploying 20,000 MW Grid Connected Power Plants, and generating 2000 MW of off-grid solar power covering 20 million m2 with collectors, by the year 2022 [17]. The NAPCC notes that as much as 15% of India's energy could come from renewable sources by 2020. Accordingly, the NAPCC has presently set a target of 5% of power purchase from renewable sources, which will be increased by 1% each year to reach 15% by 2020.

In addition to the above, the Indian Electricity Act, 2003 also provides for the promotion of co-generation and generation of electricity from renewable sources of energy, and purchase of electricity from such sources. As per the provision of EA, 2003 and National Electricity Policy and Tariff Policy, the Forum of Regulators constituted by the notification dated February 16, 2003 has finalized its recommendations on various issues which includes guidelines for specifying percentage for renewable energy procurement, share of different renewable energy sources within overall Renewal Procurement Obligation (RPO) percentage, competitive procurement of renewable energy, introducing of Renewal Energy Certificate (REC) mechanism [18]. The REC mechanism is aimed at addressing the mismatch between availability of renewable energy resources in state and the requirement of the obligated entities to meet the Renewal Procurement Obligation (RPO) in other states. This has resulted faster overall growth of renewable energy sector in last two years in India. The scenario is likely to get better as India has one of the largest programs in the world for deploying renewable energy based products and systems [19].

- **Determinants of success for renewable energy in Rajasthan**

Out of a total 1100 MW new project allocations, Rajasthan received the maximum share of 873 MW (i.e., 79.36% of all India allocations) through competitive bidding in the first phase of Jawaharlal Nehru National

Solar Mission (JNNSM). This preference is often attributed to geographical and climatic advantage of Rajasthan. Yet it remains unclear why some other States with similar climatic and geographical factors are less favoured by investors? In this paper it is argued that the answer to this paradox lies in other determinants such as policy, infrastructure, facilitation and governance that make Rajasthan a lucrative investment opportunity [5].

The fact that these arguments are robust is also validated by other independent studies that indentify critical barriers which if removed may provide enabling environment to solar energy development in India. For instance, a recent World Bank study [20] which examined the critical barriers for solar power development in India suggests that policy and regulatory aspects were the most significant barriers. In addition, majority of developers rate the infrastructure deficit as a critical barrier. Similar conclusions have been arrived at by many other studies [21-23].

Here, in the sub-sections that follow, the specific initiatives in Rajasthan are described that are paving the way for accelerated development of solar energy. A word of clarification shall be in order here. While this section reviews the determinants of success, the critical areas of concern that still remain to be addressed in Rajasthan are not ignored. Accordingly, in the subsequent section on envisioning the future (section 5), several issues and data gaps that have implication for research and practice have been presented [5].

- ***Renewable and Solar policy***

  To promote the renewable energy sector in general and solar energy in particular, Government of Rajasthan has taken several important initiatives. To begin with "Policy for Promoting Generation of Power through Non-Conventional Energy Sources" was enacted on 11th March 1999, which was updated in year 2000, 2003 and 2004 [24]. Also, Government of Rajasthan on April 19, 2011, issued Rajasthan Solar Energy Policy, 2011 to promote Solar Energy. The main objectives of this policy include: leverage maximum benefit from National Solar Mission, develop Solar Power Plants for meeting renewable purchase obligation of Rajasthan as well as other States, promote off-grid applications of solar energy, and the development of solar parks. Other important policy initiatives of Government of Rajasthan embodied in the Climate Change Agenda of Rajasthan, Rajasthan Environment Mission, Rajasthan Environment Policy 2010, and State Action Plan on Climate Change [25], recognize the role of solar energy for sustainable development and energy security. With various policy initiatives including allotment of government land at 10% of District Level committee (DLC) rate, 1766 MW Wind Farms and 106 MW of Biomass Plants are already in operation [5].

- ***State nodal agency and single window clearance***

  Government of Rajasthan established the Rajasthan Renewable Energy Corporation Limited (RRECL) in year 2003 by merging erstwhile Rajasthan Energy Development Agency and the Rajasthan State Power Corporation Limited to act as state nodal agency for single window clearance of the renewable energy projects. This was also to facilitate the allotment of revenue land, power evacuation approval, execution of PPAs and coordination with MNRE and State Agencies including State Transmission Utility (STU) and Discoms. RRECL is also working as a state nodal agency for promoting and developing non-conventional energy sources and as a State Designated Agency (SDA) for enforcement of provisions of Energy Conservation Act 2001. It is also engaged in creating awareness among people towards conservation of energy through demonstration projects [5].

- ***Robust power evacuation system in Thar desert***

  Energy production systems such as wind farms and solar systems are mostly located in desert districts such as Jaisalmer, Jodhpur, Barmer, but load centers are situated away from these districts. Evacuation and transmission of power therefore was required to be strengthened. Accordingly, a dedicated 400 kV network with associated 220 and 132 kV strong transmission network in Barmer, Jaisalmer, Jodhpur, Bikaner area was created. Rajasthan is the only State in India which has established a strong power evacuation network in a desert region. Existence of suitable transmission system for evacuating solar power in a desert area, a hotspot of solar energy, has been one of the key factors in early wins for Rajasthan compared to other states in India. RVPN is further strengthening the infrastructure with an investment of INR 2900

crores (INR 29,000 million) for 400kV GSS at Jodhpur and Jaisalmer solar parks for transmission lines associated with Solar Parks [5].

- ***Early mover advantage in solar sector***

  Even before the creation of National Solar Mission, Govt. of Rajasthan has taken an initiative in 2008 and approved 2 Solar Projects each of 5 MW under Generation Based Incentive Scheme (GBI). To provide encouragement in solar sector, Rajasthan Electricity Regulatory Commission (RERC) issued orders on 2nd April 2008, first time in India, imposing solar specific renewable procurement obligation (RPO) for Discom in Rajasthan. To meet out RPO requirement, the State Government approved Solar Projects of 11 private sector developers for setting up of 66 MW capacity systems utilizing all available technologies in solar photovoltaic (PV) and concentrating solar power (CSP). After announcement of Jawaharlal Nehru National Solar Mission, Government of Rajasthan permitted these proposals to be migrated to the National Solar Mission. The seven solar power plants, each of 5 MW, having Photovoltaic technology are already commissioned under the migration scheme of National Solar Mission, while the Solar Thermal Plants of 30 MW are under implementation. These early initiatives provided Rajasthan an edge over other states.

  RREC has issued the RPOs and regulations for renewable energy from time to time. Feed-in tariff for renewable energy projects have also been decided. The RERC (REC and RPO Compliance Framework) Regulations, 2010 have also been issued on December 23, 2010. Recently, RERC issued revised RPO to make it more realistic to what is being achieved by Distribution Licensees (Discoms). Current RPO component for wind and solar power is 4.5 and 0.5 percent respectively.

  In the year 2011, Union Ministry of New and Renewable Energy under National Solar Mission selected investors for setting up of solar power plant of 800 MW capacities under the phase I of National Solar Mission. In fact, to offset the higher cost of solar power, the mechanism has been developed to bundle the solar power along with the unallocated portion of the power available with National Thermal Power Corporation. In the competitive bids, the tariff for solar energy came in the range of INR 11 to 12 per unit, whereas the cost of the unallocated conventional energy was about INR 3. Therefore, per unit cost of the bundled energy has been around INR 4.5 per unit.

- ***Effective environmental governance***

  The Rajasthan State Pollution Control Board (RSPCB) has made categorization of industries, projects, and processes into Red, Orange and Green category keeping in view the evidence-based gravity of the impact upon the environment. Red category units have the maximum, and Green category have minimum potential for environmental pollution. The new classification into Red, Orange and Green category is to bring coherence with the classification made by the Central Pollution Control Board, New Delhi, with the core aim to improve environmental compliance and enforcement for the larger benefit of people. The categorization has also been done to facilitate designing of the online consent management system for time-bound decision on applications in which project proponents may not be required to visit any office of RSPCB for applying or obtaining consents and authorizations. The powers in respect of grant of consent in solar energy projects have been delegated to the level of Regional Office.

  To further accelerate the process of consents and authorizations, the RSPCB has established a fast track approval system (the "tatkal" mechanism) wherein the decisions are taken within 7 working days of submission of complete applications by project proponents.

  Prevailing policies consider solar energy as an almost absolute clean and safe energy source with tremendous environmental benefits [26-29]. However, sunlight is dilute as the yearly averaged solar power striking the Earth's surface is about 170W per square meter [30]. Thus, efficiently capturing and storing this energy, in an environmentally-friendly manner, continues to be one of the crucial challenges. Accordingly, RSPCB examined the available scientific and experiential knowledge on environmental impacts of installation and commissioning of solar power systems from the perspective of land use change, biodiversity, climate change and wider social—ecological interactions. On majority of indicators the solar power was found to be comparatively environment-friendly, yet there are some areas of concern such as clearing of vegetation in an area dominated by mobile tropical sand dunes that

already has sparse vegetation. Consequently RSPCB provides science-based policy options and strategies for environmental enforcement and compliance to promote effective environmental governance [31, 32].

In light of these attractive features and the proactive initiatives the State received the first installment of large share of 583 MW, including 3 projects of 100 MW each and 2 projects of 50 MW based on Solar Thermal technologies. The total allocation as on December 2011 amounts to 873 MW (out of 1100 MW in India). In Rajasthan, 198.5 MW solar power plants are already operational (see, table 1).

Table 1: Commissioned capacity of renewable energy in India and Rajasthan

S.No.	Energy source	India	Rajasthan
1	Solar	1044.16 MW	198.5 MW
2	Wind	17967.15 MW	2147.045 MW
3	Biomass	1209.60 MW	106.3 MW

Envisioning the future

The potential of Rajasthan for harnessing solar energy and facilitating role of the Government of Rajasthan is now being acknowledged. As discussed here, Rajasthan state is in the advanced stage of preparedness for installation of grid Interactive solar power plants [33]. Encouraged by new initiatives such as single window clearance, solar power producers have registered with Rajasthan Renewable Energy Corporation under renewable energy policy 2004 and now Solar Energy Policy 2011. Thus, 722 reputed companies have already registered their interest for setting up of solar power plants amounting to a total capacity of 16900 MW in Rajasthan.

In coherence with the Rajasthan Solar policy, state is poised to develop Solar Parks of more than 1000 MW capacity in Jodhpur, Jaisalmer, Bikaner, Barmer and districts in various stages. To begin with, solar park at Jodhpur has already been initiated. Clinton Foundation signed a memorandum of understanding (MoU) with the Government of Rajasthan in January, 2010 for setting up 3000 MW Solar Parks. Rajasthan solar Park Private Ltd (RSP Ltd), a subsidiary company of RREC will formulate policy and rules for land allotment, selection and qualification of firms, grid connectivity and

infrastructure plans, sharing of development cost by the developers and management of solar parks. About 10,000 ha government owned land has already been identified in Jodhpur district. The park has 5000 ha in zone I and 2500 ha in zone II and III each. Survey and soil testing work of 3000 ha of Zone I has already been completed. The survey and soil testing of additional 5000 ha of solar park is in process. Consultant appointed by Asian Development Bank has already prepared Master plan of Solar Park.

Rajasthan is also well-positioned to facilitate the RPO of other states through the renewal energy certificate (REC) mechanism if other states so desire. In fact, Rajasthan was the first state to allow open access for wheeling (i.e., power transmission from a seller to a buyer through the network owned by a third party) of solar power to areas beyond Rajasthan. To meet the state specific RPO, Rajasthan is committed to identify and approve more projects through the competitive bidding route. Several collaborations in this direction are already underway [10].

Notwithstanding the initial success, there are several areas of concern that must be addressed in Rajasthan if full potential of solar energy is to be truly realized. Even though the factors favourable for establishment of solar energy harvesting systems are present as discussed here, ensuring the efficiency of installations requires addressing certain key issues that if ignored can obliterate this growth opportunity. For instance, deposition of airborne dust on outdoor PV modules may decrease the transmittance of solar cell glazing and cause a significant degradation of solar conversion efficiency of PV modules. Investors would need to find a cost-effective solution to a common problem of dust deposition to maintain the efficiency of energy production systems as Thar desert experiences frequent dust and sand storms. CSP and PV power plants can lose up to 30% energy output within a few weeks of installation. A dust layer decreases solar power conversion 40% by 4 g m^2 [10]. The effect of soiling and dust deposition on energy production for large-scale photovoltaic plants may considerably deteriorate PVs' performance and compromise the yield of solar parks [34]. These losses can range up to 6.9% for the plants built on sandy soils and a 1.1% for plants built on compact soils [35]. Other studies report that accumulation of 0.4 mg/cm^2 ash on the panel surface can result in 30% energy reduction per hour or 1.5% efficiency decrease [36]. With dust deposition density

increasing from 0 to 22 g m^2, the corresponding reduction of PV output efficiency grew from 0 to 26% [37]. It has been suggested that PV systems in Rajasthan may require a minimum weekly cleaning [38], but cleaning thrice a week and washing once a month may be essential in most of the Indian locations [10]. But these suggestions are not based on robust science or long-term field experience. Thus effective approaches would need to be evolved by practitioners, and informed by good science, for appropriate cleaning cycles in Thar desert to mitigate the impact of dust deposition on PV performance. At present this issue is being addressed with trial-and-error approach without any scientific or experiential data. Water use efficiency is another area of concern. There are no studies to determine the water efficiency of solar installations in already water-stressed arid regions such as Rajasthan.

There are other issues that have been overlooked in Rajasthan. As the solar energy development progresses, it would be useful to revisit several other propositions that still remain to be addressed but may have the potential to bring sustainability in the region through solar energy.

- While strong power evacuation system is being strengthened in Rajasthan, the challenge remains because production systems need to be connected and optimally integrated into the grid through the implementation of smart grid technologies. Currently, multiple sources of power production are in operation in Rajasthan. Thus an intelligently optimized auto-balancing and self-monitoring smart power grid capable of accepting power from various sources of fuel including coal, lignite, solar, hydro or wind is necessary [39]. Such grid shall also be necessary to implement the efficient delivery of electricity to large number of distributed consumers [40]. The digitalization of the electricity grid opens the way to bundle value added services to the electricity commodity, and potentially shift business value to electricity services in coherence with the philosophy of efficiency, conservation and sustainability [41]. Urgent efforts would be required in this direction.
- While we have noted the large availability of land and abundant solar radiation in Rajasthan, we want to make it clear that the real issue is not the availability of solar radiation as much as the societal availability of open land. Indeed, contested claims and conflicts over vacant common lands by various stakeholders including local farmers, cattle herders, villagers, and conservationists are already emerging. Unless there is a fast and reliable conflict resolution and mediation mechanism in place, it will be highly unlikely to sustain the pace of solar energy development in Rajasthan.
- Idea proposed three decades ago to desalinate sea water using solar energy for the Thar Desert of India still remains to be tested in Rajasthan [42]. Solar energy may be utilized to meet the drinking water and other needs of the communities living in remote areas with the help of solar distillation and desalination because it is economical, easy to construct and maintain [43-45]. Likewise, deployment of large number of a solar photovoltaic pump operated drip irrigation system could optimize both energy use and water use efficiency [46].
- Rural India has a tremendous potential to earn carbon credits by setting up household based energy substitution or fuel switching projects like biogas plants, solar cookers and solar cells [47-49]. Yet the issue has not been appropriately addressed in Rajasthan. Indeed, concerted efforts for climate change mitigation and adaptation shall be required [50]. For example, promoting solar water heating systems (SWHs) could be of interest under the Clean Development Mechanism, because they displace greenhouse gas emissions and contribute to sustainable development by reducing local pollutants. Estimates indicate that there is a vast theoretical potential of CO2 mitigation by the use of solar water heating in India. The annual certified emission reduction (CER) potential of SWHs in India could theoretically reach 27 million tonnes. Under more realistic assumptions about diffusion of SWHs based on past experiences with the government-run programmes, annual CER volumes by 2012 could reach 15–22 million by 2020. Realizing this potential would require concerted efforts [51]. All these assumptions at present remain in paper. Serious efforts would be required to convert the potential into reality.
- Off-grid solar lantern system as small-scale interventions for poorly served rural populations would also need to be aggressively promoted by removing obstacles and encouraging low-cost options to enhance affordability, meaningful participation, improvement in local energy

governance, and training local technicians to fill the support gap [52, 53]. Implemented properly, solar energy may be far more economical than fossil-fuel based lighting systems such as kerosene lanterns [54].

- Electrification by mini hybrid PV-solar and wind energy system for rural, remote and hilly areas in Rajasthan has been demonstrated to be feasible and could prove to be boon for poor households. These issues are not currently in priority of the State. Large efforts would need to be made to realize the potential [55].
- Exploring the potential of ultra-large scale solar farms may be another area of interest. Studies note that to meet 50% of the total energy demands the proposed area for collection of solar and wind energy by means of ultra-large scale farms in fact will occupy a mere fraction of the available land and near-offshore area, e.g. a solar PV electricity farm of 26 km2 area required for India represents 0.01% land area of Rajasthan [56].
- Another area where Rajasthan would need to invest is educating the consumers about the benefit of clean energy in the long-term for the society. Without a clear understanding, the society always gives preference to energy sources with low initial financial costs even though these sources have large costs related to climate change adaptation and mitigation in the longer-term [57]. Renewable sources such as solar energy generation systems also create regular jobs locally extending the benefits beyond the income earned from those jobs. Benefits occur when workers spend part of their income in the local economy, generating spin-off benefits known as the 'multiplier effect' [58].
- Currently, solar energy systems in India are almost entirely based on PV technology. Since this solar thermal technology has been successfully implemented in developed countries, with high solar potential, the development of this technology is imperative in Rajasthan [59].
- The vital role of solar power in the energy security of India is accepted, but renewable sources alone may not be sufficient to supply India's electricity needs in the future. A recent analysis clearly indicates that even with a meager per capita electricity need of 2000 kWh/annum and a stabilized population of 1700 million by 2070, India would need to generate 3400 TWh/yr. But the total potential of all renewable energy sources in India has been suggested to be only about 1229 TWh/yr. Thus, in the future as fossil fuels are exhausted, renewable sources alone will not suffice for meeting India's needs [16]. While these claims require further refinement, energy security shall be an exciting area of multidisciplinary research involving technology, governance and economics to find sustainable solution.
- Finally, we need to watch future trends and take appropriate actions as a number of other factors are likely to decide the future prospects of renewable energy, including global pressure and voluntary targets for greenhouse gas emission reduction, a possible future oil crisis, intensification of rural electrification program, and import of hydropower from neighbouring countries [14].

Conclusions

For a region that has been more successful in implementing solar energy development, we have highlighted critical success factors and aspects of the enabling environment. The pace of development of solar energy systems has been generally slow globally, because power generation from solar energy is expensive and requires special enabling environment for success. As socio-political and historic framework conditions matter for the implementation of new renewable energy options [60], the pace is now likely to get enhanced because of the Rajasthan Solar Energy Policy 2011, and commitment of the Government of Rajasthan to further develop the crucial infrastructure such as solar parks and power evacuation system. The state is likely to attract an investment of more than Rs. 45,000 crore in the solar energy sector in next two years as it promotes the policy and infrastructure for solar energy.

Overall, as exemplified from initiatives such as state nodal agency and single window clearance, robust power evacuation system, early mover advantage, and effective environmental governance, Rajasthan Government is fully committed to the promotion of solar energy. We believe that implementation of the Rajasthan Solar Energy Policy 2011 as well as addressing the concerns we discussed here will help develop Rajasthan as a global hub of solar power for 10000-12000 MW capacity over the next 10 to 12 years to meet energy requirements of Rajasthan and other states of India. The science over the next decade is likely to develop an efficient photovoltaic

material that can be inexpensively produced for use in building exteriors, thereby revolutionizing the use of solar power. Affordable and environmentally sustainable electricity generation is already achieving cost parity in areas in which energy costs exceed \$200 MWh^{-1}. On the basis of the current and projected learning curves for wind and solar energy, renewable energy will certainly become increasingly affordable globally. Energy storage with durable and inexpensive batteries will allow electricity accessibility in micro- or meso-scale grids to leapfrog the need to bring centrally generated electricity to distant rural areas in future [61]. Hopefully Rajasthan will be prepared to exploit the opportunity provided the challenges described here are addressed quickly and appropriately.

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Policy Challenges and Strategies for Urban Water Supply in Odisha

Srinivas Injeti*

Abstract

Water has competing demands from different sectors but drinking water gets precedence over all of them, followed by agriculture and allied sector, power, industry and others. Unfortunately, India has grossly neglected its water management, which, aided by the population growth has resulted in a steep decline in the per capita availability of water to 1,544 cubic metres per annum (cumpa) in 2011, from 5,177 in 1951, compared to the global average of over 6,000 cumpa. The situation is expected to further deteriorate with the gradual melting of Himalyan glaciers on account of climate change, which according to a study is likely to reduce the per capita water availability in the country to 1200 cumpa by 2030. Although, Odisha is relatively better off in this regard with per capita water availability of over 3,200 cumpa, the rapid economic growth and urbanization of the state call for a strategic and judicious policy on water use, pricing, allocation, conservation and security.

The instant policy paper focuses on urban drinking water alone, highlighting the current situation that is characterized by sharp variations across the state and inequitable distribution, especially in respect of slums and informal settlements. It recommends a strategic approach based on demand and supply management coupled with appropriate institutional arrangements in order to ensure equitable and sustainable urban water supply throughout the state. The primary focus is on role delineation, making the urban local bodies primarily responsible for water supply, corporatizing PHEO, encouraging PPP, especially in O&M, appointing of an independent regulator, developing a comprehensive medium and long term investment and financing plan, encouraging rainwater harvesting to both augment water supply and recharge ground water, etc.

The paper recommends an integrated approach to developing urban water supply, sewerage and drainage and treating them as essential urban infrastructure on par with roads and power. It also recommends advance source development for drinking water purpose at the time of harnessing water for other uses as well.

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Outline of the Policy Problem

a. Full statement of the problem

- Access to safe drinking water is a fundamental necessity of life. Accordingly, the right to water has to be recognised as a basic human right. Although, Odisha is relatively better endowed with fresh water resources with a per capita availability that is more than double that of the national average of 1,545 cubic meters per annum, and the State Water Policy (2007) accords first priority to drinking water, rapid economic growth and urbanisation in the state along with the need to ensure water security for future have together made it necessary for the government to plan for its cities to grow with optimal use and minimum waste of water.
- Today, the urban population of Odisha is less than seven million, accounting for hardly 17% of the total population compared to the national average of 31%. But this scenario is fast changing with increasing urbanisation; however, the provision of urban water supply is lagging behind, particularly in respect of slums and informal settlements. As a result, access to safe drinking water poses a serious challenge, especially in meeting the national service level benchmarks (SLBs) in respect of physical coverage and household connections. In 2011, the average percentage of household connections in Odisha was only 19% (2011), but when it comes to the overall quantum of urban drinking water supply, the state is comfortably placed with a total production of 800 million litres per day (MLD) as against a total demand of 798 MLD. Hence, the main problems facing the state relate to adequate coverage, efficiency in service delivery and equitable distribution, which makes 'water supply for all' the primary objective of the state. The current performance of Odisha compared to the national service level bench marks is given in Annexure-I.
- Today, sharp variations in water supply across the state are a predominant feature, reflecting poor planning. The intra and intercity per capita water supply varies between 30 litres per capita daily (LPCD) to 280 LPCD. Access to safe drinking water in slums, which account for nearly 25% of the urban population in the state, is extremely poor in terms of household connections and they are largely dependent upon stand post connections and hand pump tube wells, which increases the risk of contamination and associated health hazards. The average percentage of non-revenue water in the state is as high as 45%. Adding to that, low water tariffs and low collection efficiency, which is around 49%, have resulted in hardly 30% of the operation and maintenance (O&M) cost being recovered. As a result, the financial viability of most of the water supply projects in the state stand adversely affected, leading to poor operation and maintenance and inadequate capacity addition. Issues of water pollution, reckless ground water exploitation, water wastage, and poor water conservation also need to be addressed.
- There are serious problems on the institutional and governance front too. The Government is yet to develop a comprehensive urban drinking water policy; urban local bodies are yet to take the responsibility of water supply upon themselves; the Odisha Water Supply and Sewerage Board Act never really became operational; budget allocation based on clearly laid down targets and priorities is yet to develop; pro-poor planning in terms of earmarking a separate budget for urban poor is yet to be established; tariff fixation is not linked with cost recovery; and comprehensive investment plan for the medium and long term is by and large absent.
- After the 74th Constitutional Amendment Act (CAA), 1992, the responsibility of water supply service now vests in the ULBs, but due to lack of financial, technical and managerial capacity among them, the State Public Health Engineering Organisation (PHEO) continues to be responsible for urban water supply. However, PHEO has recently entered into a memorandum of agreement (MoA) with 20 out of the 106 ULBs in order to make itself more accountable to those ULBs in terms of planning, project implementation and service delivery, but it is yet to become fully operational. As regards public private partnership (PPP) arrangements in the water sector in the state, it is still at a very nascent stage.
- The main challenge before the state, therefore, is to create an enabling

policy environment and legal framework for carrying out necessary institutional, governance, economic and financial reforms in order to ensure equitable, affordable, efficient, accountable and financially sustainable urban water supply services in the state.

b. The problem in Indian historical context

- Historically, urban water supply system in India has evolved with the requirement to provide clean water to safeguard public health. The First Five Year Plan (1951-56) focused on the coverage aspect. In the Second Five Year Plan (1956-61), the State Public Health Engineering Departments were strengthened. In subsequent five-year plans, water sector was strengthened by increased financial outlays. In 1987, the National Water Policy focused on protection of groundwater and mapping water quality. In the Eighth Five Year Plan (1992-97), water supply was linked to sanitation, emphasis was laid on treating water as an economic good, and ULBs were required to carry out operation and maintenance (O&M) of water supply. The Ninth Plan (1997-2002) emphasized 100% coverage of households, decentralization, and privatization of water supply service. In the tenth plan (2002-07), the focus was on 100% coverage, cost recovery, changing the role of Government from being a service provider to a facilitator, institutional restructuring, service improvement and people's participation. And the same focus continues in the Eleventh Five Year Plan (2007-12). All through the eleven plan periods, however, coverage has not keep pace with urbanization and water security has remained a perennial problem (Panagare *et al.*, 2004).
- The Ministry of Urban Development (MoUD), Government of India (GoI) in its recently published "Advisory Note" (MoUD, 2012a) lays emphasis on service improvement plans; efficiency of capital investment; role delineation and governance of urban water supply and sanitation (WSS) service providers; cost effective financing of urban WSS operations and infrastructure development programme; cost recovery through user charges; appointing of an independent regulator for urban WSS services; and encouraging PPP projects.
- The "Working Group on Urban and Industrial Water Supply and Sanitation for the 12th Five Year Plan" in its report submitted to the Planning Commission has highlighted the following critical challenges in urban water supply (PC-WG, 2011):
  - Growing water scarcity and water pollution affecting public health.
  - Impact of growth of cities and industries on the use of water and discharge of waste.
  - Rudimentary water demand and supply estimates leading to poor accounting and poorer planning.
  - Unregulated exploitation of groundwater in the city.
  - PPP is not bringing in much needed financial investments.
  - Intermittent water supply poses problems to metering, as most water meters register air flow during non-supply hours.

c. The problem in global context

- As per the WHO, more than one billion people in the world today lack access to safe drinking water. India is a signatory to the UN and has committed to achieve the MDG in which the goal for water supply is to reduce by half, the proportion of people lacking access to safe water supply by 2015, which applies to Odisha as well.

d. Current symptoms of the problem in the State

- Across the ULBs:
  - Coverage of households by piped water supply varies from 7 to 80%.
  - Duration of supply is 1-4 hours per day.
  - Per capita water supply varies between 30 to 280 LPCD
  - Over one-third of the 1800 odd wards are either only partially covered or not covered at all
  - Non-revenue water varies from 20 to 83%
  - Recovery of O&M cost averages to 30%
  - Slum dwellers lack access to household connections.
  - Water quality varies between 84% to 92%.

e. Consideration of the underlying basic causes of the problem

- The under lying factors affecting urban water supply in Odisha are outlined in the table below:-

Problems/Issues	*Underlying basic causes*
Demand - supply gap	Spatial g rowth of city proliferation of slums rising water demand due to increased living standard s inadequate development of water source and treatment inadequate water distribution network high cost of urban water supply projects and financial constraints was tage of water poor conservation of water round (especially rainwater harvesting both for usage and recharging ground water)
High percentage of Non -Revenue Water	physical leakages water consumed but can not be billed due to lack of volumetric measurement illegal connections lack of household and bulk metering
Low O&M cost recovery	low customer base low fixed tariff increasing numbers of public stand post s (free distribution)
Poor Water Management	ULBs lack financial, technical and managerial capability Inadequate water quality monitoring and surveillance Waste water recycling is negligible Water pollution is rampant Unregulated exploitation of ground water PPP is still in a nascent stage There is limited capacity and availability of private sector Lack o f legal framework for sharing of risks in PPP projects Lack of regulator

Policy Strategies

- In order to achieve the policy goal of an equitable, affordable, financially sustainable, efficient and accountable urban water supply service, the following policy objectives have to be addressed urgently:
  - Providing a comprehensive policy, legal and regulatory framework for providing universal access to safe drinking water within the overall water allocation and pricing and water security policy.
  - Treating drinking water and sewerage as essential urban infrastructure on par with roads and power.
  - Role delineation between State Government (policy, budgetary support, coordination and monitoring), ULB (planning and prioritization; partial financing); service provider (PHEO/ PPP player – service delivery); and regulator (tariff fixation).
  - Preparing a roadmap for the implementation of 74th CAA and making PHEO fully accountable to ULBs.
  - Creating an enabling environment for adoption of SLBs in service delivery.
  - Identification and implementation of key strategies to increase coverage and efficiency such as 24X7 (initially on a pilot basis); metering, computerized billing, etc.
  - Preparing short-term, medium term and long-term investment plans for undertaking water supply projects in a cost-effective, equitable and sustainable manner.
  - Enhancing water security by improving/ augmenting existing drinking water sources, conjunctive use of groundwater and surface water sources, rainwater harvesting, water recycling, etc.
  - Transforming the existing PHEO into a corporatized utility.
  - Formulating a comprehensive strategy for recovery of O&M cost in the short to medium-run and capital cost in the long run.
  - Developing a framework for routine water quality monitoring and surveillance activities.

- Creating an institutional mechanism for effective coordination between the departments of water resources, agriculture, rural development, urban development, energy, industryt, etc., in order to ensure proper allocation, planning, inter and intra-sectoral subsidization, proper water pricing, etc.
- Comprehensive demand management and water conservation through IEC activities aimed at community participation.
- Curbing water pollution through integrated planning of water supply, sewerage and drainage.
- Tariff rationalization.
- Promotion of PPP, especially in O&M.
- Appointment of an independent water regulator for tariff fixation, building water security, etc.

Policy alternatives for urban water supply

- **Discussion and assessment of alternative generic policy instruments**
  - The generic policy alternatives to achieve the goal of an efficient, affordable, equitable, sustainable and accountable urban water supply system in the state are as follows: -
    - Business As Usual
    - Service delivery by ULBs
    - Public Private Partnership
    - Privatization
    - Corporatization of PHEO and MoA with ULBs
  - **Business as usual** (BAU) implies that PHEO would continue to be the service provider, and the State Government shall continue fund infrastructure, fix tariff and regulate the service. It may be noted that majority of urban water supply systems in the world are managed by public sector, as urban water supply is a natural monopoly and a merit good; but BAU faces serious limitations in terms of financial, technical, managerial and institutional capacity, and public accountability.

- **Delivery of urban water supply service by ULBs** can be achieved through multiple sub-options: (i) ULBs can operate the service as an integral part of their core functions by taking over the complete responsibility, including planning, finance, construction, operations, maintenance and collection of water charges; (ii) can set up a dedicated water department with ring-fenced manpower and budget; (iii) can set up a corporation or board for managing the responsibility (more suitable for larger ULBs); (iv) can enter into an agreement with a regional water supply entity (more suitable for smaller ULBs); or (v) can outsource the O&M function to a private agency. In all these sub-options the water supply assets need to be transferred to the control of the ULB and the planning and funding of water supply infrastructure has be primarily the responsibility of the ULB. To generate funds for capital expenditure, the ULB, apart from receiving state funding can access the market by raising finance through bonds, and levy water tax as an integral part of property tax. Revenue expenditure may be met through water charges. The main advantage of ULB management is that it facilitates direct accountability to the people. It also facilitates better coordination with other municipal activities such as sewerage and drainage. The ULBs can also effectively identify the poor and cross subsidize them. But, the disadvantage is that the ULBs lack sufficient technical, managerial and financial capacity for implementing these sub-options.
- **Delivery of water service through PPP mode** may ease the problems of financial constraints and lack of institutional capacity, but as of now there are very few examples of a full-fledged private provider. Current models of PPP in India are mainly concessions for water treatment plants, bulk water supply, service contracts for billing, collection and metering, improving distribution system, etc. Further, most PPP projects in India are funded by the water utility and private entity only brings in managerial expertise. Wherever the private operator invests in capital, then as per agreement they are

allowed a higher tariff to make the project viable. The water tariffs in the current PPP projects in the country are found to be very high (more than Rs. 12 per kilo litre). The private sector finds the risk to be considerable because they have to deliver the service as per pre-determined performance indicators. According to the Planning Commission Working Group report, private sector is reluctant to enter into capital and operational investment (PC-WG, 2011). Nevertheless, the private sector is already playing a vital role in water supply as an O&M contractor. Although its capacity may be somewhat limited, its role must be recognized.

- **Privatization of water supply** was started in the UK in the early 1980's. The reform led to reduction in role of government and greater private sector involvement. But the Government retained its control through regulation. Regulation is essential to avoid exploitative pricing and to ensure quality standards. However, privatization failed in many developing countries, particularly in Argentina (Buenos Aires), Indonesia (Jakarta) and Philippines (Manila) due to exploitation of consumers, leading to civic opposition, which resulted in cancellations and renegotiations of concession agreements.
- **Corporatization of PHEO:** The service delivery through PHEO remains central to urban water supply in the state. But the PHEO should be corporatized and a corporatized entity may be created on a pilot basis for Bhubaneswar city and three to four regional entities may be created for the remaining ULBs by adopting cluster approach. The advantages of corporatization are that it offers professionalization and management independence, but the disadvantage may lie in its becoming excessively commercial, which can be check-mated by the independent regulator.

Evaluation of the Policy Alternatives

•? It is evident from the above analysis that no single institutional form can serve as the one-size-fit-all solution for urban water supply in the state, as the circumstances may widely differ from ULB to ULB. Hence, the

present challenges have to be addressed through a combination of alternative policy options.

- The most appropriate policy approach in respect of Odisha appears to be one that confines the government's role to that of a facilitator and funding agency; and makes ULBs responsible for water supply, allowing them to choose the management model they wish to adopt. As regards privatization, it does not appear feasible at this juncture due to the capital intensive nature of water supply projects, political resistance to linking tariff to cost recovery, and the lack of paying capacity of urban poor. As such, PHEO may have to continue with its function as the primary service provider, but duly restructured for ensuring greater accountability to the ULBs. In this regard, the following measures, which are a hybrid of different options, appear both desirable and implementable:
  - Government to create the overall enabling environment as outlined in para 2.1 above.
  - PHEO to enter into a MoA with all individual ULBs for agreed service levels. The service improvement plan to be vetted by ULB Council before furnishing it to the Government for funding. The assets may be transferred to the ULBs.
  - Demand management through pricing, volumetric metering and conservation.
  - Supply management through proper source development, reduction in transmission and distribution losses, optimal mix of surface and ground water, rainwater harvesting, etc.
  - PHEO to facilitate PPP projects for bulk water production, supply, metering, billing and collection in order to improve service delivery efficiency and O&M cost recovery.
  - The Bhubaneswar water supply system may be corporatized as a pilot project. The experience gained from the pilot may be used subsequently to cover the remaining ULBs.
  - Regional PHEO entities may be created in order to cater to the

requirements of the other ULBs.

- A clear policy on inter and intra sector cross-subsidization.
- Water tax to be levied as an integral part of property tax.
- Integrated approach to water supply, sewerage, drainage and recycling.
- Focus on rainwater harvesting as a means to augment urban water supply.
- An independent regulator may be appointed to regulate the service providers and water tariff.
- Promote PPP.
- Develop a comprehensive investment and funding plan.
- Government to regulate water pollution and exploitation of ground water.

- Regardless of the governance and institutional structure which is put in place, the basic strategies at the operational level remain the same. For example, universal access through demand and supply management; reducing non-revenue water through bulk and individual metering; increasing efficiency in revenue collection through technology and outsourcing; and making the service affordable to the poor through cross-subsidization, adoption of volumetric tariff, etc. The detailed strategies to increase household's access and reduce operational inefficiencies are described in **Annexure-II**. The strategies to meet the policy goals outlined at para 2.1 above are described in **Annexure-III**. The implementation of required water infrastructure in all the ULBs will require an investment of Rs. 3,900 crore approximately as elaborated in Annexure-IV. The costs include augmenting existing infrastructure, covering new areas (including slums), water and energy audits, hydraulic modeling, procurement of materials and equipment and their installations, IEC activities, capacity development, etc. The proposed policy will result in greater accountability of PHEO to ULBs and direct participation of ULB Council in service improvement, sustainability in O&M, water conservation by appropriate pricing and plugging of leakages, etc. The overall benefit will be better public health and improved living conditions. Better service should lead to greater consumer satisfaction, which is expected to promote consumer's willingness to pay more for better service.

Assessment of the Policy Environment

- India's legal and regulatory framework for water sector is still evolving. The various enactments and policies relating to water formulated by the Central and State Governments are given in **Annexure-V**. The 2002 National Water Policy encourages private sector investment in the water sector. The policy provides for user pay principle and consumers are to be charged as per actual amount of water consumption with a view to recovering the O&M cost. It gives priority to improving water efficiency and water management. On the investment side, there is increased financial support from the Central Government through schemes such as the Jawaharlal Nehru National Urban Renewal Mission (JnNURM) and the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT). A number of mandatory reform measures are mandated for ULBs to access JnNURM/ UIDSSMT funds. Although the market based system to access fund has not yet matured in India, one finds increasing number of PPP projects in water supply and increasing private sector investment. As the water sector matures, regulatory mechanism and market based financing system will come into play. Government of Odisha has recently established the "Odisha Urban Infrastructure Development Fund" to finance urban infrastructure projects by providing long tenure loans at concessional rates and viability gap funding wherever required, which can be accessed by ULBs as well as private players as may be.

Stakeholder analyses on water supply management

- The primary stakeholders of the proposed policy are the Government, PHEO, ULBs and the consumers. The secondary stakeholders are private firms indirectly working for the service provider. The State Government is the driving force behind formulation of the policy.

The proposed policy will influence the future of PHEO and therefore it would

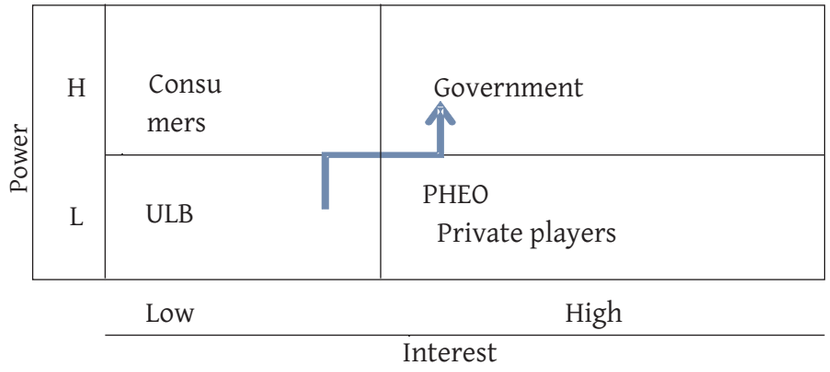

Figure1: Interest and power of stakeholders in the proposed policy

strive to protect its interests. The consumers will look for good service and reasonable tariff. But the challenge is to push the ULBs to the centre stage.

SWOT Analysis

- The SWOT of the primary stakeholders, namely, Government, PHEO, Consumers and ULBs is given in the following table:
- The proposed policy will have to be driven by the Government. PHEO is expected to be favourably disposed, as they shall continue to discharge the role of primary service provider but in a corporatized format. The ULBs should be favorably disposed to it, as the PHEO will become more accountable to them. The consumers are expected to welcome the policy, as it would improve service delivery and make it more inclusive.

Strength	*Weakness*	*Opportunity*	*Threat*	*Resource*
Government				
• Enabling 74th CAA	•Lack of policy •Capacity constraint at implementing agency level •Financial constraints	•Climate of reform •Decentralization Performance incentives	•Financial un-sustainability •Delay in project implement-ation	•Formulate policy •Role delineation •Encourage PPP
Service Provider (PHEO)				
• Presence in ULBs • Technically experienced	• Lack expertise in key areas • Poor accountability • Lack of incentives to improve performance	• JnNURM& 13th FC mandate	• Non-Revenue Water • High Electricity tariff	• Capacity development • Accountability through MoA • PPP
Consumers				
•Rapid urbanization •Growing demand	• Consumer awareness • Lack of common forum for interaction	• Service standards	• Affordability • Unwillingness to pay	• Cross-subsidization
ULB				
• Public interface • Political support	•Lack of Technical, managerial and financial capacity	• 74th CAA	• Poor service delivery	•Water tax •Water charges

Political context (Assessment of the political environment in the country)

- Since water is a public good and right to water is a basic human right, there is enough political commitment to improve water services. However, there is need for greater political will to carry out reforms in terms of tariff rationalization; appointment of an independent regulator; reduction of non-revenue water; metering; rainwater harvesting, etc.

Conclusion

- The proposed policy addresses the current policy vacuum in pursuit of an efficient, sustainable, equitable and affordable urban water supply service in the state. It is based on an analysis of the underlying causes affecting the efficiency of the system as well as stakeholder analysis in order to come up with an implementable policy framework for corrective action. It provides for a comprehensive framework for greater efficiency, higher accountability, service level benchmarking, targeted approach in formulating and implementing annual plans, encouraging PPP,

providing universal access to water supply, reducing non-revenue water, capacity development, water conservation, and corporatization, including piloting water corporatization in Bhubaneswar city. (4,000 words, excluding abstract).

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Policy Paper for Widening and Deepening India's Bond Market

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Abstract

A well-developed bond market plays a critical role in the overall economic development of the country reducing funding mismatches for corporations and the sovereign, particularly for projects with longer gestation period. However, an important constraint to financial reform has been dealing with the policy vintagesin the debt market that largely crowds out the Indian corporates. Despite the growth and development of Indian capital markets, challenges remain on several fronts. These include improvements in market access and infrastructure; cross-border issuance; transparency; efficient risk management by financial institutions; the legal and regulatory framework; and market liquidity. The major impediments to growth remain bank dominance; lack of standardization; narrow investor base and preponderance of buy-and-hold investors; embryonic legal and regulatory framework for nonbank financial institutions; tax and capital controls for FIIs; weak corporate governance; inadequate pricing transparency; infrastructure issues; high issuance/transaction costs; lack of pricing benchmark; effective hedging instruments; and lack of a robust framework for development of markets for asset-backed securitization.

The evolution of debt market in various nations reveals that the commitment of Governments, central banks,policy regimes, regulations and fiscal incentives have significantly contributed to growth of debt markets.Indiatoo could learn from their experience.

Given the heterogeneity of issuances in India, it has towork towards harmonizing market infrastructure by standardizing issuances, consolidation of instruments, creating appropriate legal framework for investor protection, establishing a vibrant trading and clearing platform,ensuring transparent market mechanism through electronic issuance for wider participation. Simultaneously, India should also enable an active Secondary Market in Bond and Derivatives.

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Developing Securitization market, broadening REPO markets and Introduction of 'Collateralized Borrowing And Lending Obligation (CBLO) mechanism through exchanges and increasingacceptance of certain Corporate Bonds as collaterals would help create vibrancy in the secondary markets. Enabling Credit Enhancement of Corporate Bonds by encouraging PSU Banks to guarantee corporate debt, ensuring that Rating Agencies maintain higher standards of evaluation, would increase investor confidence while Bringing Govt. Bond and Corporate Bond at par for HTM category, establishing Parity between Bank Loan and Corporate Bond for M2M purposes by the banks, relaxing banks' SLR investment norms to include Corporate Bonds by including certain categories of corporate debt in statutory capital requirements of banks would help ease constraints from both the supply and demand side.In line with Emerging Asia, India also needs to foster a credit culture to deepen its local debt markets. In India there are signs that economic growth is catalyzing aparadigm shift toward broader capital market development as the demand for corporatecredit is rising especially as in times of financial crisis, the demand for risk capital tends to be low.

Introduction

A well-developed Government bond market plays a critical role in the overall economic development of the country by ensuring stable funding to the Government through effective channelization of the savings in the economy, improving the effectiveness of monetary policy. Existence of a vibrant corporate bond market helps to reduce the risk of currency and funding mismatches, particularly for projects with long gestation periods. Well-developed Government and Corporate bond markets improve the capacity of an economy to withstand domestic and external shocks.

India has been working towards the development of the Bond market as a part of the economic reforms process and to efficiently intermediate savings. But it has only achieved limited results. While the Government Bond Market is comparatively well developed, the corporate bond market is still at the fledgeling level and struggling to develop.

Outline of the Policy Problem

While India boasts of a world-class equity market, the growth of its bond market has been slow in comparison to its Asian peer group. The government bond market remains illiquid. In actuality, it remains restricted to a few participants and is largely arbitrage-driven .

- **Problem Statement**

  Since the government bond market remains largely illiquid, streamlining the regulatory and supervisory structure of the local currency bond market could substantially increase efficiency, spurring innovation, economies of scale, liquidity and competition. Development of corporate bond markets would depend upon development of sovereign bond market and its benchmark yield curve.

- **The Issues in Development of Bond Market – Asia in general and India in Particular**

  In most Asian countries, corporate bond markets are underdeveloped as would be revealed by (Fig. 1). The reasons are different for different countries.

  Government bonds form the major part of the Indian bond market. Government bond market remains critical to the development of the risk free yield curve, which, in turn forms the basis for the development of

yield curve for corporate bond markets. The Indian G-sec yield curve can be said to be well developed, however with breaks in terms of duration.

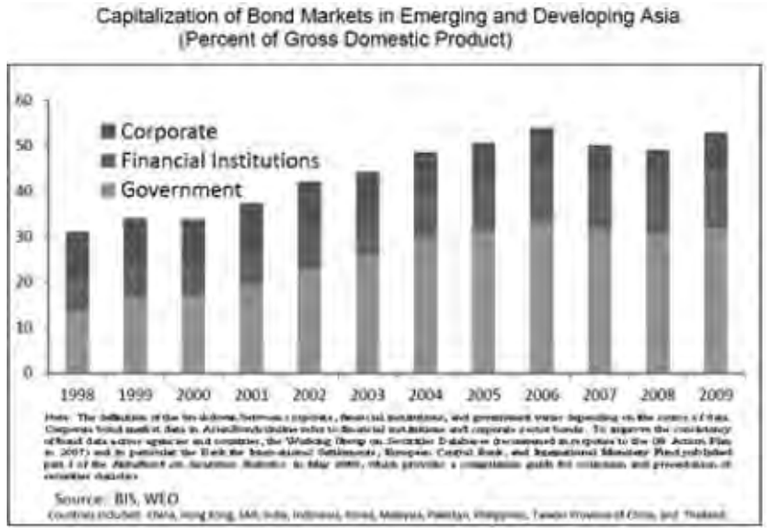

Table-1

Bond Outstanding as % of GDP

	Private bonds	Government bonds
Korea	62%	49%
Japan	42%	150%
Thailand	16%	41%
India	**4%**	**36%**
China	5%	46%
Hong Kong	35%	9%
Singapore	19%	39%
Indonesia	2%	17%

Source: ADB, Asia Bond Online

The primary corporate bond market in India is fairly large with more than Rs 2.5 Lakh crore of issuances last financial year making a total outstanding of corporate bond of nearly Rs 11 lakh crore as onMarch 31. 2012.But the secondary market for corporate bond is yet to develop. Table1reveals that

the Indian corporate debt market is relatively small compared with other Asian countries except China and Indonesia. Average, daily trading in corporate bonds (wholesale debt segment - WDM) was nearly Rs2,650 crore during 2012-13 (till Oct 2012). These are privately negotiatedbut reported (to exchanges) deals.The volume in Retail Debt Market (RDM) remains zero. It is, therefore, imperative to nurture a liquid secondary corporate bond market to improve transparency and widen the participation base. Similar is the story of Government Bonds where the outstanding bond is not a constraint but the bond available to trade is major constraint. The secondary market liquidity in the government bonds too is miniscule with an average daily trade ofRs 23000 Crore (Apr – Sep 2012).

- **The problem in India - Structural Issues and Bottlenecks**

  Economic growth in India like other Asian economies requires large amounts of efficiently intermediated capital. The major constraint impeding its development has been the outdated policies that largely crowd out Indian Corporates from credit markets. In addition, continued heavy deficit financing has led to large-scalemopping up of private savings, for instance through G-Secs. High statutory reserve requirements, directed lending to priority sectors (including mandatory holdings of government securities by banks), regulated interest rates, credit ceilings, and other controls are such key state legacies.

  Despite the growth and development of Indian capital markets, themajor impediments to growth are bank dominance; small size of issuances; narrow investor base and preponderance of buy-and-hold investors than traders; embryonic legal/regulatory framework; tax and capital controls on FIIs; weak corporate governance; inadequate transparency; lack of critical supporting infrastructure; high issuance/transaction costs; lack of pricing benchmarks; absence of effective hedging instruments; and lack of a robust framework for development of markets for asset-backed securitization.[iii]

- **The problem**

  The major investor base in debt markets is primarily dominated by buy-and-hold investors such as banks, pension funds, and insurance companies. As a consequence, trading remains limited. While pension funds have improved their holdings due torecent regulatory reforms,

they primarily invest in government securities. The asset allocation of pension funds is subject to rigid regulations that restrict their freedom to invest.

In case of corporate bonds, most issues are private placements. Because private placements are quite small in size and there are a limited number of investors, all issues would invariably go to same group of lenders, under similar terms. The result is that many of the "bonds" are actually syndicated loans—as the largest investors for private placements are banks. (IMF Working Paper, WP/11/132)

- **The Bank Loan and the Corporate Bond Market Conflict**

  On a macro level, Rajan and Zingales (2003) proposed an "interest group" theory, which explains that entrenched banks with market power in an underdeveloped market would see a fledgling corporate bond market as competition, resulting in their disintermediation. It is here that the leadership of the government plays a crucial role. The experience of both Korea and Malaysia are extremely valuable in this regard.

- **Critical Policy constraints - Demand/Supply side**
  - **Demand Constraints**
    - Banks tend to prefer loans to bonds due to book keeping constraints.
    - Pension funds could be large buyers of corporate debt, but are constrained by prudential investment norms.
    - Foreign investorsare allowed only to a very limited extent into the market. Given the very limited liquidity, they are not always eager to even take up the available quota.
    - Unavailability of hedging instruments for the buy side to manage rate and credit risks associated with corporate bonds.
    - The absence of a reliable system to protect the interest of investors in case of default or downgrade.
    - Lack of incentives for Primary Dealers to establish distribution channels for corporate bonds.
  - **Supply Constraints**
    - Even after hedging their currency risks, the total cost of borrowing offshore is much lower than the cost of borrowing in the domestic market.
    - A syndicated loan often works out cheaper than issuing a bond.
    - Higher issuance/compliance costs.
    - High interest rates demanded by buyers as bonds are illiquid and bondholders are poorly protected makes making bank debts cheaper.
    - Deficient market and too few exchanges acting as counterparties.

- **Learning from Global Experiences**

  India could learn from the experienceof several countries. Many of them have taken several initiatives that have borne appreciable results.

- **The US Bond market – Impact of Policy Decision**

  Inflection Points: 1999 and 2002. The impact of the policy initiatives taken in 1992 and 2002 is visible as per data in Table 2.

Table 2 Board Market Average- Daily Trading Volume (US$ Billion)

			Non-Agency			Corporate	ederal Agency	
	Municipal	Treasury	gency MBS	MBS	ABS	Debt	Securities	Total
1996	1.1	208.7	38.1	-	-	-	31.1	274.0
1997	1.1	212.1	47.1	-	-	-	40.2	300.5
1998	3.3	226.6	70.9	-	-	-	47.6	348.5
1999	5.3	186.5	67.1	-	-	-	54.5	316.5
2000	8.8	206.5	69.5	-	-	-	72.8	357.6
2001	8.8	297.9	112.0	-	-	-	90.2	508.9
2002	10.7	366.4	154.5	-	-	17.6	91.8	651.2
2003	12.6	433.5	206.0	-	-	18.0	81.7	751.8
2004	14.8	499.0	207.4	-	-	17.3	78.8	817.3
2005	16.9	554.5	251.8	-	-	16.6	78.8	918.6
2006	22.5	534.7	254.6	-	-	16.9	74.4	893.1
2007	25.1	570.2	330.1	-	-	16.4	83.0	1,014.9
2008	19.4	553.1	344.9	-	-	14.3	104.5	1,036.1
2009	12.5	407.9	299.9	-	-	19.9	77.7	817.8
2010	13.3	528.2	320.6	-	-	20.5	10.2	882.5
2011	11.3	567.8	248.0	4.5	1.5	20.6	10.2	859.2

Key Policy decisions:

1999: Gramm-Leach-Bliley Act

It repealed Sections 20 and 32 of 'Glass-Steagall Act' resulted in separation of banking and commerce.

The Federal Reserve and Treasury Department agreed that direct subsidiaries of national banks ("financial subsidiaries") could conduct securities activities boosting municipal bonds markets.

2002: National Association of Securities Dealers (NASD) introduced trade reporting and compliance engine (TRACE) in an effort to increase price transparency jump starting the corporate debt market during 2002 as would be evident from Table 2.

- **Chinese Bond market – Impact of Policy Decisions**

  Inflection Points: 1999 and 2005. The Traded volumes in the Inter-bank Bond Market reflecting the impact of policy decisions are at Annexure I and may kindly be seen.

  Policy Decisions:

  - 1999: China Government Securities Depository Trust & Clearing Co. LTD (CGSDTC) - offered comprehensive interbank bond business to institutional investors.
  - 2004:DVP was achieved in the interbank bond market by joint operation of PBC's Bulk Electronic Payment System.
  - Buy/Sell Repo and collateralized bonds management system introduced.
  - 2005: Introduction of QFII into the interbank bond market
  - Forward in the interbank bond market officially started.
  - Straight Through Processing (STP) realized.
- **Malaysian Bond market – Impact of Policy Decisions**

  In Malaysia, the steps taken for the development of bond markets were as follows:

  - Creation of a national mortgage corporation, CagamasBerhad, in 1988, to securitize banks' mortgage loans.
  - Offered favorable regulatory treatment to Cagamasbonds (Annexure II).
  - Employee Provident Fund - actively encouraged to invest in corporate bonds.
  - About 50% of corporate bonds were guaranteed by banks.
  - The government promoted setting up of Bond Rating Agencies, Bond Pricing Agency.

In Malaysia especially, the central bank and the government were actively, involved in the development of the bond markets. Consequently, the debt markets grew from 4% in 1989 to 47% of GDP in 2000.

- **Korean Bond market – Impact of Policy Decisions**

  In Korea, the focus has been on shifting high value borrowings from Banks toraising debt through bonds and this was achieved by active government encouragement.

  In Korea, although the Capital market Promotion Act existed since 1968, the first step towards a corporate bond market began in the 1970s, with guaranteed corporate bonds. The government ensured that all corporate bonds issued by the large industrial conglomerates carried bank guarantees. Thus, guaranteed bonds came to dominate the Korean market to the extent of 85% - 90%. The remarkable growth story of Korean bond markets in terms of numbers isat Annexure III.
- **Development of Bond Markets in India**

  Since the global financial crisis of 2007-2008, Emerging Markets have attracted significant attention due to their increased prospects for higher growth. Potential creditors would be encouraged to settle for lower yields if inflation is stable or if the government would guarantee payment of their debt. This would lower the costs of debt financing for corporations and the sovereign.
- **Policy Recommendations**
  - **Immediate Measures**
    - **Creation of Yield Curve – Liquid Benchmark Yield Curvea.**
- **Policy Change**
  - Launch of interest rate futures (not just bond futures)
  - Separate Trading of Registered Interest and Principal Securities (STRIPS)
  - Issuance of Zeroes
  - Pre-announced auction / offer schedules.

- **Rationale**

  A reliable benchmark yield curve is critical for development of a liquid corporate bond market. The government securities market can provide such a yardstick for pricing various debt instruments, including corporate bonds. In fact, some governments that do not even have financing requirements often build a benchmark yield curveeg. Singapore.

- **Creation of a National Bond Market Committee**
  - **Policy Change**

    Setting up a National Bond Market Committee.
  - **Rationale**

    Similar to Malaysia, create a National Bond Market Committee to provide policy directions. This should comprise Regulators (MoF, MCA, Mol, SEBI, RBI, IRDA, etc), Exchanges, the Rating/Pricing Agencies. The task of this Committee shall also be to oversee and regulate the actions of various market participants. In Malaysia it has reduced time of corporate issuance from 9 months to 14 days.
- **Broadening acceptance of Corporate Bonds by revamping investment regulation**
  - **Policy Change**

    Pensions a buy also lower rated papers, eg. "A" rated paper instead of only "AAA" annd Insurance Companies to be also allowed/mandated to d "AA" paper.
  - **Rationale**

    Revamping investment regulation and liberalizing asset allocation restrictions on domestic institutional investors. Similar to Korea and Malaysia, India would have to encourage Pension Funds and encourage Insurance Companies to invest in Corporate Bonds.
- **E- Issuance of Government and Corporate Bonds for wider participation**
  - **Policy Change**

    The issuance of bonds and their trading through exchanges should be encouraged.

  - **Rationale**

    Would improve transparency, liquidity, increase investor base and reduce cost of transactions.
- **Creation of Bond Pricing Agencies**
  - **Policy Change**

    SEBI may issue guidelines for setting up of Bond Pricing Agency (BPA) and regulating it.
  - **Rationale**

    Pricing agencies only exist in a handful of emerging markets as Indonesia, Korea, Malaysia, Mexico and Peru. BPAs would provide fair value bond prices for government and corporate bonds for investors. Exchange Traded Bond volumes in Malaysia almost doubled in a short period of six months of setting up of BPA.
- **Increase retail participation: Incentivizing the Issuers and Investors**
  - **Policy Change**

    Tax exemption (under 80CCF), would encourage subscription of bonds but does not encourage trading. Accrued interest on debt investments of investors shall be exempted even if he/she may exit before maturity. Interest income could also be exempted to encourage trading. The tax benefits such as higher deduction from tax liability of the issuer in the interest payable shall be considered to reduce cost of issuance (average cost of exchange based issuance stands at 2-3% issuance size). Malaysia offers tax exemption on interest earned by individuals investing in bonds. Capital gains on bonds should be brought at par with equities.
  - **Rationale**

    Exchanges can play a significant role in encouraging retail participation in debt instruments. This would enable Exchange to drive base rate pricing and the development of credit spreads.
- **Broadening REPO markets for Corporate Bonds**
  - **Policy Change**

    SEBI / IRDA to issue directives to member brokers and their

regulated entities allowing their participation incorporate bonds REPO markets.

- **Rationale**

  Through REPO, access for cheaper funds will reduce the cost of creating liquidity, fund bond holdings & reduce significant negative carry at times, which will help create markets for the retail investors as in the case of Korea.

- **Introduction of CBLO mechanism for corporate bonds through exchange platforms.**
  - **Policy Change**

    SEBI to facilitate CBLO mechanism for corporate bond through exchanges.

  - **Rationale**

    It would help issuance, liquidity, accessibility to cheap funds and positive carry for most of the borrowers, cash surplus corporates, funds & insurance companies. A similar CBLO functionality as that of CCIL should be allowed under the regulatory supervision of SEBI to facilitate liquidity in corporate bond markets. The exchange based CBLO market in corporate bonds will make it accessible to retail investors.

- **Risk management at Exchange: Acceptance of certain Corporate Bonds as collaterals**
  - **Policy Change**

    SEBI should pave the way for acceptance of certain category of Corporate Bonds as collateral for margin requirement on exchanges.

  - **Rationale**

    It would increase liquidity and acceptance of Corporate Bonds.

- **Need for a Robust Exchange traded Secondary Market**
  - **Policy Change**
    - Reduce transactions costs
    - Reduction / Exemption from withholding tax:
    - Trading Cost Parity
    - Reduction of Lot Size
  - **The Overall Rationale**

    As in the case of bank deposits, corporate bonds cannot be liquidated. As a consequence, bonds have to be held for longer time carrying associated risks. A vibrant exchange traded secondary market would provide exit options.

Specific Rationale

There is a specific case for reducing costs both at the issuance time and during trades. There is a need to reduce stamp duties and avoid provisions requiring repeated and onerous disclosures. For example, Malaysia waived stamp duty relating to the issue and transfer of private debt instruments.

In Malaysia, the income from investment in Ringgit denominated debt securities is exempted from withholding tax. Similar has been the case with Singapore and Hong Kong. Successful markets have reduced the lot size making it affordable for small investors.

The above steps resulted in augmentation of traded volumes in the respective markets and augmentation.

- **Simultaneously, enable an active Secondary Market in Derivatives**
  - **Policy Change**

    Exchanges to be allowed to freely structure their products.

  - Develop Active Credit Default Derivative Markets.
  - Currency Swap Markets: Will promote FII investments, as in the case of Australia.
  - Fixed Income Futures: Enable creation of Fixed Income Index and promote trading in its derivatives on exchanges.
  - Fixed Income Options Markets: Will enable hedging and arbitraging yield curve.
  - Encourage interest rate Swaps
- **Short-term Measures**
  - **Legal Changes**

- **Policy Change**

  Amend Indian Bankruptcy Code

- **Rationale**

To deliver efficient outcomes so that the post bankruptcy claims to the claimant is speedily and efficiently executed. In case of solvency but illiquidity, the code should provide incentives to reorganize (like Chapter 11 (restructuring)/13 (involuntary bankruptcy) in the U.S.).

- **Credit Enhancement of Corporate Bonds**
  - **Policy Change**

    Encourage PSU Banks to guarantee corporate debt

  - **Rationale**

    As in the case of the early years of Korea's bond market (till the Asian crisis), this could be restricted to the larger business houses. In China, 60% of the outstanding corporate bondsare either guaranteed or underwritten by commercial banks. Japanese financial regulators also permit banks to guarantee bond issues.

- **Securitization**
  - **Policy Change**

    Facilitative legal, regulatory and market framework for the securitization of assets.

  - **Rationale**

    Securitization can contribute to the development of corporate bond markets by overcoming the problems of the small size and low credit quality of most emerging market issuers.

- **Curbing smaller issues**
  - **Policy Change**

    SEBI to reduce smaller size issues by limiting ISIN to a maximum of two per year.

  - **Rationale**

    Limiting the number of ISIN for a corporate in a year for smaller debt issuance and in turn will discipline the corporate to plan their debt issuance activity properly.

- **Medium-term Measures**
  - **Consolidation of the outstanding stock of government bonds**
    - **Policy Change**

      Planned issuance of G-Secs.

    - **Rationale**

      Despite some passive consolidation especially at the long end, the government bond market remains fragmented with many relatively small stocks with significant maturity gaps (ADB). It would also require fiscal planning/discipline.

- **Reducing regulatory gap/ overlap**
  - **Policy Change**

    Appointing a single regulatory authority for corporate bonds and CBLO for supervision and regulation of corporate bonds similar to Securities Commission in Malaysian markets.

  - **Rationale**

    Regulatory responsibility in India's bond markets is fragmented and there is the perception among market participants that they are also at cross-purposes.

- **Regulating Rating Agency Operations**
  - **Policy Change**

    The government/regulatory bodies should ensure that the Ratings Agencies do not mix their commercial and rating roles.

  - **Rationale**

    This would remove a big operational uncertainty from the market. In addition, the regulators and the government would welcome the ratings agencies not taking on the role of quasi-consultants as they are today.

- **Relaxing restrictions on FII portfolio holdings**
  - **Policy Change**

    SEBI should relax it norms for FII portfolio holdings for corporate debt.

- **Rationale**

  Such measures taken in the bond markets in China, Korea and Malaysia yielded appreciable results. (Annexure IV)

- **Establishing Parity**
  - **Policy Change**
    - Bringing Bank Loan and Corporate Bond at par for M2M:Banking regulation should be amended
    - Relax Banks' SLR investment to include Corporate Bonds: Include certain categories of corporate debt in statutory capital requirements of banks. This can at least start with PSU Bonds.
    - Bringing Govt. Bond and Corporate Bond at par for HTM category:
    - Reduce the artificial preference of banks for loans.
    - In order to incentivize banks, it is recommended to provide HTM category benefits for their corporate bond holdings as well.
- **Apply Internationally Accepted Accounting Standards**
  - **Policy Change**

    MCA to mandate early adoption of IFRS
  - **Rationale**

    This, in turn will encourage activity in all tenors of the yield curve to enable Asset Liability Matching. The experience of Japan in this context has been significant.

Conclusion

Existence of a vibrant market would help ease financing constraints for private businesses and corporates both in terms of cost and access to funds. India faces the challenge of generating financial assets in line with its economic growth aspirations that can provide the underlying collateral through effective intermediation of savings, lower cost of funds, and ease of access for the corporates while creating investment opportunities to tap into its significant saving potential. The issue of debt market development could be addressed through an integrated approach of market regulators that provides for greater scale, efficiency, and ease of access. Though multifaceted, especially given the heterogeneity of issuance, India has to work further toward harmonizing market infrastructure by way of standardizing issuances, consolidation of outstanding stocks, establishment of operational parity among corporate bonds, government securities and bank loans, provision of appropriate legal recourse for appropriate investor protection for creation of vibrant trading and clearing platforms.

Furthermore, incentives at the firm as well as investor/Issuer level must be provided to make bond financing and investing an attractive option. In process, policy making and regulations would have to tackle the inertia stemming from a historical dependence on bank finance, high costs of bond issuance, and lack off a miliarity with the processes and risks involved. To this end, India should continue to raise its standards in line with international best practice. A list of incentives provided by Asian nations has been provided in Annexure III. India may look to its neighboring emerging markets at similar stages of development for innovative solutions to problems that have been tried successfully in similar markets, provide support for local market innovations based on their success elsewhere, and allow markets to avoid other's mistakes.

Supporting documentation

Bond market development framework for other markets like China, Hong Kong, China, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, Thailand, and Viet Nam has been captured in the "ASEAN + 3 Bond Market Guide" published by ADB. This document can be retrieved on the following link.

http://asianbondsonline.adb.org/publications/adb/2012/asean+3_bond_market_guide.pdf

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Towards Guaranteed Titling System

Vinod K. Agrawal*

- **What ails our system**

  The current system of Land Administration in India is fraught with many shortcomings. The current system provides for deeds registration which does not put any responsibility on any public authority on transfer of property. There is no record of ownership of the property and it is incumbent upon the buyer to investigate the title which always remain uncertain and inconclusive. The registration system provides for registration of deeds where anybody can register, anything can be registered and a property can be registered any number of times. The registration record has no linkage with the revenue record or graphical record maintained by the Survey department. There are four departments viz., Registration Department, Revenue Department, Survey Department and Municipal Bodies handling information and transactions about land and there is little coordination among them. Most of the cadastral records have become outdated due to non-updating besides degenerating due to their age. There is no public record, which provides complete picture of true ownership or enjoyment of the land and property. The system also provides for multiple activities for updating this record as a result much of the record remains unupdated.

  In absence of such records, Citizens are put to a lot of hardships. In AP alone it was estimated (2003) that about 2% lands in rural areas, 5% in urban and 28% in peri-urban areas are affected by land disputes. People were spending about Rs. 750 crores per annum.

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- **Where are we**

  As a result of these deficiencies in Land Records, citizens face serious difficulties in safeguarding their properties, enforcing their rights or obtaining quality service from Government agencies. At the national level it was estimated by McKinsey group (2001), that India's GDP could grow at an additional 1.3% if the problem of unclear land titles and bad ceiling laws could be taken care of. This intense in costly litigation in Andhra Pradesh Pradesh, it was estimated (2003) that the citizens spent about Rs.750.00 Crores per annum on litigation pertaining to land title alone. Extrapolated at national level, this figure assumes gigantic proposal. While Indian law requires compulsory registration of sale of land, the Indian Registration Act of 1908 doesn't ask the registration authority to verify history of the land or ownership from the seller, weakening the protection to the buyer. Hence land registration is not registration of title, but of deed of transaction. It is a fiscal instrument for the state, allowing it to collect a "fee", not providing the statutory support of certainty to title. Neither does the Transfer of Property Act, 1882 require verification of ownership. In addition, Section 18 of the Registration Act does not demand compulsory registration of all land related transactions. State legislation on land acquisition, court decrees, land orders, heirship partitions, mortgages, agreements to sell, etc, do not require mandatory registration. The provision related to land in the Indian Contract Act of 1872, does not require contracts to be registered.

  All of these forces combine to weaken land records and security of tenure. What we have in India today is a presumed ownership to land which is questionable and can be challenged on multiple constraints: ownership, extent of boundaries, clauses, financial encumbrances, inheritance sub-divisions, etc.

- **Rationale for the GTS**

  Guaranteed Title System protect rights to land and property as has been developed in some countries.. It relates to several aspects of the functioning of both state and markets: it helps in social justice programmes like low income housing; it helps in more effective urban planning, and in the protection of specified land parcels like

environmental or heritage assets; it helps faster implementation of infrastructure projects, it reduces delays in judicial processes and unnecessary litigations; it helps in a more efficient mortgage market, with fewer delinquencies and greater transparency; and so on.

- **Components of GTS**
  - **A public record of titles**

    System envisages that there is a public record of title over all the properties created by a Public Authority duly empowered by the Statute. This record is kept open and is accessible to all the public interested in it. Moreover, entries in the records are conclusive for all the purposes operating on the principle of unassailability. That means that the entries in the records can not be assailed in any forum including a court of law and are thus conclusive for all purposes.

  - **Entries need to be always correct and true**

    The entries in the public record need to be reflecting the true and faithful picture of the situation on ground with all its shortcomings, lacunae and encumbrances. Moreover, the entries need to be always true and correct. It does not afford a situation where there is gap between change in composition or nature of the title and the record reflecting it.

  - **Entries in this record are guaranteed**

    In certain countries, the State through various methods guarantees the entries in public record of title or Registrar of Titles. To give an example if 'X' buys a property from 'Y' relying on an entry in the Public Record of Title that 'Y' holds the title of property and consequently it comes out that ''Y'did not own it 'X' is compensated by the State. In other words, the entries in the records are indemnified by the State.

  - **Principles of operation**

    The system of Guaranteed Titles, also known as Torrens System since it was first introduced by Sir Robert Torrens, operates on 3 important principles viz.

- **Curtain principle**

  On creation of the record of titles a curtain is drawn on all the previous transactions and they become irrelevant for titling. There is no need for any investigation in the past history of transactions and all investigation are from the curtain onwards.

- **Mirror principle**

  The title record should accurately and completely reflect the situation of ownership as exists on the field. This true and faithful reflection should be at all times.

- **Insurance principle**

  The record of title shall be the conclusive proof of ownership of a given property. If anything is found erroneous in it the aggrieved party is compensated by the Government.

- **Pre-requisites for a GTS**
  - **Accurate description of property**

    It is necessary before titling is taken up that all the properties are described correctly and accurately. It calls for a proper cadastral survey record wherein all the boundaries of every property are fixed, recorded and described accurately. It also envisages that every property is given a unique ID through one of the various methods available for it. It further envisages that the graphic and descriptive records of the property are unified with that of the ownership record.

  - **A central Register of Titles for all properties**

    Another pre-requisite for GTS is that there is a Central Register of Titles where ownership detail of every property are kept. This register is unified, gives all the information which has any bearing on the title and is accessible to anybody interested in knowing the title and other details of a property.

  - **Title Registration System**

    In order to ensure that all the transactions on the title are done by only a person who has legal competency to do so, it is necessary that a Title Registration System is in place. As against the Deed Registration System which envisages that a Deed is registered, the Title Registration System provides for registration of a title irrespective of whether there is a deed or not. It is incumbent on the Registrar to ensure that only the real title holder registers a transaction on any property. The transfer is effected at the point of 'registration' and not by a contract or any other means.

  - **Auto updating system**

    This pre-supposes that all the changes in a given title or in any aspect of it are automatically brought on record. There can not be a time gap between a change taking place and its recording in the records.

- **Benefits of the Guaranteed Title reform**
  - Clearly providing security of title through robust records, improved registration and guaranteed title, are significant next generation reforms on land. The impact of these reforms will be significant.
  - Social impact: There will be reliable data on property and land and hence a dramatic reduction in litigations. Government records of land assets that are currently in shambles, will be vastly improved. This in turn will make land available for social development and infrastructure. There value of property assets will improved and access to credit also shall be much easier. Transactions on land shall become simpler, cheaper, quicker, and will be accurate and secure.
  - Governance impact on urban planning and management will be immeasurably improved with reliable data of the individual cadastre providing the smallest building block on which layers of data can be built for multiple uses -accurate assessment of land market valuation by street, updated voter lists, enforcement of zoning laws, etc. Tax and utilities collection will be better administered and allow for fewer loopholes. Infrastructure projects will be done faster with clarity on title, and development policies like Transfer of Development Rights (TDR) will have an enabling environment.
  - Access to credit through land and property assets is especially important for the poor, who currently cannot use their property as collateral to access credit, due to lack of certainty of tenure rights. Guaranteed title will unlock the potential of land to generate capital.

(Hernando De Soto : Mystery of Capital)

- Sources of revenue to the state and local governments -direct and indirect – will increase substantially -property tax collection, stamp duty for registration, building licenses, company and individual taxes with employment generation in an improved land development and construction sector.
- Robust records and secure titles bring informal land and property holdings into the formal system. The resultant benefits accrue to the property holders, improved sources of revenue to the local and state governments, and efficiency in social programmes of government.

- **Impediments in India**
  - Deed Registration System: Registration doesn't convey title
  - No title records: Revenue records presumptive
  - Old and outdated, incomplete and inaccurate cadastral records – graphical + textual
  - Urban records & Registration: stand alone systems
  - Multiple handling agencies – lack of coordination In India, the data pertaining to land is maintained by four departments Viz Revenue, Survey, Registration and Local Bodies..The records in the Revenue Department only pertain to the textual records of the agricultural land .and the survey department handles the graphical part of the same data. The Registration department maintains the records pertaining to registration of properties (Deed Registration) which does not guarantee any title. The process of registration is also treated as a revenue generating activity. The Local Bodies maintains "Property Registers" for collection of property tax. Each department works on stand-alone basis, and practically no coordination exists between them.. Therefore, there is no record in the government that reflects complete and up-to-date picture of true ownership and enjoyment of land or property.
  - Gap between RoR and Registration – The current system after the registration of a transfer of property has taken place, the transferee has to initiate separate procedure for updation of a record. Thereafter if part of a property is transferred (part of the survey

number, he has to initiate second process call sub-division or phodi). The test history conducted in Andhra Pradesh showed that "only about 55% of the properties in rural areas which had registered transactions" whereas only 29% of the registered transactions requiring sub-division of the property underwent the process. Both the processes of mutation and sub-division being cumbersome and time consuming as well as costly are given go-bye by many a users. This result in situation where records are not updated and there are gaps between registration records and RoR, Survey Records and RoR and registration and survey numbers.

- **Action Needed**
  - Describe all properties accurately
  - Resurvey/ supplemental survey, unique ID
  - Create Register of titles: two alternatives
    - Systematic Titling
    - Incremental Titling – (A) Compulsory or (B) Parallel
  - Provide 'conclusivity' – New law
  - Introduce Title Registration System – New law
  - Create unified delivery system – one agency to handle 'records', 'registration' and 'survey'
  - One system for all properties - urban and rural, agricultural and non agricultural
  - Re engineer the processes
- **Challenges**
  - New to India : not much of knowledge
  - Technology & Manpower limitations
  - High cost : Rs 20,000 Crs for the whole country
  - Long gestation period : 8 - 10 years for the country
  - Needs high political and administrative will -
  - Land is sensitive issue – High security for Digital data
  - Legal enactment – New law
  - Communication & Awareness

- **Legal Changes- Necessity**
  - No public record of Titles : caveat emptor
  - Revenue records – presumptive - Indian Evidence Act
  - Registration of deeds – Registrar to register whatever is executed - Indian Registration Act
  - Transfer of Title by 'agreement / contract' and not by 'registration' – Transfer of Properties Act
  - Much information not in public domain - GPA, equitable mortgages, succession ,etc
  - Information in public domain dispersed- not easily accessible . e.g. civil disputes, L.A. notifications, pending actions etc.,
  - Dual role of Revenue Deptt – protector of Govt lands and adjudicator of rights against Govt. Nemo debet essa judex in propria causa
- **Legal Changes- Options**

  Two options
  - Amend all the relevant Acts- Transfer of Properties Act, Indian Evidence Act, Indian Registration Act, RoR Act,

    Others– (L.A. Act, Negotioble instruments Act, Civil court Procedures, etc, etc).
  - Enact a new law with overriding provisions– AP Land Titling Act (under enactment)
- **Legislative competency**

  The land including rights in or over the land is a state subject by virtue of entry 18 in List-II of the Seventh Schedule of Constitution of India. Even maintenance of land records and survey for revenue purposes and records of land rights is a State subject (Entry 44). There is no entry in relation to land in List-I which is the union list. The Registration Act and the Transfer of Property Act are probably enacted by the Union Government by virtue of entry-6 in List-III which reads as 'transfer of property other than agriculture land - Registration of Deeds and Documents'. The important conclusion it gives is that Registration of deeds and documents alone are covered by this entry and registration of rights or deedless transfers are not.

The system of conclusive titles necessarily has 4 essential elements.

- Determination and declaration of boundaries of every property and assigning a unique identification No. – in other words, Cadastral Survey.
- Determination of the title of each one of this property, which calls for creation of Register of Titles. This can be done in 2 manners – Systematic Titling and Incremental Titling. Incremental could again be either compulsory or parallel.
- The entries in the Register of Titles should be accepted by all (including courts) as the conclusive proof of title - Conclusivity.
- A system of transfers linked to titles, or title registration system.

The 1st element clearly is not within the ambit of the legislation by Union Government. The 4th element can easily be achieved by making amendment to the Registration Act and providing that every transfer of property should be accompanied by the title deed issued by the competent authority, Now let us examine the 2nd element.

- Systematic Titling envisages first registration of title over all the properties in a systematic manner in campaign mode. In this method, duly qualified, trained and empowered staff appointed by the Government would determine the title over every property. After due public notice, calling for objections and adjudication of disputes, name of the title holder and nature of his title would be determined and put in a register which would be open to the public. Needless to say that there would be dedicated channels for appeals and rectifications. *Since this first registration of title is not 'transfer' of title, it does not fall under entry 6 and the list III. Hence the Union Government may not be able to legislate for it without States' involvement.*
- In Incremental Titling method (optional), the 1st registration is done by a competent authority on an application by the interested person. Since this certification or registration also is not a part of *'transfer' this also attracts similar legislative position as explained above in case of Systematic Titling.*
- However, in Incremental Titling method (compulsory) first registration of title is made compulsory by law when a property comes for transfer. In such a case it is the duty of Registrar to ascertain the title of the transferor before registering the transfer. This 'ascertainment' by the

Registrar itself is in the nature of 'determination' of title and its 'first registration'. The Registrars are trained and empowered to determine the issue of titles. *In this system, since 'determination' is appurtenant to 'transfer', the Union Government can legislate for it by suitable amendment to the Registration Act paving the way for title registrations.* However, the system is tediously time taking and attendant problems are many.

The 3rd element: i.e. Conclusivity can be put into place only when the entries in Register of Titles is accepted by all title holders, title seekers, mortgagees, courts, etc. as conclusive proof of title. This essentially is a function of the Indian Evidence Act. It can be achieved either by an amendment to the Evidence Act or by providing for it in the Registration Act by an amendment to the effect that the first registration of title will be the conclusive proof of title for all purposes. Both of these are very much within the legislative jurisdiction of the Union Government.

- To sum up, a legislation by the Union Government alone will not be able to introduce a system of conclusive titles nor is it possible for the States to legislate on their own to introduce it. The law needs to be passed by both State Legislatures and the Parliament of India to cover all the essential elements of Conclusive Title.

There are three options for this:-

- The States legislate and the President of India gives his accent under Article 254 (2) of the Constitution.
- Two or more states request the Parliament under Article 252 (1) to make a legislation which will be adopted later by other states by passing resolutions in their legislatures.
- The Government of India makes a model law and procedure as at (i) is followed. This will only facilitate the states in drafting the law.

The balance of convenience lies in option (ii) since it will reduce a lot of duplication of work and bring an element of uniformity in the law throughout the country.

- **Administrative Structure for Implementation**

National Land Titling Authority

A National Land Titling Authority can be put in place to undertake the work of creating a system of conclusive titles throughout the country. A provision

for such an authority can be made in the new law though it is not compulsory that it should be. The National Authority could be a multi-member authority with its own budget and functionaries. It will lay down the broad parameters of the programme, its content and methodology. It will provide technical and policy support besides monitoring the implementation of programme and utilization of funds.

State Level Land Titling Authorities

There will be a state level titling authority for every state and union territory which will work under the administrative control and supervision of the National Authority even though deriving statutory powers from the new legislation. The State Authority will consist of officers drawn on deputation from the concerned State Government. The State Authority will be responsible for detail planning and designing of the programme within the broad parameters laid down by the National Authority. It will also be responsible for executing, monitoring and supervision of the entire programme which will be mostly through outsourcing. Requisite number of State Government employees from the concerned departments will be taken on deputation for assistance, supervision and quality control at local levels.

Once the work of creating the record of titles is completed for the entire state, the State Authority will hand over the record, data and IT infrastructure to a designated state authority / body / department (who will do the subsequent maintenance, operation and updation of the system) and fade away. Alternately the State Authority itself can take up the subsequent maintenance etc.

National Authority will also fade away when the work is completed all over the country since subsequent operation and maintenance will be done by the designated state agencies. Second option is that it reduces in size/ converts itself into an institution and continues to provide technical inputs to the State Authorities and GoI.

Methodology for implementation

As explained above the Titling exercise is to be preceded by a detailed resurvey wherever there are no survey records or survey records are not good enough. It is envisaged that the survey will be done through high bread methodology adopted for the pilot project of Bhu Bharati in Nizamabad District, Andhra Pradesh. In this methodology a photograph of the project

area is taken from an aircraft and is ortho-rectified. This ortho-rectified photograph in digital form is taken in a laptop to the village along with a print out and property demarcations are done on it after field verification. Measurements (by ETS) are taken only for the gap areas where boundaries are not visible in the photograph. The survey team in the village gives a copy of the draft sketch so prepared to the property owner, calls for objection and resolves them.

The survey team is also accompanied by an officer in charge of titling. The titling exercise (systematic titling) is taken up almost simultaneously with the resurvey work. The team leaves the village after completing both the Survey and Titling work and issuing statutory notices under the Survey Act and the Titling Act.

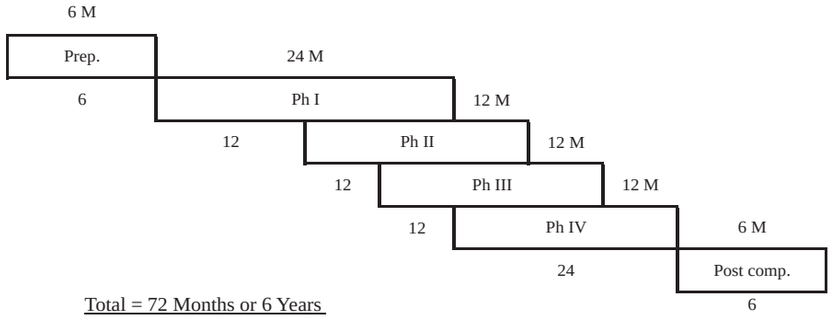
The costing and time lines suggested further are based upon this methodology. They may vary upwards on adoption of any other methodology for resurvey and titling.

- **Implementation Strategy and Time Lines**

State Level

The State authority will complete the entire process of the survey and titling within a period of 6 years in the following manner.

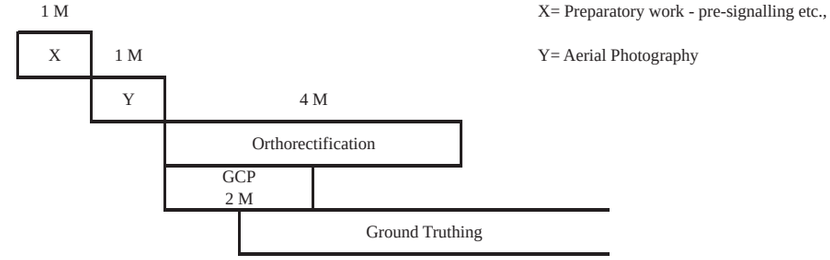
The entire state will be taken up in 4 phases, each phase consisting of 1/4th of the total number of districts in the State. Each phase will take a period of 2 years. Every year a new phase can be started without waiting for the completion of the previous phase. Leaving a period of 6 months for preparatory work, trainings and in capacity building, and organizing the administrative structure and another period of 6 months for post completion, the total period of 6 years. Graphically this is shown as below:



Total = 72 Months or 6 Years

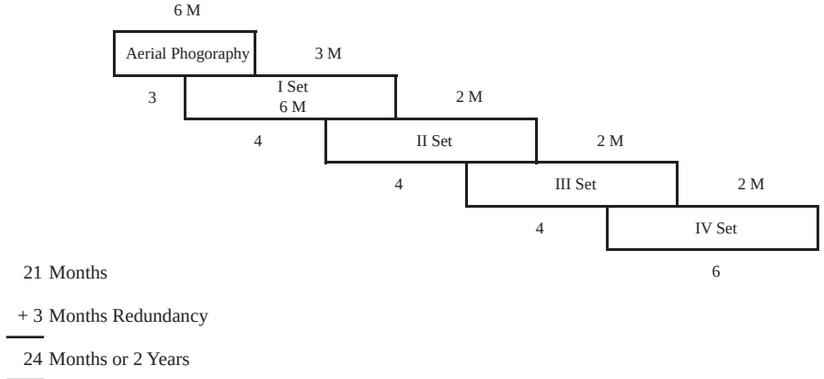
District level

At the district level also 1/4th of the total taluqs will be taken up for ground truthing at a time on completion of first set the same man power will move to the second set of taluqs each set taking about 4 months for survey and additional two months for for tilling as detailed further. Before the ground truthing starts there will be some work of aerial photography, orthorectification of photos, erection of GCPs (Ground Control Points) etc. They will take about 6 months time as follows:



Total = 6 Months

The district will take 2 years as follows:



21 Months

+ 3 Months Redundancy

24 Months or 2 Years

Taluq (Tahsil) level

At the taluq level as many teams as the number of villages in the taluqs divided by four will be formed. Each team will be allotted 4 villages in the taluqs and will move to 2nd village after completion of first village and so on. The composition of the team will consist as follows:

- Computer operator + 1 Helper.
- 3 or 4 Demarcators with helpers mobilized locally.
- One Titling Officer of appropriate level

There will be one ETS for every 5 teams to complete the areas which are invisible to the aerial photography.

The team will complete a village in about 15 days and then go to the next village. Notices calling for objection will take another period of 15 days. Thus a village will be completed in one month. The entire taluq will be completed in 4 months. Add to it 2 more months towards residual work and redundancy, it may take 6 months.

Country level

At the country level the entire programme will be completed within a period of 6 years from the date of actual starting execution. Adding one more year for preparatory work like passing of law, administrative arrangements etc and one more year for residual work after completion. In about 8 years time the Guaranteed Titling System will be operational throughout the country. However, it will be operational in about 1/4th of the country at the end of the 4th year and so on.

- **Financial Estimates**

  It is estimated that the cost of survey using the hybrid methodology (aerial photogrametry + GPS + ETS) will be about Rs.40,000/- per square kilometer for agricultural lands. This includes the cost of titling exercise also if done simultaneously.

  For urban areas and residential areas in the villages a different methodology will have to be adopted which could be either using the stereo images of aerial photography or solely by ETS. The cost will be about Rs.250/- per property. The rough cost estimates for the entire country are as follows:

1. **Rural areas (agricultural land):**

Total area of the country	32, 87,000 Sq.K.Ms.
Less 25% forests and large water bodies	8, 22,000 Sq.K.Ms.
	24, 65,000 Sq.K.Ms.
Cost @40000/- per Sq.K.M.	Rs 9860 crs

2. **Townships and village sites:**

Estimated properties 33 crores @ Rs.250/- per property	Rs 8250 crs

3. **I.T. & administrative infrastructure (L.S.)** Rs 1000 crs
4. **Administrative overheads (L.S.)** Rs 1000 crs

Rs 20110 crs

5. **Unforeseen** Rs 890 crs

Rs 21000 crs

This money will be required to be spent over a period of about 6 to 7 years.