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International Academy of Urban Dynamics

- Democracy Promotion through Decentralization of Powers in India
- Role of Urban Local Government: A Study
- Rural Development Policies and Programmes in India
- Tribal women’s participation in Panchayati Raj: Enhancing their socio-economic-political status
- Occupational Structure of Migrant Workers: a Literature Survey
- Biogas Technology for Decentralised Waste Management- a cost effective green building measure
- Towards Sustainable Mobility: A Critique of CMP for Tri-city, Chandigarh
About All India Institute of Local Self-Government (AIILSG)

All India Institute of Local Self-Government (AIILSG), established in 1926 has been actively working in the field of urban development management and is a diligent partner in promoting the cause of local governance in India and overseas.

The Institute has been the steadfast friend, philosopher and guide to Urban Local Bodies (ULBs) across the Country. For more than eight decades it has contributed to the principles and practice of urban governance, education, research and capacity building. It has designed and developed a vast array of training literature and courses and trained more than 1.5 million stakeholders in diverse areas of urban governance and urban services delivery.

These activities of the AIILSG are practiced through 30 regional centres located in different regions of the Country. The Institute anchors the Regional Centre for Urban and Environmental Studies (RCUES) of the Ministry of Urban Development, Government of India for Western India region. This Centre is actively involved in building capabilities of municipal officials, staff and elected members from the States of Goa, Gujarat, Maharashtra, Rajasthan and the Union Territories of Diu, Daman, and Dadra & Nagar Haveli by upgrading their knowledge and skills required for effective administration and implementation of various urban development programmes.

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About International Academy of Urban Dynamics (IAUD)

International Academy of Urban Dynamics (IAUD) has been conceptualized and set up at the AIILSG with a view to support countries and cities and their stakeholders in their decisions towards a bright urban future.

The Academy offers strategic contribution to urban vision, policy and planning across countries and cities through multi-level research, documentation, debate, advocacy and capacity-building. It aids the crafting of innovative solutions to urban challenges through sharing, networking, dissemination and advisory services.

The Organization has embraced certain values including a pervading quest for excellence, perpetual learning, and the sharing and interpretation of knowledge that is grounded in ethics and truth. IAUD would undertake non-partisan analysis and evaluation of situations, facts and figures and render advice that is non-adversarial in intent and positive in content with a view towards better alternatives.
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The 50th anniversary of International Literacy Day turns the spotlight on the SDGs while celebrating recent achievements.

“Literacy is the road to human progress and the means through which every man, woman and child can realize his or her full potential” said former UN Secretary General Kofi Annan.

8th September is International Literacy Day. 2016 was the 50th anniversary and thus an important milestone. UNESCO Director General Irina Bokova launched the celebrations at a two-day event in Paris under the Theme “Reading the Past, Writing the Future”. Speaking at the event, HRH Princess Laurentien of the Netherlands, UNESCO Special Envoy on Literacy for Development, pointed out the human and financial costs of illiteracy and the huge challenges for the future. “We need to break through conventional thinking and be disruptive and self-reflective about what we are doing right and what we are doing wrong. We have to get out of our own bubble. That is the challenge” she said.

International literacy data indicate that there are nearly 758 million adults, individuals over the age of 15, who are not literate, those who cannot read or write a simple sentence. About two thirds of them are women.

Globally there has been steady progress in the growth of youth (age 15-24 years) literacy with the figure reaching 91%. However, some regions such as Sub-Saharan Africa lag conspicuously with rates of around 71% with women among them particularly poorly off at about 65%. Age-wise illiteracy data put out by UNESCO state that of the global 758 million illiterates a very large number, 509 million are in the age group 25 to 64 years. It is particularly striking that the largest
number of illiterates are in that prime age group where they would otherwise be most productive, contributing to their own and national economic development. It is a grim reminder that in spite of the progress, much remains to be done.

As is to be expected, there are large disparities across regions and gender. Gender disparities are as marked as regional disparities especially in the less literate regions. There could however be different estimates of illiteracy in the same region by different agencies because the definition of literacy adopted by different reporting agencies could vary. UNESCO which is the source for this discussion defines literacy as the "ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society".

Noteworthy Progress

India has made substantial and rapid progress in her quest to improve literacy across the country, especially among the female population. The strong focus on education by the national, regional and local governments, large number of NGOs, multi-lateral agencies and indeed civil society has enabled note-worthy progress in the last few decades. For example between 2010 and 2013, the number of 'out of school' children has fallen sharply-by 44.8% in case of girls and 37.7% in case of boys. The total number fell from 4,826,441 in 2010 to 2,886,200 in 2013. A combination of well-articulated policy measures and concerted field actions have brought sharper focus on the subject of primary education and resulted in visible results.

At the government level, there has been enhanced budgetary support for education. Between 2009 and 2012, expenditure as a percentage of GDP increased from 3.21% to 3.83%. As a percentage of total government expenditure it moved up from 10.82% to 14.06%. On a 'per student' basis too, the increases have been generous, increasing by 59.6% in case of primary student and 48.9% in case of secondary student. In case of tertiary student, the allocation has been more or less stagnant. This is evidence of the greater thrust given by authorities to primary and secondary education combined possibly with past under allocation. Initiatives such as compulsory education in many states, free education for the girl student and the 'mid-day meal' scheme with improving execution at the ground level have enabled better outcomes.
India's progress with respect to removal of gender disparity has been particularly impressive. Between the years 1991 and 2015, the numbers of illiterate girls in the age group 15-24 years fell by 64.6% to 14,595,933 while it fell 55.6% in the case of boys to 10,369,519. Interestingly gross secondary enrolment ratio in the case of girls (69.23) raced past the figure for boys (68.6) for the first time. Literacy rates for the larger population of all people aged greater than 15 years also improved more in the case of women (29.25 percentage points) than in the case of men (19.30 percentage points). More needs to be done though. Some tribal populations including Denotified and Nomadic tribes continue to exhibit poor literacy levels.

**Literacy and the woman**

Illiteracy is a curse which can have a debilitating effect on the individual and his capacity to realise his full potential. It can seriously undermine health and well-being and deny access to a wide range of opportunities. Illiteracy in the case of women amplifies their vulnerability. The uneducated woman encounters domestic abuse and suffering in greater measure. Her illiteracy limits her employment opportunities, earning potential and consequently restricts her bargaining power in the household. Her illiterate status also limits her role in family decision making, often making her a mute spectator to decisions including those affecting herself and her children. More importantly, low educational status adversely affects her dignity and respect in the family and the neighbourhood. Lower educational attainment among women has traditionally resulted from a variety of factors. They are confined to performing household chores and care giving for other family members; they are traditionally 'stay at home' members of the family, hence education seems unnecessary or futile; and among the biggest contributors to female illiteracy is early marriage. Once married, the girl is more firmly entrenched in family duties and further educational attainment becomes impossible.

On the other hand improved literacy has significant socio-economic impacts. Literacy is recognised as a crucial indicator of human capital. It can play significant roles in responding to various development challenges such as health, social equality, empowerment of the marginalised, and environment protection. Literacy imparts much greater awareness of personal and community hygiene and nutrition, thereby leading to better health outcomes. The economic benefits of literacy are obvious; better access to higher education, increased employment potential, earnings, a better quality of life, and dignity. In addition to all of the above, literacy enables one to avail of the democratic process more actively by participating in
public institutions such as local governance bodies and empowers one to contribute to the process of poverty alleviation, social transformation and thus to nation building. The democratic process is a tool to promote active participation of individuals and communities from all social categories in the process of development and progress; it is not limited to universal suffrage.

The world over, including in India, much progress has been made with respect to eradication of illiteracy. But the effort needs to be sustained in order to realise the SDG 4, which aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”. In the words of the UNESCO Director General, “The world has changed since 1966—but our determination to provide every woman and man with the skills, capacities and opportunities to become everything they wish, in dignity and respect, remains as firm as ever. Literacy is a foundation to build a more sustainable future for all”.
Democracy Promotion through Decentralization of Powers in India

G. Palanithurai

Introduction

Indian democracy is being viewed with much appreciation by the scholars in the west who specialize in democracy promotion because of the struggle it undergoes for sustaining the minimum values of democracy through the electoral process. This appreciation is not because of the quality of democracy that India maintains. It is because India maintains a minimal form of representative democracy continuously with a break of two years despite the play of an array of negative socio political forces and practices against democracy. Maintaining a minimum set of democratic values in India is not a simple task as India has more anti democratic social practices which are vibrant and active in all spheres and activities of the communities in India.

It is an irony that even in political parties one could not see healthy democratic practices despite the stipulation imposed by the Election Commission of India. Only a few political parties are practicing democratic values in their functioning. Many in fact wanted to evade from these practices. Even after sixty seven years of democratic practice, we are in minimal democracy as per the standardized classification done by the scholars and we are in institutional democracy. Democracy is always in a dynamic form and it evolves in different patterns in the world. Tokenism and symbols are visible. In India the struggle is to transform the institutional democracy into a behavioural democracy by changing the attitudes, beliefs, and behavioural traits of the people towards the values and norms of democracy. The core values namely equality, liberty, freedom, justice, fairness, equity, and respecting the dissenting voice are not found in social and political practices. Having understood the nature and structure of Indian society, M.K. Gandhi rejected the adoption of western model of representative democracy for governing the Indian society. He
anticipated that this institution will be used to exploit the people by a few who are able to sneak into the governing system. Hence, he rejected outright the western model despite the wholehearted support extended to this model by a dominant segment in the intellectual group among the founding fathers of modern India. Yet it has been adopted as creating centralized nation state was the option of many of the liberated societies from the colonial yoke after the Second World War. When the whole world was moving towards centralized state system M.K. Gandhi advocated a decentralised governing system with the active participation of the people. It is also an irony that the intellectuals of the world took nearly forty years to realize the potential of decentralization. Only after four decades experience in democratic governance, many of the governments felt that the big government approach has not delivered the public goods effectively and the world has to move towards an alternative governance system to meet the unmet demands of the people. In that context, 'decentralization' was considered as the best option to manage the resentment of the people over the poor performance of the state. India is one among sixty countries that entered with a big bang approach. India opted for the path of constitutionalising the process of decentralization and it has to move in a different path of democratization.

**Context**

For the first time in Indian democratic governance history, a vibrant participatory local governance mechanism has been created through an amendment to the Constitution of India. It is historic and path-breaking in terms of its potential to bring revolutionary changes in the socio political and economic life of the poor and the marginalised, provided the potential is being understood by the stakeholders who are going to get benefits out it. The whole process of transformation would take place only through a democratic process. The decentralization process and democratization process are complementary to each other. The two processes require enormous input from various segments of the society to produce intended results. What has not been achieved in the past through big government approach has been fixed as basic objectives of the new dispensation. The 73rd Amendment to the Constitution of India has promised economic development and social justice to the poor and marginalised. It will be achieved through a participatory democratic process with the involvement of the stakeholders in the process of governance and development. The above objectives appear to be simple but to realize the same, a mass movement is necessary and unless a mass movement is in place it is only rhetoric and not a reality. Even after twenty years of the practice of new local governance system in India
many are in search of reasons for the slowdown of interest in decentralization at present. But Jayaprakash Narayan made a path-breaking analysis in his address in the Annual Conference of All India Panchayat Parishad conference in Bangalore after the demise of Nehru on the obstacles for decentralization of powers. In this article what I intend to do is to investigate as to what extent the decentralization process has been achieved through a democratic process by leaving out the analysis of the impact of decentralization on the communities at the grassroots. While doing so I will highlight what a higher learning institution can do for democracy promotion and deepening activities through the experience of a department in a small university.

Challenges

Decentralization and democratization in a society which is diverse in character and known for its inequality and inequity have to face challenges and stiff resistance. Both provide opportunities to the hitherto marginalised and excluded communities and groups to participate in the process of governance and development. If both are understood broadly and in the right perspective one will find the potential to bring fundamental change at the community level. It requires a thorough preparation and massive mobilization of the poor and marginalised to make use of the new opportunities. This process is not free from obstacles and barriers. Because the new dispensation works for transfer of power from the dominant to the marginalised, men to women and bureaucracy to elected representatives, those who are at the helm of affairs know that this constitutional amendment will not allow those who enjoyed power so far to be in power for ever. They know the full implications of the power transfer and as a result those who have been in power so far will evolve new designs to keep power with them. 'Elite Capture' has come in decentralization discourse because of this syndrome. Groups which are set to get advantage out of it have to make themselves aware of the new possibilities and opportunities that come through this new dispensation and organise themselves to take on the new opportunities. But the above task is through a process of struggle. The struggle is also a long drawn struggle and for which poor are to be prepared and facilitated. Who will facilitate the poor and who will be part of the struggle of the marginalised groups to make use of this opportunity is the question. In this regard academics have to play a crucial role from awareness creation and raising consciousness to extending hand holding support to the poor women, and other marginalised groups elected to the local governments. Theoretically speaking, the middle class has a role in the transformative process of society. Amending the constitution is only a necessary condition for the establishment of a permanent local governance institutional arrangement at
Matrix on Operationalisation of Decentralisation

- Conformity Legislation in place by confirming the spirit of the 73rd Amendment
- Amending Contradictory State Acts
- Rules for Governance & Administration
- Creating ground rules for the conduct of meetings
- Preparation of Administrative Manual
- Creating Awareness about decentralization among the masses
- Creating autonomous State Election Commission
- Constituting State Finance Commission periodically
- Conducting fair and free election periodically
- Sensitizing media and making them aware of the importance of local governance
- Getting report from SFC and acting on it
- Evolving Capacity Building Policy
- Conducted Capacity Building for Elected Representatives
- Strengthening the research capacity to do periodical research on local governance for creation of new knowledge on local governance
- Capacity Building for the Officials
- Building Support Structure for local bodies
- Capacity Building of the institutions
- Creating Planning Machinery
- Evolving Micro Plan for Integral Rural Development
- Monitoring mechanism for smooth functioning of Panchayats
- Building Partnership for Local Bodies
- Implementing II ARC Report
- Creating Activity Mapping
- Creation of Institution for dispute resolution
the grassroots\textsuperscript{11}. But it is not a sufficient condition. Sufficient conditions are many. They are given in the following diagram schematically.

First a confirmative legislation has to be passed in the provincial legislature by confirming the spirit of the 73rd Amendment to the Constitution of India. The state government's panchayat act will reflect the will of the state government in devolving powers to local bodies and in reposing faith in people's will and capacity. To operationalize the act effectively, the state governments have to remove or amend the state acts which are having the provisions against the spirit of the 73rd Amendment and conformity legislation. Proper rules and by laws have to be created and they are to be in place and are to be simplified. They should be in the form of a manual. It is the administrative manual. Simultaneously awareness has to be created among the stakeholders about the new opportunities. It is a kind of marketing of the products of a company. It should be done as a company undertakes marketing of its products. It should be done in a mission mode by adopting a market approach. Media, judiciary, academia, civil society and opinion makers have to be sensitized about the new dispensation and its implications\textsuperscript{14}. In one judgment the Supreme Court of India equated the power of Gram Sabha with Lok Sabha. Research institutions have to oversee the proper creation of State Election Commission and State Finance Commission and their functions from the perspective of the spirit of the 73rd Amendment to the Constitution of India. The state government has to evolve a policy for capacity building and to create a new leadership school to transform the elected representatives into transformational leaders to bring transformation in the society. Because there is no training policy for training the elected representatives and the available training institutions barring a few are not in proper shape with the capacity to train leaders, a support structure has to be created to extend hand holding support to the local bodies to deliver services and discharge their responsibilities. The whole range of activities have to be done by various agencies and among them, the State's role is pivotal.

By using the above Matrix of operationalization of decentralization of powers, a state has been evaluated as to what extent steps had been taken to implement the 73rd Amendment to the Constitution of India. This evaluation requires not a mechanical process, but an organic intellectual analysis. It is not a verification process. It is an in-depth analysis. Scholarly exercise can alone bring out the reality. The following table will give how a state has taken efforts to decentralize powers to grassroots institutions.
Operationalization of Decentralization and Democratization in Tamil Nadu

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Item</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Conformity Legislation</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Amending Contradictory State Acts</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Rules for Governance &amp; Administration</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>Preparation of Administrative Manual</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Awareness about decentralization</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Creation of autonomous State Election Commission</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td>Conducting free and fair elections periodically</td>
<td>Yes</td>
</tr>
<tr>
<td>8</td>
<td>Sensitizing media and making them aware of the importance of local governance</td>
<td>Yes</td>
</tr>
<tr>
<td>9</td>
<td>Strengthening the capacity to do periodical research on local governance for creation of new knowledge on local governance</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td>Commissioning State Finance Commission periodically</td>
<td>Yes</td>
</tr>
<tr>
<td>11</td>
<td>Getting report from the State Finance Commission and acting on them</td>
<td>Yes</td>
</tr>
<tr>
<td>12</td>
<td>Evolving Capacity Building Policy</td>
<td>Yes</td>
</tr>
<tr>
<td>13</td>
<td>Conducted Capacity Building for Elected Representatives</td>
<td>Yes</td>
</tr>
<tr>
<td>14</td>
<td>Capacity Building of the officials</td>
<td>Yes</td>
</tr>
<tr>
<td>15</td>
<td>Evolving micro plan for integrated development</td>
<td>Yes</td>
</tr>
<tr>
<td>16</td>
<td>Monitoring mechanism for smooth functioning of Panchayats</td>
<td>Yes</td>
</tr>
<tr>
<td>17</td>
<td>Building support structure</td>
<td>Yes</td>
</tr>
<tr>
<td>18</td>
<td>Building partnership</td>
<td>Yes</td>
</tr>
<tr>
<td>19</td>
<td>Implementing II ARC Report</td>
<td>Yes</td>
</tr>
<tr>
<td>20</td>
<td>Implementing Mani Shankar Aiyar Report</td>
<td>Yes</td>
</tr>
<tr>
<td>21</td>
<td>Creating Activity Mapping</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Source: Computed from the works of the Rajiv Gandhi Chair for Panchayati Raj Studies, Gandhigram Rural Institute – Deemed University, Gandhigram.

**Democratization**

For the first time in Indian democracy a constitutionally created democratic governance structure is in place at the community level through the 73rd Amendment to the Constitution of India. Till then rural communities have been in the habit of following the community practices to regulate the affairs of the communities. One cannot expect the whole community will change itself from following the archaic community practices to the provisions of the Constitution. It is an obvious fact that Indian society is feudal in character and following the hierarchical caste system with economic inequalities which ultimately reflect in the attitude and behavior of the people. Against such socio economic background the new governance mechanism has to work at
the grassroots. There is yet another force, the bureaucracy which all along established its hegemony over the community down below the district level has now to work under the elected representatives. The bureaucracy is not free from the influence of the social system. Thus an array of forces at the community level are working against the practices of democracy and in this context the new governance mechanism has to deliberate, decide and allocate resources for development activities. In the rural areas, those who have been in the helm of affairs in the community system have to give space for the newly created constitutional bodies for governance. This process will face a lot of resistance covertly and overtly.

Before coming to the main argument of implementing the new dispensation, it is an imperative to dispel the cloud surrounding the concept decentralization of powers. There are two kinds of operational definitions that have been given to the concept 'decentralization of powers'. One is broader and encompassing assigned and assumed roles and responsibilities by using law of subsidiarity. Yet another is narrower view of looking at decentralization of powers by treating the local bodies as institutions for implementing the schemes of the state and central governments. A narrower definition of decentralization of powers limits the potential of the new local government. It has come for mere provisions of services alone. In reality, it has come for larger purposes. It has come for achieving economic development and social justice. The above objectives have to be achieved through a new process. It is through a participatory process. In the participatory process, the affected, weak and the marginalised have to be involved as participants. To enable them to participate in the process of development, they are to be empowered. Arrays of steps have to be taken to prepare the poor, women and other marginalised groups to participate in the process of governance and development. Further, it has to be done with a perspective. The perspective is that the development of the marginalised is not based on charity but based on rights. Thus rights perspective should be kept in the backdrop of the governance at the grassroots. Thus broader conceptualization of decentralization is the need of the hour. It has to be given by the opinion makers and intellectuals who shape public opinion. Otherwise the bureaucracy will take the narrower and legal view of 'decentralization' which will not enable the people to release the energy.

Power transfer will not happen without a struggle and it is a time consuming process. It requires not only the political support. It needs the broader support of the intellectuals, media and the masses. This struggle has to be waged through nonviolent means as advocated by M. K. Gandhi for achieving Swaraj.
In the process of power transfer, people who assume responsibility and leadership in the local bodies have to discharge functions not only the assigned ones but also assumed. It requires a new kind of leadership. It is not conventional managerial leadership but it should be transformational leadership. It is creative, vibrant, visionary, revolutionary leadership. Attitudes, behavior, and activities of the leadership should enable the people to repose faith and confidence in him or her. Thus, this type of leadership has to be shaped. Electing a leader is in the hands of the people but shaping the leadership is in the hands of the leadership schools. Hence, transformational leadership training has to be organised to enhance the capacity of the elected representatives of the people. It cannot be performed by the conventional state institute of rural development. It requires a new kind of institution. It should be run not by the bureaucrats but it should be run by the intellectuals and visionary leaders. It requires training module, exemplary intellectuals and leaders as trainers and training ambience. It can be done only by the institutions of higher order with creative individuals.

A very important organ of democracy promotion is media. In the last five to six decades media had been oriented to look at issues from the perspective of federal and regional governments and politics. But now the paradigm of governance and development has been changed from ‘Top down’ to ‘Bottom up’. This new perspective needs understanding from media as they play a vital role in sharing and shaping opinion, perception and views of the public. Who will do this job is the major question. Media has to be sensitized and made conscious by the intellectuals of the higher learning institutions. Enormous preparation is needed on the part of the academics and intellectuals in the higher learning institutions.

A sound policy and programme of a government basically depends on sound knowledge base and sound knowledge base depends on a sound database. Unless we have sound knowledge base we cannot expect a proper policy from the governments. Policy advocacy is being done at the federal government and regional governments on several issues. In the same way, policy advocacy has to be done for grassroots governance also. Vastness of the country with regional variations requires state specific advocacies. To do the exercise from every state, a policy advocacy group is needed. Continuously research has to be carried out on all the issues and aspects of local governance and development. Very poor research output has been witnessed so far from the intellectuals of the higher learning institutions and research institutions on local governance and local development issues. 68% of the people still live in the rural areas. 58% of the people rely on agriculture for their livelihood. To look at the issues of the
people in the rural areas from the perspective of local governance we need more number of researchers from social science branch of the higher learning institutions. Till today we are not able to form collegium of scholars to do research on the issues of rural local governance.

Micro level participatory planning is integral part of the new paradigm of local governance. It is the missing aspect in local governance which is also a violation of a provision of the Constitution. Now it has been reinforced by the Fourteenth Finance Commission of India through its recommendation. Who will assist the panchayats to evolve a plan for development in the absence of a regular machinery of planning? It has to be done by the higher learning institutions. In India, database is weak and data collection process is not on a sound footing. Especially data on poverty and households are utterly weak. But now a new opportunity comes in the form of creating governance and administrative institutions on a permanent basis at every gram panchayat. By using this opportunity, a scientific data base can be created at every administrative unit especially on households. This could be done by the academic institutions.

To make the rural local bodies more vibrant and efficient, an array of steps is needed. For many of the activities, academic institutions especially higher learning institutions can play a proactive role.

**Democracy Promotional Activities**

From Gram Sabha to micro level participatory planning all are mentioned only in the 73rd Amendment to the Constitution of India as concepts. They are to the operationalised in the broader context of decentralization and democratization. Creating mere democratic institutions will not bring a democratic culture in a society which has emerged in federal cultural moorings. Hence, all the institutions have to be enabled to transact their business through democratic processes and procedures. In the rural local governance process, we have Gram Sabha, committees in village panchayats, Village Panchayat Council, Block Panchayat Council, committees in Block Panchayat, District Ward Council, District Panchayat Committees and District Planning Committees. All these institutions have to take decisions, allocate resources, spend the amount, execute the decisions and evaluate their activities and their impacts. To perform all those activities well laid procedures have to be evolved. These procedures have to reflect the core values of democracy. These procedures should reflect equality, respect for dissent, fairness and justice. From seating arrangement to allotting time to express their views in the meetings, all the institutions procedures have to be evolved and they are to be followed not as ritual but in letter and spirit. This process will bring disturbance to many in the rural areas. Ruling, dominance,
suppression, oppression, obedience were the practices which are against equality.

Take the case of Gram Sabha. Gram Sabha is the parliament of the people at the grassroots. People should be oriented to participate in the Gram Sabha meeting. For enabling the people, basics have to be evolved. Gram Sabha has certain mandatory functions and apart from the mandatory functions, it has to assume some responsibilities to develop a culture of democracy. Gram Sabha can be made as a discourse centre, a debating centre, a deliberation centre and a centre for dissemination of vital information on governance and development. Leading the members of Gram Sabha towards discourse requires leadership. Effective, interesting and meaningful discourse in Gram Sabha depends on leadership. Therefore, leadership has to be shaped keeping this in mind. An informed and nurtured leader can alone lead a mature and informed debate in Gram Sabha. In Indian context, maintaining equality and dignity in the discourse of the forum is a difficult task. Like Gram Sabha, Panchayat council meetings, panchayat committee meetings have to be conducted. In the same way at all levels meetings have to be conducted. In Indian context, meetings have been made more of a ritual rather than evolving a meaningful decision making process after a thorough discourse and deliberation. This could be possible only through evolving a manual (guide book) for conduct of meetings. It should be a guide book. It has to be prepared only by intellectuals.

### Rules for the Conduct of the Meeting

(Gram Sabha, Committees of Panchayats, Panchayat Council)

- Ground Rules for Seating
- Ground Rules for Timing
- Ground Rules for Listening
- Ground Rules for Arguments
- Ground Rules for Language
- Ground Rules for Responses
- Ground Rules for Attire

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**Gram Sabha**

- A Discourse Centre
- A Centre for Innovation
- A Debate Centre
- A Centre for Equality
- A Deliberation Centre
- A Centre for Grievance Redressal
- A Dissemination Centre
- A Centre for Capacity Building
- An Exchange Centre
**Box – I**

**What I gained through Gram Sabha?**

A Gram Sabha Member (Ms. Mariamma, 62 Years old) in Karisalpatti Gram panchayat in Dindigul District made an observation when our students were in the field work. It is being reproduced here.

"Many of the government schemes are implemented by various departments and agencies in our village. Who in which office, implemented the schemes of the government are not known to us, I have used Gram Sabha to track information. I got all the information only from the Gram Sabha. This is possible because the observer coming from Government Department to Gram Sabha explained it to us. My close relative has not received old age pension for several months and she was not able to move out from her house. When it was raised in the Gram Sabha the Gram Panchayat president took responsibility to get details from the concerned office. Promptly the president took steps to help the old women. As a result, she got the pension. I am a wage earner in MGNREGA, and I was not sure of getting wages in time. Hence, I raised it in the Gram Sabha meeting. I got reply. I am an unskilled labourer working in a farm. Panchayat operates drinking water supply when I am in the farm. I raised it in the Gram Sabha. Since many of the women belong to my street raised the same issue regarding the timing of drinking water supply, it has been changed to suit our requirement. To me it is a parliament. I got this information from our SHG meeting”.

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**Box – II**

**What I gained through Gram Sabha?**

Mr. Muniasamy, a Gram Sabha member in Alamarathupatti Gram Panchayat in Dindigul District made an observation when our students went for a field work. It is being reproduced here.

"Gram Sabha is the best place to demonstrate equality in an unequal society. Caste hierarchy is the reality in the rural areas. Untouchability is yet another reality which operates in different forms in the villages. Gram Sabha is an instrument to change the mindset of the people. A dalit cannot sit along with the higher caste persons in any social function in the village settings. But in Gram Sabha I find that equality at least in sitting along with them. I regularly attend the Gram Sabha meeting only to enjoy that equality in the village by sitting with higher caste men and women. Everybody has to sit only on the floor. Further, I can ask questions in the Gram Sabha. Questioning a higher caste person in a village in unacceptable. But in Gram Sabha being a president he or she has to respond to the questions of all. I raise many questions and I get answers
to my questions. I enjoy questioning. I enjoy sitting with a higher caste person. It gives joy and happiness. Being a dalit, only I can realize the joy”.

**Here is a Model**

Despite the promises of decentralization and performance of the rural local bodies in India, why are the political class and bureaucracy not evincing interest in strengthening local bodies? This is a major question daunting the minds of exponents of democracy and decentralization. There are many reasons and of them one is the failure of the middle class and intellectuals in performing their catalytic role. In this context, I would like to dwell upon the activities of the Rajiv Gandhi Chair for Panchayati Raj Studies on strengthening Panchayati Raj in the last fifteen years. It is an account of voluntary activities evolved by a set of teachers in a small university by creating a chair in a Department. Rajiv Gandhi Chair for Panchayati Raj studies in the Department of Political Science and Development Administration, Gandhigram Rural Institute-Deemed University has been created only by the teachers in the Department. It was the first Rajiv Gandhi Chair in India. It was not given by the UGC. By seeing the voluntary works of the teachers many donor agencies have funded the activities of the chair. By seeing the activities of the chair, a few Members of Parliament have contributed Rs. 40 lakhs to construct a building for the chair. Unique in the whole of India Rajiv Gandhi Chair of Gandhigram Rural Institute has got a separate building. It carried out wide range of activities to strengthen Panchayati Raj institutions in Tamil Nadu. To give an account of the activities in nutshell, they are given in the following table:

**Activities of the Rajiv Gandhi Chair for Panchayati Raj Studies**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Activities</th>
<th>Support</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To create awareness among the people about New Panchayati Raj system.</td>
<td>Formed a network called Tamil Nadu campaign for Panchayati Raj(TCPR)</td>
<td>The whole state. It conducted an extensive work.</td>
</tr>
<tr>
<td>2</td>
<td>To exert pressure on the government to conduct the election.</td>
<td>Submitted petitions to Governor. Worked for inclusion of panchayat election in the election manifesto of the DMK and TMC during 1996.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>To conduct voter awareness programme</td>
<td>With the support of PRIA and the Hunger Project pre election vote awareness programme was conducted by the chair with the support large number of civil society organisations.</td>
<td>The whole state has been covered.</td>
</tr>
</tbody>
</table>
Conclusion

What India aimed at through the 73rd Amendment to the Constitution of India is to decentralize powers to local bodies through a process of democratization. Decentralization has to happen through democratic means and that is why it is called democratic decentralization. Even the representative democratic institutions are struggling to keep the democratic values in the attitudes and behavior of the people who are involved in decision making. One has

<table>
<thead>
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<th>Coverage</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>To conduct the training programme for elected representatives</td>
<td>Prepared training module with the support of CAPART and Rajiv Gandhi Foundation.</td>
<td>For the whole state.</td>
</tr>
<tr>
<td>5</td>
<td>To conduct the training programme for Elected Women Representatives</td>
<td>Prepared training module with the support of the Hunger Project.</td>
<td>For Tamil Nadu elected women representatives.</td>
</tr>
<tr>
<td>6</td>
<td>To conduct training programme for the Dalit Elected Representatives</td>
<td>Prepared the training module with the support of PRIA</td>
<td>For Tamil Nadu Dalit leaders.</td>
</tr>
<tr>
<td>7</td>
<td>Leadership training</td>
<td>The chair conducted training programmes for 8000 Gram Panchayat Presidents. It was supported by CAPART, the Hunger Project and Government of Tamil Nadu.</td>
<td>For the entire state.</td>
</tr>
<tr>
<td>8</td>
<td>To assist the administration</td>
<td>Administrative manual has been prepared and published both in English and Tamil.</td>
<td>For Tamil Nadu.</td>
</tr>
<tr>
<td>9</td>
<td>To sensitise and make the media conscious</td>
<td>Media workshops have been conducted with the support of the Hunger Project.</td>
<td>Entire state.</td>
</tr>
<tr>
<td>10</td>
<td>Establish handhold support for women leaders</td>
<td>Elected women representatives federation has been created and it was assisted by the chair.</td>
<td>Entire state.</td>
</tr>
<tr>
<td>11</td>
<td>Establish handhold support for Dalit leaders</td>
<td>Elected Dalit representatives federation has been created and it was assisted by the chair.</td>
<td>Entire state.</td>
</tr>
<tr>
<td>12</td>
<td>Establish handhold support for local body leaders</td>
<td>One local body supplement in a Newspaper was published for one year</td>
<td>For the whole state.</td>
</tr>
</tbody>
</table>

Source: Rajiv Gandhi Chair: Ten Years of Activities on Decentralization of Powers Gandhigram: Rajiv Gandhi Chair for Panchayati Raj Studies, 2014.
to wonder how it will happen at the community level where all practices antithetical to democratic values are in operation. To make it happen, a sufficient condition has to be created for democratization while decentralizing powers. Mere enactment of act is only a necessary condition but putting the necessary wherewithal will create a sufficient condition for effective decentralization. Hence, democratization is as important as decentralization. Both have potential. Both are complementary to each other. Necessary conditions have been created by both central government and state governments. Sufficient conditions have to be created by the civil society organisations, media, training institutions and the intellectuals. For democracy promotion, ground rules creation and effective implementation could be done only by the higher learning institutions. Social science departments in higher learning institutions can do democracy promotional activities. To demonstrate how it could be done, I have explained the activities of the Rajiv Gandhi Chair for Panchayati Raj Studies of Gandhigram Rural Institute in the area of democratic decentralization of powers. It requires only passion not mandate from anybody.

Notes and References

An Invitation

The Local Government Quarterly invites contributions in the form of articles and research papers from its readers and well-wishers.

Contributions may be e-mailed to us in digital form as a Word file.

Articles could normally be between 3000 and 4000 words, though we do not wish to limit the size. As we print in black and white, tables, charts, graphs, images, etc. need to be compatible. We reserve the right to edit for sense, style and space.

Contributors may mail their articles to the Chief Editor, Local Government Quarterly.

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Role of Urban Local Government: A Study

S. A. Palekar

No government structure, whatever be its character, can be complete without some form of local institutions. In fact, among many systems of government, local bodies assume a special role in the democratic process. Not only they are what Lord Bryce regarded them as, “best school of democracy” but, they are the very instruments of mobilization of local efforts and resources in the common task of nation building. Not only they cultivate and sustain the spirit of liberty, but, are meant to inculcate a sense of responsibility born out of new dimensions of system of rights and obligation.” As Laski put it: “Local Self-Government offers the best opportunity to the solution of their own problems.” However, it can be pointed out that whatever pattern the local government follows, is an integral part of the social system which has grown under the impact of history and culture, polity, economy, geography and demography of its country, along with the values cherished by the society. But unfortunate situation is the absence of the established liberal traditions and sometimes with authoritarian orientation, the urban local government in India has yet to strike roots as self-governing institutions.

Over the years, the number of institutions has gone up, as new urban localities have appeared on the map. But numerical growth has not been paralleled by any consistent and coherent efforts to recognize and vitalize urban local government as an integral part of the governmental system of the country. The local institutions without democratic basis are no local governments. They may be only agents of higher level government and always existing at its mercy.

In modern India, urban local government is now more than one hundred yearsold and has undergone various changes in terms of powers,
functions and competence, but it has not yet been given a sufficiently strong base of its own in the scheme of the governance of the country.³

The municipal corporations and municipalities are full-fledged urban local bodies and these two types together serve almost all the urban population covered by different categories of urban local bodies. Although 'local government' falls within the states' responsibility and many aspects of urban development also figure, by and large, in the state list of subjects in the Constitution, the Central Government continues to have important role in providing leadership, setting standards, and acting as a clearing house for exchange of information and experience in the field of local government and urban development.⁴

The role of urban local bodies in general can be understood from the functions they discharge. Usually, the Municipal Acts contain a long list of municipal functions, but in actual practice the large majority of municipal bodies have very few positive service functions. In general, the municipal corporations have more functions than the ordinary Municipalities, but, generally speaking, municipal functions have expanded very little over the years. Not only that, the trend has been towards divesting the municipal bodies of their traditional functions and responsibilities. Municipal inability to provide for even the basic civic amenities and lack of proper thinking at the state level about municipal development have led to the general climate of loss of faith in municipal institutions.

The debilitating condition of municipal bodies has become an excuse for the establishment and perpetuation of competitive urban local institutions like Improvement Trusts, Housing Boards and Water Supply and Sewerage Boards and even taking over of local functions by the state governments. It may not be an exaggeration to say that the state level technical departments have consistently been thriving at the expense of municipal authorities, and they have been posing a threat to the future growth and development of municipal self-government.

Thus, all these years, the role of urban local government has suffered a lot. But whatever the hurdles may be, one certainty is that the functions or duties laid down in municipal enactments to be performed by the municipal government do provides basic framework for extending wide range of civic service by them. It is a separate issue whether all the services are in fact provided satisfactorily or not. Broadly we can classify these services into the following categories:
(i) **Protective Services.** The protective services include safeguarding citizens against dangers to life and property. These are prevention and extinction of fires, securing and removal of dangerous buildings, etc., regulation and abatement of offensive and dangerous trades, calling and practices. They include wide range of inspection service in respect of weights and measures, factories and workshops, disease of animals, slaughter houses, prevention of adulteration of foods and drugs.

(ii) **Personal Services.** The personal services are either meant for special groups of people, who may be either physically or socially or economically handicapped, or for certain specific needs of the community such as education, health services, special health services for children and expectant mothers, mid-wife, children's homes, shelter for disabled and destitute people, for the poor, etc.

(iii) **Environmental Services.** The environmental services attempt to control and improve the physical environment and have something in common with protective services. They include construction and maintenance of streets, street lighting, collection and disposal of refuse, street cleaning, vaccination, drinking water supply, drainage and sewerage, scavenging, burial and cremation grounds.

(iv) **Commercial Services.** These are those services which are available to citizens through commercial transaction, but are crucial for the urban living such as shops and markets, houses, and municipal transport. These are largely commercial in nature and are expected to give some income to municipal governments.

(v) **Cultural and Recreational Services.** These services include the provision of facilities for the use of leisure time of the citizens and for their cultural growth, such as organizing fairs, establishing and maintaining museums, open air theatres, sports stadium, grounds, parks, libraries, reading rooms, etc.

In fact, the above classification at best indicates the main nature of functions the municipal governments are called upon to undertake. However, various studies have revealed the gross inadequacy of municipal services in all the classes of towns expect in a few cities. Till recently many medium and small towns did not have drainage system. Even in large towns, the situation has been alarming.
From the preceding discussion, it is evident that essential obligatory duties are not being performed properly by even bigger urban local bodies. The position in small urban local bodies is worse. This lack of efficiency on the part of local authorities has shaken the confidence of the people in their capacity to provide necessary civic services. In fact, the urban local bodies have failed in their functional role because these have called upon to shoulder manifold and complex responsibilities, without being provided with appropriate administrative machinery and requisite resources. The trend of divesting the municipal bodies of their functions and supersession are not going to cure their ills unless and until there is political will to strengthen these bodies.

In spite of functional lapses, the urban local bodies are important units to achieve the decentralization of political power and promotion of democratic values. Further, as against departmental specializations at the centre and state levels, urban local bodies are the media through which functional compartmentalization can be canalized into a coordinated plan of all round development at the community level.

In the process of development planning, urban local authorities are to play an effective and important role. They have to assess the local impacts of politics and programmes and must function in a manner which facilitates the fulfilment of the goals and targets of social and economic development. Local authorities can afford an opportunity to the local people to participate in local activities and schemes within the general framework of national policies. They can also stimulate local initiative and interest. In this new role, the urban local government provides for the training of the citizen in economic and social planning. By equalizing living conditions, it brings the community near to the goal of socialism.

The social and economic changes ensuing from the developmental efforts and the problems created in the process of urbanization impose new responsibilities upon urban local governments. An important aspect of economic planning is the accelerated pace of industrialization. There is no doubt that urban centres have attracted industries but, the process of industrialization and economic development has led to a rapid increase in their population. This has further resulted in serious shortfalls in housing, public utilities and community facilities. In most places, the urban environments have deteriorated giving rise to shanty towns and slums, heavy population concentrations, uncontrolled land use and inadequate urban services (as already indicated in our preceding
discussion). Such a situation has not only imposed intolerable living conditions and burdens on the community as a whole but, has also caused a serious setback to industrial development. It is essential that urban growth is properly planned and controlled and adequate public utilities and community facilities are provided if haphazard urbanization has to be avoided. However, it appears that the present government is becoming alive to this issue. The National Commission on Urbanization headed by Charles Correa has performed an important task by involving the academicians, civil servants, people and experts in the field of urban development with an objective to bring out a long term policy framework for the systematic growth of our towns and cities.

The activities of urban local authorities are not only limited to providing services conducive to social and economic development; they must include the creation of suitable conditions for socio-cultural adoption. Industrialization has meant a large influx of rural migrants to cities and towns creating problems of social maladjustment. The basic urban necessity is the creation of conditions in which the rural migrants can be stabilized and absorbed into the life of the town. Industrialization and economic progress require changes in the social and cultural institutions and the belief and outlook of the people.

The goals of local government in the context of changed conditions may be described as follows:

(I) **Unit of Local Self Government.**

As units of Local Government, urban local bodies would form part of the family of democratic government in India. Democracies as a living thing would thus, reach the common man. This would provide an opportunity for local people to understand the mechanics of democratic government as an operative system. Through such apprenticeship, the country is expected to groom better breed of politician for use at higher levels of government. On the other hand, local problem solving would be possible with the help of local decision-makers. So the decision may be more realistic and at least cost. However, the emerging trend seems to be negative. The municipal government has now lost its appeal as a training ground for political education of the people. Rather the emerging trend is that urban local government is looked upon as an institution for partisan patronage. In the Indian urban scheme, the management of urban infrastructure has never been an exclusive jurisdiction of the municipal bodies.
(ii) **Provider of Local Services.**
Urban local bodies, in addition to their philosophic role, have to play a more dynamic functional role. They are the suppliers of essential civic services and facilities without which local living would become difficult. This is a technical role for which the local bodies will have to develop technical competence to deliver the services adequately and in a timely manner. In fact, local government, as local democracy can flourish as an efficient supplier of civic services. The emerging trend is that the provisions of civic services are no longer viewed as city overheads. Of late, the realization has dawned in the minds of policy makers that critical investments in civic services can also lead to greater employment and income opportunities, as absence of such minimal services have proved to be the impediments to production, trade, commerce, health and environment.

(iii) **Planned Development of Urban Areas.** Apart from the traditional municipal role, the urban local bodies are to emerge in a new entrepreneurial role to do advance planning for steady growth and development of the urban areas in their jurisdictions. This is a new developmental role which calls for a re-orientation of urban local bodies. Proper enterprises have, therefore, to be developed to handle these new tasks of urban planning and long-range developments. But this new role of development is not gaining momentum. Rather the trend has been till recently the creation of specialized agencies both multifunctional, metropolitan urban development authorities and single purpose functional boards for water supply, sewerage disposal, housing, slums clearance and so forth. All capital expenditures for urban development are being channelled through these non-representative bureaucratic adhoc boards and authorities. As a result of this, the municipal bodies were not being involved very much in the process of urban planning and development. The best illustration of this trend can be found in Calcutta where the functioning of Calcutta Metropolitan Development Authority has reduced the municipal bodies to a position of insignificance.

However, Bombay has been the only exception where the greater Bombay Municipals Corporation has succeeded in keeping the Bombay Metropolitan Regional Development Authority at the periphery of metropolitan
management. But in Chennai, the eclipse of the municipal bodies has been partial, and Delhi constitutes a special category as it is a union territory and the national capital. Thus, what is remarkable in India’s system of urban government has been the near total delinking between improved urban planning and effective urban government. However, with the coming into force of 74th constitutional Amendment Act, 1992, a new chapter in Urban planning has begun. The act provides for the constitution of District Planning Committees in every state at the district level. Similarly, in case of Metropolitan areas, i.e. cities having Committee for preparing a Draft Development plan for Metropolitan area as whole.

(iv) **Mobilization of Local Resources.** The urban local bodies, if they are to retain autonomy have to be self-reliant in matters of funding the local services. Over dependence on the higher levels of government carries the danger of becoming increasingly sub-servient to them. Urban local bodies, have therefore, to make an all-out efforts to mobilize resources locally. Along with this, proper utilization of resources is also necessary. That is why the 74th Amendment of the Constitution pertaining of Fiscal Decentralization under Article 243X and Article 243Y is in fact far reaching and marks water shed in the fiscal decentralization of the country. This amendment directs the State legislatures to authorize these authorities, to levy, collect and appropriate specified taxes, duties, tolls and fees in line with procedures and limits.

(v) **Integrated social, economic and cultural Development.** This is a most comprehensive role entailing the widest possible involvement of the urban local bodies in local development. It comes close to the old concept of community development. As already stated, the local urban areas have to be developed in an integrated fashion so that the different components and facets of development can be harmonized. In future, urban local bodies are expected to embark upon adventure that has no parallel in history. No doubt, this is the ideal role, but steadily efforts will have to be made to achieve the all-round development of urban areas.

If we want our urban local bodies to perform their role in an efficient and effective manner, perhaps the one aspect of Municipal government in India which deserves immediate careful attention is the Municipal management system which has two facets, viz:
(a) formulation and implementation of urban development policies and programmes, and

(b) Development of manpower resources and proper staff control. In fact, most of the inefficiencies and corruption for which the municipal bodies are usually held responsible fundamentally arise from deficiencies in the management processes as reflected in defective project formulation, tardy implementation, bad financial management, inefficient administration of services, avoidable overstaffing, and, above all, perennial shortage of funds.

In the end we can say that there is need for a well-equipped administrative machinery at the state level which would act as a bridge between the state government and the municipal bodies. State control of local bodies needs to be interpreted from a positive angle and not in a restrictive and fault finding spirit. But the state governments in India have not yet been seen to have played stimulating role nor have they followed any policy of fostering municipal democracy, efficiency and capability. It is high time that the municipal government may be regarded as co-equal with a department of the state government as both derive their functional authority from the state legislature. The urban local government is entitled to give effect to local choice in planning and expenditure, otherwise there is no point in having a system of local government.

References


3. Ibid., P.1

4. M.A. Muttalib, op. cit., P.15


7. Ashok Mukhopadhyay, op.cit., p.16
Rural Development Policies and Programmes in India

I. Subramanyam, M. Saravara Kumari

Introduction

The Ministry of Rural Development (MORD) has been implementing various Policies, Programmes and Schemes for employment generation, infrastructural development, access to basic facilities and social assistance in rural areas. Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is a rights-based wage employment programme implemented in rural areas of the country. It aims to enhance livelihood security by providing up to 100 days of guaranteed wage employment in a financial year to every rural household whose adult members volunteer to do unskilled manual work in their native and local areas.

National Rural Livelihood Mission (NRLM) seeks to reach out to all rural poor households in the country estimated at 8-10 crore and organize them into Self Help Groups (SHGs) and federations at village and higher levels by 2021-22. While doing so, NRLM ensures adequate coverage of all vulnerable groups of rural society, identified through participatory process and approved by Gram Sabha. Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY) is refocusing and re-prioritising NRLM’s skilling component so as to build the capacity of rural poor youth to address the needs of both national and global skill requirements. It will enhance their skills to get better position and individual development at grass root level.

Pradhan Mantri Gram Sadak Yojana (PMGSY) assists the states with the objective to provide connectivity to eligible unconnected habitations as per Core-Network with population of 500 persons and above in plain areas and 250 persons and above in difficult areas as per 2001 Census. The programme envisages single all weather connectivity. Indira Awaas Yojana (IAY) aims to provide assistance to the BPL
families who are either houseless or having inadequate housing facilities for constructing a safe and durable shelter. National Social Assistance Programme (NSAP) provides assistance to poor BPL households for the aged, widows, disabled and also includes provision for one time assistance in the case of death of primary bread winner in a BPL family. Sansad Adarsh Gram Yojana (SAGY) announced on October 11, 2014 focuses on integrated and holistic development of villages to enable them serve as models for other villages to emulate. Integrated Watershed Development Programme (IWDP) aims for the development of rainfed/degraded areas including wasteland.

**Government Approaches towards Rural Employment Generation**

In the context of planning in India, the issue of employment has always assumed critical significance as employment generation in rural India has been a recurring theme in India's development plans and a constant pre-occupation with policy makers. Addressing social exclusion, especially providing employment opportunities to disadvantaged groups living in the interior rural parts of the country, has been the major motivating factor for the large-scale employment generation programmes and government sponsored vocational training schemes. Economic policies were re-designed for which the mandate was spelt out in the Five Year Plans.

It was during the Fifth Five Year Plan that removal of unemployment and poverty alleviation was recognized as one of the principal objectives of economic planning in the country. The seventies, eighties and the nineties saw emergence of special schemes in the rural development sector such as **Integrated Rural Development Programme (IRDP)**, **National Rural Employment Program (NREP)**, **Rural Landless Employment Guarantee Program (RLEG P)** and **Jawahar Rozgar Yojana (JRY)** to tackle the problem of rural unemployment and poverty through expanding livelihood opportunities and creation of durable assets in rural areas. As a result, the seventies and eighties witnessed steady increase in employment generation, though the rate of growth of rural employment continued to somewhat lag behind that of the growth of the labour force all along.

During the Tenth Five-Year plan the employment strategies mainly focused on the labour-intensive sectors of the economy. Labour policy, including skill development and social security, remains concentrated in the organized sector which constitutes only a small portion of the total labour force. Therefore further efforts were needed to promote vocational training schemes, entrepreneurial activity, occupational safety and health and social security of workers. The employment generation
strategy followed by the Eleventh Five Year Plan has also envisaged reduction of unemployment. Some government schemes related to rural employment include:

**National Rural Employment Programme (NREP) (1980):** launched to use unemployed and underemployed workers to build community assets.

**Rural Landless Employment Guarantee Programme (RLEG) (1983):** launched to provide 100 days of guaranteed employment to one member from each rural, landless household.

**Jawahar Rozgar Yojana (JRY) (1989):** The Programme aims to alleviate poverty through creating supplementary employment opportunities for rural poor during agricultural recess period. Another objective of the scheme was to create social assets such as roads, schools and other infrastructure development. By merging the NREP and RLEG, the Jawahar Rozgar Yojana (JRY) was launched in 1989. For the first time funds for implementation of the programme were directly disbursed to the village institutions. After a few years of its initiation—political indifference and irregular fund flow created problems in implementation on the ground grassroot level resulting in a limited impact on rural employment generation.

**Employment Assurance Scheme (EAS) (1993):** launched to provide employment during the lean agricultural season, the primary objective of the EAS is creation of additional wage employment opportunities during the period of acute shortage of wage employment through manual work for the rural poor living below the poverty line. The EAS also aims at creation of durable community, social and economic assets for sustained employment and development. But in the year 1993, when employment Assurance Scheme (EAS) was introduced, the centralized fund-disbursement trend was followed, ignoring the essence of bottom-up approach in planning and implementation of rural employment programmes. As a result EAS faced limitation on expansion of rural livelihood opportunities. In 2002, JRY and EAS were merged into Sampoorna Grameen Rozgar Yogana (SGRY).

**Jawahar Gram Samridhi Yojana (JGSY) (1999):** The primary objective of JGSY is to create demand driven community village infrastructure including durable assets at village level and skills to enable the rural poor to increase the opportunities for sustained employment. It also aims to generate supplementary employment for the unemployed poor in the rural areas.
Swarana Jayanti Gram Swarozgar Yojana (1999): SwarnaJayanti Gram Swarozgar Yojana was launched during the year 1999-2000. This Yojana is a holistic package covering all aspects of self-employment such as organization of poor into self-help groups, training, credit, technology, infrastructure and marketing. The beneficiaries under this scheme are called “Swarozgaries”. This scheme is a credit-cum-subsidy programme. Subsidy under SGSY is uniform at 30 percent of the project cost subject to a maximum limit of Rs. 7, 500/-. In respect of SCs/STs and disabled persons, subsidy has been fixed at 50 percent with a ceiling of Rs. 10,000/-. For groups of Swarozgaries (SHGs), the subsidy is 50 per cent of the project cost, subject to per capita subsidy of Rs. 10,000 or Rs. 1.25 lakh whichever is less. SGSY will particularly focus on the vulnerable groups among the rural poor. This scheme is being implemented by Central and State Governments on 75:25 cost sharing basis.

Sampoorna Grameena Rozgar Yojana (SGRY) (2001): It was launched by merging EAS and JGSY. The programme aims to provide wage earners, non-agricultural unskilled wage earners, marginal farmers, women, members of Scheduled Castes/Scheduled Tribes, parents of child labour withdrawn from hazardous occupations, parents of handicapped children or adults with handicapped parents. The programme is implemented through the Panchayati Raj Institutions (PRIs).

National Food for Work Programme (NFWP) (2004): After two years, in 2004, the National Food for Work Programme (NFWP) was launched with an exclusive focus on the 150 identified backward districts. This programme was launched to generate additional supplementary wage employment and create assets. It also aimed to ensure a minimum level of employment and incomes to the poor, give the poor an opportunity to develop their collective strength, improve their economic position, reduce their vulnerability, discourage migration and provide access to health, education and welfare services in the villages.

National Rural Employment Guarantee Scheme (NREGS) (2006): Launched to provide 100 days of guaranteed employment to one member from each rural household and create community assets.

Prime Minister Rural Employment Generation Programme (2008): The Objective of the programme is to generate employment opportunities in rural as well as urban areas through setting up of new self-employment ventures/projects/micro enterprises. The programme was launched on 15th August, 2008 to empower the first generation
entrepreneurs to set up micro enterprises. The Scheme is formulated by merging **Prime Minister’s Rojgar Yojana (PMRY)** and **Rural Employment Generation Programme (REGP)**.

Eligibility conditions of Beneficiaries: (1) Individual above 18 years of age setting up new projects, (2) Institutions registered under Societies Registration Act, Specified Institutions, Societies and Charitable Trusts. (3) Self Help Groups (SHGs) which have not availed benefits under any other Scheme. (4) Only one person from one family eligible. The ‘family’ includes self and spouse. There is no ceiling on income. (5) The applicant should have passed at least VIII standard for setting up of project above 10 lakh in the manufacturing sector and above 5 lakh in the business / service sector (6) Only new projects for activities excluding the negative list of village industries notified are eligible for assistance under the Scheme. Existing units which have already availed subsidy under any other scheme are not eligible.

**MGNREGA (2009):** Despite decades of planned development and poverty eradication programs at the national and state levels, poverty continues to persist in India. The National Rural Employment Guarantee Act (NREGA) has been a subject of lively debate. The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) aims at enhancing the livelihood security of people in rural areas by guaranteeing hundred days of wage-employment in a financial year to one member of a rural household who volunteers to do unskilled manual work. The National Rural Employment Guarantee Act was approved by the Indian Parliament in September 2005. This Act became operational from 2nd February, 2006. Initially it was introduced in 200 districts of the country and later extended to another 130 districts in 2007-08. By 1st April 2008, it was further extended to 593 districts covering 4,49,40,870 rural households, NREGA is renamed as ‘Mahatma Gandhi National Rural Employment Guarantee Act’ on 2-10-2009. The main aim of this Act is to enhance the purchasing power of rural people.

**Conclusion**

The entire comprehensive poverty eradication programmes implemented by Government however, have two different objectives viz. creation of self-employment and wage-employment in rural area and food security to the rural people.

But the major problem of these programmes is organizing public works to create durable assets by assigning them to contractors. The contractors recruit the labourers at low wage, complete the work in short-period and maximize their profits. But the solution
to the rural poverty will require that the small farmers must be also given an access to land augmenting innovation along with programme of well-conceived public works.

In addition, the rural industrialization with labour-intensive techniques should also be taken seriously for alleviation of rural poverty.

As suggested by the former President Dr. APJ Abdul Kalam, “Providing Urban Amenities in Rural Areas (PURA) programme needs to be implemented to create new growth centres to take up investments in dairying and animal husbandry, poultry farming, fishing, forestry, goatry, small scale and cottage industries etc”.

Encouragement of minor irrigation, creation of self-employment opportunities and development of educational facilities in rural areas and other similar programmes will definitely help to eradicate rural poverty.

References:


Tribal Women’s Participation in Panchayati Raj: Enhancing their Socio–Economic–Political Status

Bandana Kumar

Introduction

Panchayat Raj system is an integral part of our cultural heritage since ancient times. It acts as lifeline of rural society. The Panchayat has been the basic and important unit in organisation of Indian societal polity. When we think of “Panchayat” immediately a scene comes to our mind depicting five elderly people sitting under a tree along with the villagers and taking decisions, planning and discussing the village matters, but in this picture frame woman is nowhere to be seen though she occupies almost half of the population but her presence in the panchayat is negligible. She could not sit in the meetings if required but was supposed to be one member of the panchas. In olden days panchas and sarpanches were supposed to be representatives of God. They were called “Panch Pradhan”. It was almost impossible for villagers to disobey the verdict of Panchas. Even when the matter was related to females the males took decisions for them, even if it is one sided.

In order to provide new face to PRI so that it may be able to come closer to the common and local people, on 23rd April 1993, 73rd Constitutional Amendment Act was passed. With the implementation of 73rd Amendment Act, the pre-existing scenario has to some extent changed. The implementation of 73rd Amendment has injected new life in Panchayats and rejuvenated them and has made them accessible for deprived and marginalized people of our country and to be a post of local governance. Local self governance is an effective method of governing through which the national policy is administered at the grass root level. Local self governments commonly known as Panchayati Raj Institutions (PRIs) are under the control of the state government.

73rd Amendment of the Constitution has granted constitutional status to panchayati raj institution. The prime objective of The Three Tier Panchayati Raj system is to eradicate poverty, uplift standard of living and
make them aware about hygiene, sanitation and eradication of unemployment and illiteracy. 73rd Amendment is one of the remarkable political innovations in independent India. It is considered to be a revolutionary as well as bold step towards empowering the rural people at grass root level. It is a revolutionary weapon in the hands of traditionally underprivileged population of our country. It seems as if they have awakened from deep slumber of inequality, illiteracy, sufferings and prejudice. PRI provides a proper platform where the tribal- rural people sit together and discuss and chalk out different plans for the welfare of villages and villagers.

The 73rd Amendment to the Constitution of India aims at giving greater role for women, SC&ST personnel in development works, planning and implementation by larger participation of tribal women. The overall scenario of panchayati raj has tremendously changed; women have entered into political structure and play constructive roles and have stepped into what was hitherto considered exclusively a man's domain.

Panchayati Raj Institutions and Women in India

The increase in number of women as panchayat representatives is a remarkable achievement in a country like India given that India has one of the worst records in the way women are treated. Though in India as a superpower “Goddess” is praised but in reality this is only one side of the coin, the other side is the darker side where females are ill-treated, malnourished, suppressed, uneducated and discriminated. Here women are burnt in the name of dowry, and also abandoned if they fail to produce male child. In India birth of a female child is a curse for the family. Though the pitiful condition is slowly and gradually changing, yet there is a lot to be done.

Our country has adopted democratic system of government and the women constitute 48.9 per cent of the population of the country, but their political participation is very low. Women's participation in political processes is blocked due to various social, economic, historical, geographical, political and cultural factors, thereby resulting in their minimal participation. Illiteracy, patriarchal values, lack of access and control over income and other resources, restrictions to public spaces, etc continue to restrict their effective political participation. Also the inadequate availability of infra-structural facilities and support services hinder their participation. Women's participation has been increasing rapidly but it is not yet satisfactory. The Father of the Nation Mahatma Gandhi
believed that women had a positive role to play in the reconstruction of society and the recognition of their equality was an essential step to bring about social justice. Women in India are beginning to break their silence, to question, to gain confidence, to gain access and control over material and knowledge resources, altering self-image after entering the newly re-elected Panchayats. The participation of women in Panchayats has strengthened the interpersonal relation of women in their own families which further has also enhanced their perception of their own capabilities. Studies have highlighted that in many developed states, inhibitions around women's participation in public life are slowly diminishing and many of these women have begun to get autonomy with the gain of political experience.

Myths about Women in Panchayats

There are several myths about women's participation in the rural local self-governing institutions of Panchayats, some are:

(i) Elected women representatives are just “Token elites” without exercising any power and authority.

(ii) They are dependent on the husband in the matter of decision making, these husbands are better known as “Mukhiapati”

(iii) They just act as”Puppet” (as they are illiterate or less educated) do as advised by their husband or other important members of the family or the dominant caste persons.

(iv) They are the main source of “Proxy politics”, where women representatives fight and win elections, not for themselves but for their family members.

(v) Practically as these women representatives do not have power to speak, they are mere “Rubberstamps”, needed just to sign on official documents or to release funds, and so on.

Women and PRIs in Jharkhand

The situation of women in PRIs in Jharkhand is not as favourable as in other states. The situation here is very different and there are many reasons for this. The state had its first PRI elections in 2010 after 32 years of struggle. The Jharkhand Panchayat Raj Act' 2001 has 50% reservation for women in PRI and presently 56% PRI elected representatives are women. With this huge majority, the situation of women should have been considerably good but the reality is very different. In Jharkhand women are still hesitant and tentative in rising to the occasion. Often the men in the villages do not accord them due respect
and regard. The government officials take advantage of their illiteracy and inexperience. Though, in 2010 panchayat election in Jharkhand, women have come forward in huge numbers and have gained 56% seats in PRIs, yet empowerment towards their rights, entitlement and duties is still a distant dream. Their dream to change the situation of women through their power is only possible by making them aware of administrative processes, political know how and acquaintance with all the government schemes and laws.

The Status of Tribal Women in Jharkhand

When we talk about tribal women the social status of tribal women is heterogeneous, it differs regionally and among the tribes as well. If we peep into the tribal society, it ensures women participation in all aspects of tribal life. The basic ethos of tribal society calls for equal status of man and woman. Although in tribal society women are not involved in decision making, the significance of women in tribal society is more important because of the fact that they work harder and the family economy and management depends upon them. The tribal women enjoy the right to decide about their marriage. Instead of dowry there is bride price which indicates a high social status of tribal women. The tribal woman does not have property rights except in a matrilineal society which is a small proportion of the tribal population. The work is heavily loaded against the tribal woman because in addition to an equal share in the economic production process she has to take the sole responsibility of household chores. Also tribal women have to struggle hard to earn a living as in most of the cases their husbands are alcoholic i. e. consuming hardia (rice beverage) and they gamble a lot, in fact many times they spend all of their earnings in playing cards, drinking, etc. They beat their spouse often after drinking or for money.

If we talk about the economic role of Adivasi women we see that Adivasi women are central to the economy of their society. Tribal women in India contribute equally towards economic activity by participating equally with men where men and women are equal partners in socio-cultural and economic life and hence women are traditionally assigned an important role in the society. Birth of a girl is not looked down upon because they are considered as economic assets. Tribal women enjoy lot of freedom before and after marriage. The women thus enjoy an almost equal status with men except in the sphere of rituals. (Singh, 1994:9; 10). Thus, for tribal women it can be said that they do all sort of work except some which are taboos.
Tribes And Tribal Panchayat In Jharkhand

Jharkhand has 32 tribal groups. These are the: Asur, Baiga, Banjara, Bathudi, Bedia, Binjhia, Birhor, Birjia, Chero, Chick-Baraik, Gond, Gorait, Ho, Karmali, Kharia, Kharwar, Khond, Kisan, Kora, Korwa, Lohra, Mahli, Mal-Paharia, Munda, Oraon, Parhaiya, Santal, Sauria-Saharia, Savar, Bhumij, Kol and Kanwar. In some of the districts of Jharkhand, the tribal population forms a clear majority.

Traditional Panchayat Institutions in Tribal areas of Jharkhand

Panchayat system also exists in Tribal society since time immemorial. All the tribal communities not only possess rich cultural heritage but also involve unique traditional systems of social control. The traditional institutions exercise enormous social, moral, religious, economic and political control over these communities. Most of these tribal communities preserved their own distinct cultural identity through their unwritten code of conduct and distinct traditional mechanisms to enforce the codes. The traditional institution is based on their mythologies, beliefs, value, traditions, perceptions of the universe and their transmitted social and cultural heritage.

In Jharkhand, tribal population constitutes 27% of the total population of the state. The tribal demanded from the state the right to continue and strengthen their traditional tribal Parah or Manki-munda system. Jharkhand government passed the Jharkhand State Panchayati Raj bill in 2003 in which all the posts of mukhias (head) in these institutions were reserved for scheduled tribes in most parts of the state. Even today the tribal Panchayats retain their semi-autonomous character. Groups of upto twenty villages join together to decide important cases and to discuss issues of common interest.

Basically four forms of traditional governance system exist in different tribal regions of Jharkhand.

- Munda Manki system in Ho areas.
- Parha system in Oraon villages.
- Munda Manki system in Khuntkatti Munda dominated areas.
- Manjhi Pradhan system in Santhal.

Traditionally Adivasis believe that power should be distributed within the community which is why Adivasi village/Hatuis called small republic.

(Jharkhand surprisingly, out of twenty two such provisions in PESA have taken only seven of them and replaced the fifteen provisions by general administrative norms of the
The Panchayat system for non-Scheduled Areas. It is being partial to the special rights the Adivasi have exercised in their areas.)

The Present Traditional Institutions in Jharkhand

In Jharkhand, the traditional Parha system, Munda Manki system, Doklo-Sohor, and Manjhi Parganait system still exist in some places, but in many places it is almost lost. This tradition is based on the customary practices of the Adivasi communities, PESA very clearly upholds these practices when it says in section 4 (d) that, “every Gram Sabha shall be competent to safeguard and preserve the traditions and customs of the people, their cultural identity, community resources and the customary mode of dispute resolution.” However, the state’s Jharkhand Panchayat Raj Act has reframed it as “it shall protect and preserve the traditions and customs of the people, their cultural identity and community resource means (Sarana, Masna, Gohar-Sthan etc.) and their customary manners of redressal of disputes, which are not inconsistent with Constitution view point, and when needed may for the sake of extending co-operation in this regard, it may bring proposals as required in the prescribed manner to enlist co-operation before Gram Panchayat, Panchayat Samiti, Zila Parisad and State Government.” This shows how the central PESA Act has been reconstructed to fit within the state structure instead of giving it an independent recognition.

The tribal women in India have virtually no role to play in the social and political spheres. The tribal women had no place in the village councils. The women were never represented in the traditional Panchayats. It is only now, due to the mandatory provisions of the state, that some women are getting elected in the Panchayats. But even in such cases, usually the women are dictated by husbands or relatives who already wield enough power in the locality.

Objectives Of Study

The chief objectives of this study are:

1. To know how far and to what extent, the rural women participate in different spheres of activities ranging from decision-making to exercising the right to vote in the gram panchayat;

2. To know the socio-economic background of tribal women in Gram Panchayat;

3. To know the leadership qualities of tribal women and their awareness about 73rd Amendment Act;

4. To assess the perception of women about the panchayat system in general and their role in particular; and
5. To find out the factors which tend to promote or prevent women members from performing their roles.

Methodology And Sample Coverage

The present study is mostly based on empirical methods. For this study, schedules were employed to collect data from the sample respondents. Personal interviews with the women respondents of the Panchayats were conducted. Stratified random sampling was applied in this study in order to select the Gram Panchayats. Data were also collected from the secondary sources like Census Reports, Government Documents, Gazetteers, District Handbooks and other published literatures.

As it is quite impossible to study the political participation of all the women of Jharkhand, so only one Block, i.e—Itki block has been selected. It is situated about 30 km from Ranchi, on NH- 23. Itki has 30 villages and 9 Panchayats out of which 5 have female Mukhias and 4 are male Mukhias (source: panchayat election 2010). Again, from these 9 GPs 4 villages that come under Kundi Panchayat were selected: they are Kundi, Malar, Turguru and Baridih, 50 sample respondents were selected, 10 sample respondents from each GP. Respondents have been selected on random basis. Here, random sampling method has been adopted for the selection of sample respondents for the purpose of the present study.

Empirical Study:

Socio-Economic Profile of Tribal Women: While studying socio-economic background of the respondents, age, education, caste, and occupation are taken as important factors.

Table 1:

<table>
<thead>
<tr>
<th>AGE-GROUP</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-31</td>
<td>15</td>
<td>30%</td>
</tr>
<tr>
<td>32-50</td>
<td>26</td>
<td>52%</td>
</tr>
<tr>
<td>50-60</td>
<td>7</td>
<td>14%</td>
</tr>
<tr>
<td>50 and above</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

(Source: primary data)

Table 1: Table presents age wise classification of the 50 respondents. Maximum no. of respondents were of age group 32-50.
Table 2

<table>
<thead>
<tr>
<th>MARITAL STATUS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNMARRIED</td>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td>MARRIED</td>
<td>39</td>
<td>78%</td>
</tr>
<tr>
<td>WIDOW</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>SEPERATED</td>
<td>4</td>
<td>8%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>50</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

(Source: primary data)

Table 2: Most of the respondents were married.

Table 3

<table>
<thead>
<tr>
<th>RELIGION</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARNA</td>
<td>22</td>
<td>44%</td>
</tr>
<tr>
<td>HINDU</td>
<td>12</td>
<td>24%</td>
</tr>
<tr>
<td>CHRISTIAN</td>
<td>16</td>
<td>32%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>50</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

(Source: primary data)

Table 3: Table reveals that majority 44% of the women respondents were follower of Sarna religion. 24% were Hindu respondents. Christianity was followed by 32% of the respondents.

Table 4

<table>
<thead>
<tr>
<th>FAMILY INCOME (Rs)</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-4000</td>
<td>39</td>
<td>78%</td>
</tr>
<tr>
<td>4001-6000</td>
<td>7</td>
<td>14%</td>
</tr>
<tr>
<td>6001-8000</td>
<td>3</td>
<td>6%</td>
</tr>
<tr>
<td>8001 &gt;</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>50</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

(Source: primary data)

Table 4: This table shows the monthly income classification of the respondents.
Table 5:

<table>
<thead>
<tr>
<th>EDUCATION</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILLITERATE</td>
<td>11</td>
<td>22%</td>
</tr>
<tr>
<td>PRIMARY EDUCATION</td>
<td>16</td>
<td>32%</td>
</tr>
<tr>
<td>SECONDARY EDUCATION</td>
<td>10</td>
<td>20%</td>
</tr>
<tr>
<td>MATRICULATE</td>
<td>8</td>
<td>16%</td>
</tr>
<tr>
<td>INTERMEDIATE</td>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>50</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

(Source: primary data)

Table 5: Table shows that out of 50 respondents 22% of the tribal women respondents are illiterate i.e. they had no education. 32% of the respondents had primary education i.e. class 1-4. 20% of the respondents had secondary education, i.e. class 5-8. 16% women had passed board exams and only 10% of the respondents had passed intermediate examination.

Table 6:

<table>
<thead>
<tr>
<th>NAME OF TRIBAL GROUP</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORAON</td>
<td>22</td>
<td>44%</td>
</tr>
<tr>
<td>MUNDA</td>
<td>14</td>
<td>28%</td>
</tr>
<tr>
<td>LOHRA</td>
<td>6</td>
<td>12%</td>
</tr>
<tr>
<td>OTHERS</td>
<td>8</td>
<td>16%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>50</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

(Source: primary data)

Table 6: It shows that 44% of the total respondents were Oraon. 28% of the selected respondents belonged to Munda tribe. 12% of the respondents were of Lohra tribal group. 8% of the respondents belonged to other tribal groups like Mahli and Karmali.

In order to know the electoral participation of women in Gram Panchayat elections, I collected the necessary information from the women through schedules. Table given below shows the response pattern.
Table 7

<table>
<thead>
<tr>
<th>TYPE OF POLITICAL PARTICIPATION</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUST AS VOTER</td>
<td>18</td>
<td>36%</td>
</tr>
<tr>
<td>AS A CAMPAIGNER</td>
<td>9</td>
<td>18%</td>
</tr>
<tr>
<td>AS A CANDIDATE</td>
<td>4</td>
<td>8%</td>
</tr>
<tr>
<td>AS A SUPPORTER</td>
<td>19</td>
<td>38%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>50</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

(Source: primary data)

Table 7: It shows that majority of respondents i.e. 38% work as a supporter for some or the other political party or the candidates. 36% of the respondents were just a voter. 18% of the respondents worked as a campaigner either for political parties or the candidates.

Table 8

<table>
<thead>
<tr>
<th>QUESTIONS</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Knowledge about 73rd Amendment Act/Women Reservation Bill</td>
<td>43</td>
<td>7</td>
</tr>
<tr>
<td>2) Are in favour of participation women in politics</td>
<td>39</td>
<td>11</td>
</tr>
<tr>
<td>3) Is there change in status of tribal due to participation in politics</td>
<td>46</td>
<td>4</td>
</tr>
<tr>
<td>4) Is there increase in awareness among tribal women in respect to by of Panchayat and its working</td>
<td>47</td>
<td>3</td>
</tr>
<tr>
<td>5) 73rd Amendment Act has brought more and more women and marginalised groups into local politics</td>
<td>50</td>
<td>0</td>
</tr>
</tbody>
</table>

(Source: primary data)

Table 8: It shows that majority of respondents had knowledge about 73rd Amendment Act, i.e. 43 respondents. When asked if in favour of participation of women in politics, 39 respondents said 'Yes' and 11 respondents said 'No'. When questioned about change in status of women by participation in politics 46 women respondents answered 'Yes' and 4 women said 'No'. When asked about awareness among tribal women in respect to Panchayat and its working ,47 said 'Yes' and 3 said 'No'. When asked if 73rd Amendment has brought women and marginalised...
FINDINGS:

From the data collected (i) we came to know that majority of the respondents had at least primary education, (ii) from this study we found that women respondents between age group 30-50 are more active outside their homes, (iii) through our study we came to know that most of the respondents participated in electoral process as a supporter of independent leaders or the political parties, (iv) when we analyse the collected data we found that most of the respondents had knowledge about the Women Reservation Bill / 73rd Amendment Act i.e. they had information that there is provision of reservation of seats in Panchayats for women and marginalised people. They also knew that Panchayat works for their overall development and upliftment, but they did not have detailed knowledge about different government plans and programmes that are being offered via Panchayats, (v) during our survey we found that these tribal women efficiently perform their duties inside and outside their homes. They wanted their children to be well educated and have a better life as compared to theirs, (vi) from the study it was found that many of the women respondents often do not attended Panchayat meetings as this means sacrificing a day's wage, (vii) SHGs, NGOs and Anganbari are helping them a lot in earnings by providing skill development programmes, Anganbari is enabling them live healthy life by providing them health check-ups and aids, better sanitation and hygiene, (viii) the study finds that women are moving into leadership positions through both reserved and unreserved seats and that many visible positive outcomes are seen as a result of being a GP member, including increased self-confidence and improved status in the family and community.

Conclusion:

The present paper entitled 'Tribal Women’s Participation in Panchayati Raj: Enhancing their Socio-Economic-Political Status' is a study to see how the 73rd Amendment Act is promoting participation of tribal women in Panchayats and how PRIs is helping in enhancing their socio-economic-political status. The study reveals that though these tribal women are illiterate groups in local politics then there was a unanimous answer that is 'Yes'. So the above chart shows that the answer in ‘no’ is in few cases, hence awareness, knowledge and mind set about Panchayats and local politics has changed.
or have limited education, they are concerned about how to improve quality of life and standard of living. They talk about sanitation, hygiene and clean drinking water. They now know what these factors play a role in their lives. They are in favour of educating their children for their good and bright future. Many times lack of capital come in their way but since they have become members of Mahila Samitis, SGHs, NGOs, etc their life has to some extent changed. In every village, tribal women are appointed as “Jal Sahia” (Sahia means friend in local language) whose duty is to make rural people aware about safe drinking water, water harvesting, not to contaminate natural sources of water, etc. “Swasth Sahia” are appointed to spread awareness about health related issues and Govt. health related programmes. They train the rural people especially the women about personal hygiene, sanitation, difference in children, family planning techniques, etc.

By implementation of different programmes they are improving their livelihood and they are earning for their family. Though this amount is small, it adds to their confidence and self-esteem. They are becoming more aware about their duties and rights. They are successfully able to portray themselves as good leaders, as good administrators, good citizens and as responsible family members. Reports indicate that even the most conservative families allow their female members to move outside their homes and discover their inner capabilities and work for their development and for upliftment of the society and of course the country.

Therefore by tribal women’s participation in PRIs the process of socio-economic development has been accelerated. Active participation of tribal women ensures transparent and clean government which will in the real sense be the success of Panchayati Raj Institution. This can only be possible when tribal women are more educated so that they are able to understand things better, are more aware towards their duties and rights and are accordingly trained. The need is that they get rid of their psychological slavery and regain their self-confidence, get rid of the fear of society and social bondages and taboos. For long term success of PRI it is urgently needed that full-fledged power and freedom be given to tribal women politicians. There is a need to build new pathways into politics and to foster political learning and to create new forms of articulation across and beyond existing democratic spaces to enhance the potential of women's political participation.
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Occupational Structure of Migrant Workers: a Literature Survey

R. Hariharan

Introduction

Migration has been an integral part of human history, including labour migration. Migration today is one of the most challenging issues facing governments and societies. Human mobility (migration) is supposed to be governed by a set of social, economic, political, cultural and personal factors and as such it is of interest from more than one angle. However, as the changes in economic factors are faster and wider than the changes in other factors, studies have shown that urbanisation results in movement of people from rural areas to urban areas.

Migration will be one of the major policy concerns of the twenty-first century. In our shrinking world, more and more people will look to migration – temporary or permanent – as a path to employment, education, freedom or other opportunities. Governments will need to develop sound migration policies and practices. Properly managed migration can contribute to prosperity, development and mutual understanding among people.

Socio-Economic Condition of Migrant Workers

This section discusses the socio-economic aspects of migrant workers with respect to their livelihoods, wages, working conditions. Cues from the literature show that the socio-economic condition of the migrant workers is far below the desirable level, due to migrants' transitional and informal nature of employment. In addition, lack of skill and educational attainment among migrants renders them to a vulnerable economic and social life in the city. Further, worker's volition seems to have very limited power in exploring opportunities in the labour market since their choices in this market are being subject to intermediary institutions such as labour brokers, often constraining
these workers opportunities to avail a work with decent pay and social security. The informal sector in the urban areas is characterized by low wages, excessively long hours of work and social security almost not existing. Since migrants earn less than what is required to sustain a decent living in urban areas, they lead a life of low quality, presumably reflected in their low human development. The migrants live in deplorable conditions and have extremely poor health status.

The women migrants are the worst hit in such a scenario as they are paid lower than their male counterparts and they do not enjoy basic health benefits like maternity leave and others. In addition, for migrants the tenure of work for industries like construction is very unpredictable which leaves them with a sense of insecurity of income and work. Nevertheless, the employers in the informal sector may prefer migrant workers since it is easier to exploit migrants as they may have less information about the labour market of the destination area and are in extreme need of money. The pay, time and duration of work can be flexibly moulded by the employers as the migrant workers do not have much say in the scenario. The contractors take advantage of the migrant's economic necessity for their own benefit. The employers do not provide them anything more than minimum subsistence wages and along with that unacceptable working conditions (Lall, Selod and Shalizi, 2006).

It is reported that the brokers make the migrant labourers work for 18-20 hours and then pay them minimally. Further, since there is no formal contract of work for the migrant labourers they may be dismissed from their job without a proper notice and also charged of negligence of work. Again, in many cases, it has been reported that these informal sector workers are often released from their job without being paid for their work. The brokers allure the asset-less persons of the villages with lump sum amount of money as advance for their wages and afterwards takes this as an opportunity to bind them to the work for infinitely long period of time. This makes their payment for work negligible compared to the labour that is extracted from them (Bhattacharya, 1998). Again, the contractors also resort to giving migrant construction workers tough deadlines of work in order to complete the construction project rapidly so as to reduce labour cost. Although these middle men lure the rural labourers for work in the urban areas, they do not provide them with decent living conditions in the city. Yet again, with the minimal wages received by these workers it becomes difficult for them to procure basic facilities by themselves that are essential to survive in the city. This
negatively impacts their socio-economic condition in the city to a great extent. Scholars envisage this degree of information of work as employers or capitalists attempt to shift the various risks associated with production such as financial loss, unexpected increase in production cost and so forth on the employees (Harris, 2003).

Migrants Status in India

At all India level migrants account for 24.68% of the population. In case of rural population the share of migrants is 22.74% whereas the corresponding share in urban population is 30.65%. The breakup of 'estimated number of migrants' in the country by sex and sector is as follows: females (77.35%), males (22.65%); in rural India (69.64%), in urban India (30.36%); from rural India (81.26%), from urban India (17.71%) and from other countries (1.03%). Among migrants in rural India, male migrants constitute 14.60% and female migrants 85.40%, whereas in urban India, male migrants constitute 41.12% and female migrants 58.88%. The tendency to migrate to urban India is stronger than the tendency to migrate to the rural India in all social groups.

In both the sectors, the rate of migration for 'ST' is higher than the rate for other groups and the difference is more pronounced in rural sector. A majority of male migrants are from 'Employed' category and female migrants are from 'Not in Labour Force' category in both the sectors. The situation after migration has also been the same in both sectors. The proportion of labour force in the migrant population has increased after migration in comparison to the position before migration and consequently category 'Not in Labour Force' has shrunk in all the cases. In almost all cases of occupation, majority of migrants of both sexes and sectors has remained in the same occupation category. In case of male migrants, movements in both the sectors are mainly guided by employment angle. In case of female migrants, they are mainly due to the reasons 'movement of parents/earning members' and 'marriage'. It is also important to note that the percentage of movements because of marriage has a declining trend over time in both the sectors for female migration. Given this, the paper analyses the existing research in the field of migration and occupational structure in India.

Literature Review

The literature in the field of migration is very large at the national and international level. The present study makes a review of the important works at national level to understand the issues and thereby to suggest new research avenues for addressing the issues.
Reddy (1991) found the reason for migration of female construction workers of Hyderabad city. Based on a sample of 200 families from different locations of the city, it examined both push and pull factor by sub-dividing them into social factors and economic factors. Economic reasons such as famines, scarcities, indebtedness and the lack of sufficient employment opportunities in their native places were noted as the major push factors. In the case of pull factors, some of the women migrants were fascinated by urban life and some of them wanted to join their husbands who had already migrated. In spite of the miserable condition of slum life and the frequent social disturbances in the city, the women migrants preferred to join in, as the conditions in their village were even worse when compared to the city.

Prashant (2001) examined the quality of life of sugarcane cutter workers at the place of work and compared it to the quality of life at the places from where the workers begin their migration. The study brings out the substantial decline in the quality of life that migrant cane cutter workers have to bear when they migrate in search of a livelihood. The quality of life of sugarcane cutter migrants deteriorates sharply at destination from the nominal quality of life at their source. Moreover their basic human rights stand violated at the destination. This study has considered availability of food, availability of water, housing profile, medical and educational facilities available to the migrants as parameters of quality of life. This is because these parameters are the specific necessities of decent living conditions and human rights of seasonal migrants.

There are certain traditional push factors which affect the rate of migration to a very significant extent. These are: drought in the rural area, low wages in the agricultural sector, lack of sustained sources of income and lack of diversified livelihood opportunities. Besides these there are also some new pull factors that have been operational in the last two decades and have given a momentum to population mobility. These are urbanization and the new economic opportunities arising from urbanization, improved communications and roads and substantial increase in remittances from migration. Overall, the process of urbanization has led to increase in remittances from rural-urban migration and it is gradually substituting the irregular and low wages of the agricultural sector (Deshingkar, 2004).

The National Commission for Enterprises in the Unorganized Sector (NCEUS) has observed that the trend of increasing short and long duration migration has an apparent link with regional inequalities. Mobility of labour takes place when workers in source areas lack appropriate options...
of employment and livelihood and there is expectation of improvement in standard of living through a continuous source of employment in the area where they intend to migrate, in terms of increased income and more participation in employment (Lall, Selod and Shalizi, 2006).

Vadhel (2007) dealt with the problems of fisher-migrant women workers of fish processing units in Junagadh District of Gujarat. He observed that the working conditions of these migrant women were far from satisfactory. They were forced to work for as much as 14 hours per day and being treated as unskilled workers were rarely paid even minimum wages. Besides, they also faced work related hazards in the absence of any protective measures. Ninety-eight per cent of them did not have any awareness about the labour welfare schemes and minimum wages. The living condition of the respondents was worse than that of slum dwellers.

Misra (2008) attempted to study the determinants of migration among 300 migrated labourers in Alang Ship Breaking Yard (ASBY) in Gujarat. He found that both 'push' and 'pull' factors influenced migration. It was revealed that 35 per cent of them mentioned 'pull factors' were the main cause of their migration and 65 per cent cited 'push factors' as the leading cause for migration. The non-availability of work in the native places, not enough property, social and family disputes were identified as push factors of migration. The significant pull factors were the presence of friends and relatives and the availability of finance in the destination place. The study further found that relatives and friends of the migrants were not only providing information about the employment opportunities in the destination area but also assisting in getting jobs and to reduce the cost of migration by arranging for the migrants' initial stay with them.

Muhammad, et al. (2010) investigated the different facets around the problem of debt bondage at brick kilns in the vicinity of Peshawar. This study used a sample size of 40 respondents through simple random sampling in the village Badhaber, a peripheral area of Peshawar. The study mainly focused on the nature of work, socio-economic causes and effects of bonded labour. The major findings reveal that work at brick kilns was hard, detrimental to human health and duration was more than internationally defined limit. Major causes encompassed illiteracy, faction and feuds in the past and low economic position. The impact of debt and bondage were observed in the form of lack of social contacts with relatives/friends, no mobility in social status, no progressive form of marriage like exogamy, no improved
economic status, no access to health with some having diseases, and bitter socialization and education of children. The study recommends that the Government of Pakistan needs to take efforts towards implementing 1992 Act which intends to abolish the bonded labour system, the undesirable social evil.

_Sandhya (2010)_ paper is an attempt to understand the economic significance of the female in migration process. Migration in India tends to be viewed chiefly a male movement for economic reasons with women forming either associational migration or migration for marriage. This undermines the significance of socio-economic factors specifically the economic ones that determine their migration behaviour. Thus, while viewing women migrants as dependents, we may often ignore their individual economic contribution. However, the globalization process taking place in the Indian economy has a strong implication on female mobility pattern changing from societal reasons to economic reasons. With introduction of modern methods of agriculture that is mechanization of agriculture, privatization of common property resources and environmental degradation, women lose their wage employment and also poverty is higher among females. These factors push females to migrate. On the other hand creation of gender segregated labour market creates demand for female labourer in export processing zones, garment industries (informal labour market) which act as a pull factor for female migration.

_Singh (2010)_ study on migration of women within and from developing regions affects the development process for those regions. Available literature shows that women's migration has been increasing in India and considered as a post-nuptial migration. Despite the rising number of female migrants, women are not given equal importance as compared to men in migration. This paper suggests that long term migration among women is increasing in urban India. A macro overview shows that along with marriage, work status, social status and educational status have also played a significant role in migratory process of women. In urban areas with increasing income levels, the probability of migration among women increases. A significant proportion of female migrants engage themselves in urban economic activity. So it can be concluded that women's migration has been a trigger of change in urban India along with social progress and economic transformation in the new path of development.

_Thasian and Selvaraj (2010)_ study find the tribal population percentage declining in Tamil Nadu. This declining nature is influenced by
the changes occurring in the socio-economic status of the tribal community. The educational intervention in the tribal community, seasonal unemployment and the gradual declining of forest/farm economy leads to migration. The educated elites migrate to other countries whereas the illiterate and semi-literate tribal community migrates to educated states like Kerala. The higher wage in Kerala and the seasonal labour in urban towns of Tamil Nadu attract the tribal population, which in turn reflects the family disorganization and lower population. The study conducted among the rural tribal community in Vellore district and the Malayalee tribes in Awadhi and Karajan hills indicates that the urbanization, privatization and liberalization process of the Indian economy is influencing the declining nature of tribal population. The increased socio-economic status of the tribal community is also responsible for the declining nature of tribal community in Tamil Nadu.

*Bora (2012)* study explains the census data on migration particularly rural to urban which has shown an increasing trend over time with the result that there has been a declining trend in the proportion of workers engaged in the agricultural sector. The findings reveal that most of the selected migrant households are poor, with very poor living conditions. They are poor not only in terms of household income and expenditure, but also in terms of basic amenities: the lack of access to human capital (landlessness) has further worsened their condition. On probing about the condition of work there is a strong association between the low social status of the migrants and the various dimensions of economic deprivation. The real nature of the problem is not that they are unemployed but a large number of those classified as employed are engaged in low quality, low wage activities which does not provide adequate income to keep a family above the poverty line. There is gross violation of terms and conditions of employment, which is comparatively higher in Delhi. Overall, out-migration of workers from rural areas is not really a bad thing in itself, but the problem is that our cities are unprepared to cope up with the number of problems that accompanies such migration. Migrant workers living in slums, do not have necessary resources to come out from this trapped impasse, and without outside intervention the situation is likely to continue.

The census data on migration particularly rural to urban has shown an increasing trend over time with the result that there has been a declining trend in the proportion of workers engaged in the agricultural sector. This decline has been followed by a
the state was having large streams of in-migration, but of late the trends are showing a reversal and the state has in recent years started witnessing a negative net migration rate. The declining industries have forced the people to migrate out of the state. The study of the NSSO regions for west Bengal shows that from one round to other, the reasons for migration have not changed much nor have they changed from rural to urban areas. The percentage of male migrants has a higher tendency due to employment, transfer of services, etc. while for the female the main reason for migration is marriage and other social obligations. It is thought that migration relieves excessive population pressure and eases some of the socio-economic problems but there is no certainty of such an easing.

Lahiri (2012) paper has emerged out of a series of case-studies on migrants from west Bengal who have been working in Mumbai and other cities over the past few decades, specifically in the gems and jewelry industry, one of the largest revenue generating sectors for India, today. The phenomenon of work-based migration has traditionally been attributed a greater sense of individual agency than relocations of other kinds. One wonders however just how much of it is choice and how much is compulsion as these labourers, in a bid to escape the clutches of poverty, illiteracy and marginalization in their home state, succumb instead to exploitation, unsafe living and working condition and culture-clashes in a distant new environment for a variety of causes both internal and external to the community. This substantial chunk of population has remained mostly invisible or as argued in the paper, strategically invisible- thus far, in both government and non-government initiatives.

Neema Gupta (2012) study finds that the state of West Bengal has always been one of the states which have experienced migration; in the past the state was having large streams of in-migration, but of late the trends are showing a reversal and the state has in recent years started witnessing a negative net migration rate. The declining industries have forced the people to migrate out of the state. The study of the NSSO regions for west Bengal shows that from one round to other, the reasons for migration have not changed much nor have they changed from rural to urban areas. The percentage of male migrants has a higher tendency due to employment, transfer of services, etc. while for the female the main reason for migration is marriage and other social obligations. It is thought that migration relieves excessive population pressure and eases some of the socio-economic problems but there is no certainty of such an easing.

Suresh and Ramesh (2012) in their study found that 80 percent of the migrant labourers in the age-group 40-50 migrated to different cities like Tiruppur and Coimbatore. The main reasons for their move are poverty, unemployment and debt due to failure of the monsoon.

Sakthivel and Hariharan (2015) study makes an attempt to analyse the economic aspects of migrant workers engaged in the knitwear industry in Tiruppur district of Tamilnadu. It was found that the migrant workers were engaged in technical and non-technical
roles. Most of the workers worked on an average 60 to 80 hours per week, and three-fourth of the respondents had saving habits. Better income was found to be the thrust pull factor in the destination area as against poverty and debt as push factors in the place of birth. Better work opportunities, long term work contract and family pressure were positively associated with their move to Tiruppur indicating an increase in these parameters towards economic satisfaction of the migrant workers. It may be suggested that the workers may be provided equal opportunities for their overall upliftment including education and career development of their children with the help of available and innovative workers’ welfare policies.

The above reviews discussed migration of various occupational backgrounds of the respondents. This would give some insights for the researchers who work for the betterment of the migrant workers.

**Conclusion**

From the studies reviewed above, it is concluded that the economic reasons such as famines, scarcities, indebtedness and the lack of sufficient employment opportunities in their native places were noted as the major push factors. In the case of pull factors, fascinated by urban life, prevalence of low wages, poverty, employment and earning are the major factors. On the other hand, creation of gender segregated labour market creates demand for female labourer in export processing zones, garment industries (informal labour market) which act as a pull factor for female migration. Migrant workers live in slums, do not have necessary resources to come out from this trapped impasse. Besides, a study found that the percentage of male migrants tends to be higher due to employment, transfer of services, and so on while for the female is the main reason for migration is marriage and other social obligations. However, migration could relieve excessive population pressure and ease some of the socio-economic problems though there is no certainty of such an easing. In spite of development in the areas of transport and communication facilities, migration process and flow is governed by language, culture and development activities in the country. Thus, the studies have analysed the occupational structure of migration whereas the push and pull factors can be studied in detail and their standard of living has to be analysed for the betterment of migrants.

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Introduction

The city of Pune generates around 1300 to 1400 tonne waste daily. The city has a centralised waste treatment facility that processes & treats approximately 1000 tonne of waste daily. However, the burden on centralized management could be minimized if concerted efforts are put in for waste management at decentralised level. These include collection, segregation & treatment of organic & biodegradable waste at ward level, residential society level and household level. The decentralised waste management has long term benefits for the urban local body in terms of savings in resources for waste collection & segregation, reduced burden on centralized waste management system, increased life span of landfill site and overall cost savings for Urban Local Body (ULB).

Considering the importance of decentralised waste management, the Pune Municipal Corporation has initiated an 'Eco-Housing Program' where developers and resident households are incentivised for adopting eco-friendly measures for processing and disposal of waste and sewage at source. The Eco Housing Policy of Pune Municipal Corporation (PMC) has listed the mandatory and voluntary measures for promoting environment friendly buildings. The concrete steps taken by the PMC in this direction are making it mandatory for all new large housing societies with more than 80 flats and large commercial complexes to set up decentralised (onsite) treatment plant based on non-energy intensive and
Eco-friendly technology - anaerobic digestion (biogas) or in-vessel composting/vermi composting for the treatment of 100% of organic wastes. The incentives for residential households include up to 5% rebate in property tax and for builders up to 50% rebate on premium charges for building permissions.

The decentralised waste management processing of organic & biodegradable waste can be done through different technologies: (a) vermi-composting, (b) mini-composting plants, (c) onsite biogas plants and (d) bio-methanation-cum-power generation plants.

Such micro-level initiatives have a potential of becoming profitable too as it generates income for those who have invested in the project by sale of compost and vermi-compost as manure. In case of biogas, it can be used as fuel instead of LPG in homes or can be converted into electricity to light streetlamps.

Decentralised Waste Management through Biogas Technology:

About 40 - 60% of waste generated in the cities is organic & biodegradable in nature. This provides an opportunity for 'anaerobic digestion through bio-methanation technology' which can be effectively used to implement a sustainable waste management plan for urban areas. The technology processes the organic/biodegradable waste which is transformed into biogas (energy) and slurry (rich manure). If the organic waste in mass garbage is composed by scientific processes it creates useful energy sources like fuel, energy and electricity for domestic as well as industrial application. The Biogas technology can serve as a waste disposal technology and help to solve present and future garbage and solid waste processing problems.

The other advantage of using biogas is that it is a renewable, alternative and sustainable form of energy which is appropriate to ecological and economic demands of the future. It can provide pollution free environment, efficient energy for cooking, lighting, and improve health conditions of the people.

Case Study: Biogas Plant at Community Level

The 'Bio-methanation' technology which can convert biodegradable waste (kitchen waste, food waste) from households into biogas has been established in the Vanaj Parivaar Co-operative Housing Society. The biogas plant is established by the developer with an aim of waste management at its source in compliance with mandatory requirements of Pune Municipal Corporation.
The facility treats approximately 45 kgs of wet kitchen waste that gets generated daily from 150 apartments. The waste is processed and the biogas thus obtained is used for cooking at the society pantry. The decentralised biogas plant installed is functioning for about one and a half years and is working well in practice. The initiative by the residents towards its operation & maintenance has contributed to its success.

**Plant Requirements:**

- Space requirement – up to 150 - 200 Sq. ft.
- Segregation of waste into dry waste and wet waste.
- Shredder
- Primary Digester
- Secondary Digester
- Water Requirement – 100 litres daily
- Provision of electric connection at site (3 Phase electric connection for large plants)
- Two Bins to collect segregated waste

**Type of waste required:**

- Wet waste, (kitchen and food waste only)
- Dry waste gets collected by PMC

**Requirement of human resource:**

- 1 person appointed for door-to-door collection by society
- 1 person (non-technical) appointed by private agency for operation & maintenance of the plant.

**Description of the Initiative:**

The establishment of onsite waste processing facilities especially biogas plants is a relatively recent phenomenon. But it is being adopted and implemented at various large residential housing complexes where large amount of biodegradable waste gets generated daily. One such example is of 'Vanaj Parivar' Co-operative Housing Society. The lead is taken by the developer of the housing society for initiating safe solid waste disposal through bio-methanation by establishing biogas plant of 50 kg capacity at the premises of the society.

Under this project approximately 45-50 kg of waste is collected every day. For waste collection door-to-door waste collection and segregation of...
waste at household level is practiced. Later, the segregated wet waste is shredded with the help of the shredding machine installed at the project site and converted into slurry which is processed in the biogas plant. The entire cycle of waste decomposition and biogas generation usually takes 2-3 days during summer and 4-5 days during other seasons.

To understand the actual functioning of the system the discussions with the society member/s, developer and the technology provider were undertaken. The following elucidates the key features of the system and the practices followed by the society.

**Total wet waste generated (Approximately):** 0.3 – 0.4 kg per HH* 150 HHs= 45-55 kgs/day

**Total biogas generated:** The volume of produced gas is 40 gm for per 1 kg of wet kitchen waste as per the technology provider. 60-65% is the content of methane gas of total biogas generated per day. This methane gas is used as a cooking fuel.

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1 kg of Biogas is capable of replacing 200 gms of LPG. http://www.samuchit.com/index.php?option=com_content&view=article&id=8&Itemid=10

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**Door-to-door waste collection and segregation:** Society has initiated segregation of waste at household level. The personnel appointed by society have been asked not to collect mixed waste.

**Provision of two bins:** With the help of local corporator the society approached PMC for getting two bins to collect the dry and wet waste.

**Fixed waste collection timing:**
7 am to 10.30 am.

**Disposal of dry waste:** Dry waste generated in the society gets collected by PMC.

The roles and responsibilities have been divided between the contractor, developer/ housing society and residents as follows:

**Duties of the society:**
- Provision of land and shed for plant set up
- Awareness creation within the society
- To make available electricity and water at the site
- Provision of the machinery for the operation
- Door to door waste collection

**Duties of the residents:**
- Segregation of waste into dry and wet waste
• Use of two bin system
• Monthly payment of maintenance charges

Duties of the technology provider:
• Designing and establishing the plant
• Appointing one person for an year for operation and maintenance of the plant
• Redressing the complaints pertaining to functioning of the plant

As per our discussion with the stakeholders (residents) they are not facing any problems like odour, mosquito nuisance, major repair & maintenance as systems are new. The key considerations for the successful operation of the plant based on the practical experience of the technology provider and the actual functioning of the plant at the society are listed below.

Key Considerations:
• The biogas plant can be established after the building construction with the provision to be made for separate electric connection and availability of ample water supply may be through separate water connection (Waste to Water Ratio is 1:1 for making the feed slurry, drinking water needs and other miscellaneous uses at the plant).
• Ensuring regular and adequate supply of biodegradable waste.
• 100% Segregation of waste at source (household level).
• An important factor for the smooth functioning of decentralized/community level bio-methanation plant is the right feedstock. The ideally suited feedstock is organic wastes from fruit & vegetable market, kitchen wastes generated from households/hotels/restaurants/hostels canteen.
• Only organic kitchen waste can be processed in the plant. Hence coconut shell, egg shell, etc. cannot be processed in this plant.
• It's essential to convert the waste into slurry to avoid choking of the plant.
• Sunlight and aeration is essential for the decomposition.
• Temperature should be maintained around 20 C. (20 degree Celsius)
• During summers 2-3 days are required for decomposition of waste while during winter 4-5 days are needed. In the winter season hot water needs to be added separately.
• Installing gas leak detection system.
• There is no need to clean biodigester frequently.

Financial Requirements:
• Capital Cost: The total cost of setting up the biogas plant is
approximately Rs. 2.5 lakh. The capital cost is borne by the developer and incurred during the construction of housing complex.

- **Operation and Maintenance Costs:** The recurring expenditure is towards electricity, remuneration for the plant operator and door-to-door waste collector. The remuneration comes to around Rs 2000 to 3000 per month. The electricity consumption of operating the plant is not very high. The society pays the electricity bill of the plant which is nominal and the residents are agreeable for this cost. The operation and maintenance cost of the biogas plant, electricity charges, etc gets included in the monthly society maintenance charges payable by each flat owner which is Rs. 500/household/month.

**Operation and Maintenance:**

- The plant operator is appointed by the technology provider as per his contract with developer for the operation and maintenance of the biogas plant. The contract is awarded for a period of one year and as per need can be renewed each year.
- It is the responsibility of the plant operator to check and ensure segregation of waste, adding adequate feedstock and to operate the plant.
- The manual to operate the biogas plant has been provided by the technology provider to the Housing Society Committee and the plant operator.

**Process:**

Anaerobic digestion through biomethanation is widely accepted technology for organic waste management. Anaerobic digestion is controlled biological degradation process which allows efficient capturing & utilization of biogas (approx. 60% methane and 40% carbon dioxide) for energy generation. The process involves three steps: crushing and shredding of waste, aeration and anaerobic digestion for conversion into biogas. It needs very simple machinery and low investment.

**Input:**

Organic wastes from households and municipal authorities provide potential feedstock for anaerobic digestion. Segregated of waste is essential for its efficient functioning.

The capacity of the plant is 50 kg for processing organic kitchen waste in the plant. The entire set up consists of three separate compartments: shredding machine, primary digester and secondary digester. Firstly, the 45-50 kg of kitchen wet waste received from 150 households daily is shredded and then converted to slurry by adding...
the required water quantity. This slurry is fed to the primary digester which is the sealed vessel. Cow dung is added for initiating the decomposition for the smoother functioning in the initial stage. In the primary digester, initial decomposition starts which is known as 'digestion' or 'fermentation'. The fermented slurry enters into the first 'bio-reactor' by gravity and then into the main 'bio-reactor' also known as 'secondary digester'. During this stage, due to anaerobic reactions the bacteria digest waste and generate biogas. This biogas is also used as the source of the heat energy to warm the digester(s).

The process is normally continuous and filling and removal of the treated material takes place simultaneously. The output takes two forms. There is a solid digested material (digestate) which is often pressed to reduce the water content. The solid digestate is fibrous and can be used as a soil improver once it has been further matured usually by being placed in piles to aerobically compost, further reducing its weight, for about two weeks. The liquid fraction can be re-circulated back into the process, but in almost all process designs some excess water is generated. And depending on the removal of, or avoidance of, the presence of possible infectious agents from the feedstock, this can be used as a fertiliser.
Output:

The volume of produced gas is 40 gm for per 1 kg wet waste. The produced bio-gas is captured in the gas collection chamber. Depending upon the quantity and the requirement the gas collection unit can be fixed chamber or a floating balloon type. This Bio-gas is then conveyed up to the cooking gas burner. This generated biogas (methane content) is utilized as the cooking fuel for the society pantry for watchmen and plant operator.

Outputs:

Produces the clean fuel in the form of biogas and sanitized compost (slurry) in the form of nutrient rich liquid fertilizer. Methane generated is used for cooking in the society pantry and the slurry is used as manure for garden.

Advantages:

Biogas can provide a clean, easily controlled source of renewable energy from organic waste materials for a small labour input, replacing fire wood or fossil fuels which are increasingly becoming more expensive. During the conversion process pathogen levels are reduced and plant nutrients made more easily available while existing resources are conserved.

• Biogas system makes clean energy for household use. After the initial investment in the system there is no large recurring expenditure towards its operation & maintenance.
• Low power consumption
• Considering the whole life-cycle, it is more cost effective than other treatment options
• Low land demand in comparison to windrow composting etc.
• Can accommodate future expansions & requirements
• Maximizes recycling benefits (recycling of organic matter and nutrients)
• Eliminates odour
• Generates high quality renewable fuel, smokeless combustion of gas
• Low sludge/slurry production. It is also relatively free of contamination and as such final residues can be used as manure for garden or can be sold to available market as waste derived organic manure

Learnings:

• Citizens respond positively to the policies of the local bodies and are willing to contribute for the betterment of the city. Essential for it is confidence building through involving them in the process and lending assurance by local corporator, technology provider or developers in case of community level plants.
• An important feature of the biogas project is that the technology
suppliers should make the arrangement for continuous operation and maintenance of the plant for at least one year in case of community level plants and up to 5 years in case of large scale decentralised plants at ward level. This significantly improves the prospects for successful operation.

- The primary reason for success of these kinds of initiatives is progressive developers who voluntarily introduce eco-friendly features for economic and branding benefits. The initial high investment for green technologies is compensated by lower running cost which is a saleable aspect that attracts buyers making it a win-win situation for developers and residents.

- The onsite/decentralised biogas plants at community level are effective in safe disposal of waste. The practice although in its initial stage has been replicated at many housing societies which has reduced burden on centralized SWM system of collection, transportation and treatment.

- The decentralized treatments require space and hence are not readily possible at individual household levels. These treatment facilities can be successfully implemented at residential society level or community levels on common plots or at transfer stations.

- Decentralized bio-methanation plants are getting replicable at community level and ward level as they require less space (@ 125 sqm. for 1 TPD plant), are aesthetically good looking and completely air tight, thus reducing odour, vermin, etc.

- Generated wastes can be treated and disposed of locally and therefore increase operating life of sanitary land fill site, savings in cost on centralized waste collection, transportation and processing.

- This will help in avoiding release of methane gas, from such uncontrolled open dumping sites, in the atmosphere, which causes serious environmental damage.

- Decentralized waste treatment also encourages reuse of recycled and processed waste.

**Limitations:**

- Technology Constraints: There is lack of technological know-how and process standardization with respect to decentralized waste treatment. Need is to design technologies that are simple, low-
tech, reliable (robust) and can be managed on small scale by local operators. Also for the proper maintenance of the set-up plant there is a need for training a special cadre of man-power.

• **Odour Problems:** The decentralized treatment primarily treats the wet, bio-degradable waste and hence the collection of such wastes in the neighbourhood can create odour problems.

• Space/land constraints: This has more relevance for large scale bio-gas plants in the city that are to be installed and commissioned at ward level. Unavailability of reserved land/plots for the purpose can act as a hindrance.

**Challenges:**

• **Weak Markets:** The products resulting from decentralized treatment plants such as biogas and manure do not have a market potential. Owing to the lack of demand, limited number of technology providers are working in the sector.

• **Relatively high capital investment** deters the housing societies from establishing the waste processing facility in cases where such facility is not provided by the developer.

• Many of the biogas plants at community level are shut down because there is no ownership towards regular operation & maintenance by the community. The problems in terms of operation and management of such biogas plants are
  
  • Poor feedstock quality (no segregation),
  
  • Sometimes also very low quantity due to inappropriate planning and designing. Irregular supply of feedstock.
  
  • Lack of skilled labour to properly operate and maintain it.

  The other reasons for shut down include inability to capture and store the gas generated and over estimation of biogas output.

• **In the recent past, the planning, construction, operation or management of low-tech biogas plants has not always been done appropriately, thus many projects failed.**

**Impact:**

The initiative taken by the Pune Municipal Corporation, developers and residential societies in Pune city has enabled onsite/decentralised solid waste processing and sewage treatment within a very short period. The approach of operation and maintenance, sensible integration within the system and use of appropriate technology has enabled to
protect and maintain clean and healthy environment and also create a vision for the wide-ranging growth of the city.

The main outcome from such pilot initiatives is useful energy source i.e. bio-gas and manure produce which would reduce LPG gas consumption. Another significant outcome of this project is developing a sense of civic responsibility in citizens through successful implementation of such small scale pilot projects.

Also this and other similar initiatives would reduce the burden on urban local government as well on collection, transportation, segregation and processing of waste. The waste garbage would be processed and disposed locally (onsite) safely. It presents the solution for future solid waste processing and would be the role model for the eco friendly approach of production and utilization of fuel.

Replicability:

- One of the advantages of this biogas plant is that it can be designed, planned and set up even after the residential premise is constructed and developed. It could be replicated where provision of land, water to the site could be made available and where residents are willing to participate.
- Such facilities at large scale e.g. at ward level or large housing complexes and townships will help in generating electricity through Bio-methanation cum power generation plant.
- Also such facilities will lead to earning carbon credits for the ULB as it reduces pollution, generates electricity, disposes waste safely and saves fuel consumption.

Potential for Replication at Different Scales:

- At HH level small biogas units can be installed with a capacity of 2-5 kgs. For small group of HHs the recommended capacity of biogas plant is unto 20 kg. The unit comprises of primary bio-digester, secondary bio-digester which is connected to gas pipe line and in-turn to the gas burner. The methane generated can be directly used for cooking. For small biogas units the crushing machine is not required. The unit is portable and can be accommodated in the kitchen itself. The capital cost including installation is approx. Rs 35000/- per unit. (Source: As quoted by Era-Hydrobiotech, Pune).
- At community level for medium size residential colony the recommended capacity of biogas plant is 50 – 150 kg.
At community level for large residential society level the recommended capacity of bio gas plant is 500-1000 kg (0.5 – 1.0 Tonne). For large biogas plants with -
- 100 kg capacity provision of balloon needs to be made to capture the methane gas generated during the process.
- Beyond > 500 kg capacity electricity generation is possible from bio-methanation. For this provision needs to be made for balloon for capturing the gas and the generator for converting it into electricity.

At city level the recommended size of the biogas plant is 5 tonne which can be established at decentralised level (ward level). (Refer adjacent box). The significant factor for enabling replication of the biogas model is reservation of land/ plots for the small scale solid waste processing plants. This is more crucial in case of decentralised plants at ward level. Thus important is to make reservation for land in Development Plan for setting up biogas plants.

<table>
<thead>
<tr>
<th>Qty of waste feed, Kg/day</th>
<th>Amount of Bio gas produced (approx)</th>
<th>Equivalent saving in LPG(approx.)</th>
<th>Space required</th>
<th>Water required Lit/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 kg/day</td>
<td>200 litres</td>
<td>0.10 kg</td>
<td>0.5 m²</td>
<td>2</td>
</tr>
<tr>
<td>2.5 kg/day</td>
<td>300 litres</td>
<td>0.15 kg</td>
<td>0.8 m²</td>
<td>3</td>
</tr>
<tr>
<td>4 kg/day</td>
<td>400 litres</td>
<td>0.25 kg</td>
<td>1.5 m²</td>
<td>5</td>
</tr>
<tr>
<td>6 kg/day</td>
<td>550 litres</td>
<td>0.4 kg</td>
<td>1.7 m²</td>
<td>7</td>
</tr>
<tr>
<td>20 kg/day</td>
<td>16000 litre</td>
<td>1.2 kg</td>
<td>6 m²</td>
<td>20</td>
</tr>
</tbody>
</table>

Source: Era Hydro-Biotech Energy Private Ltd

The Bio-methanation cum power generation plant of 5 TPD capacity is set up by PMC in Ward No. 34 at 'Model Colony'. The plant is treating segregated municipal solid waste and is generating 300 units of electricity to light 240 street lamps between 7:00 pm to 6:00 am. This practice has lead to savings of Rs 7000 per day to PMC. (Rs 6000/- savings in transporting, segregating and processing of waste and Rs 1000/- is the cost of electricity for lighting 240 street lamps).

The project has been awarded ISO 9001-2008 certification for standard management system for converting organic solid waste into electricity through 2 stage bio-methanation process.
Sustainability:

The factors that contribute to the increased sustain ability of the set up are as follows:

- Community ownership towards Operation & Maintenance and willingness to participate and contribute towards the maintenance of the facility.

- Pune Municipal Corporation has proposed and it is quoted here “all the housing societies with more than 80 flats should have their own waste treatment facilities”. The decision is presented before the General Body (GB) of PMC and the decision is awaited. However, such initiatives from the governing bodies definitely provide a thrust for people to work for environment conservation.

- PMC has made it mandatory to segregate and disposed the waste at source for all new developments of large scale including residential and commercial.

- To enforce it the PMC has stopped collection of the waste from large residential societies.

- PMC has introduced tax exemption policy for eco-friendly initiatives e.g. rain water harvesting, vermi composting, solar system. Apart from that PMC’s Eco-Housing Programme also introduced rebate in property tax for the residents of the housing society where eco-friendly features/ components are installed.

Tax Incentives:

For motivating the citizens for implementing the eco-friendly practices the PMC has been giving up to 10% rebate in property tax for the following.

- Vermi-composting (5%)
- Rain water harvesting (5%)
- Solar Energy (5%)

<table>
<thead>
<tr>
<th>Tax Exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td>For any type of processing</td>
</tr>
<tr>
<td>Any processing but more than one</td>
</tr>
</tbody>
</table>

- Incentives for the Residents: The construction of the biogas plant in the society is in accordance with
PMC’s eco-housing assessment guidelines. Therefore, individual households in the society are eligible for rebate in property tax. Approximately 11,528 properties enjoy the benefits of the tax rebates by implementing above.

- Apart from that a list of consultants have been developed and made available by the PMC officials for those who wish to start new plants.

- For commercial and industrial developments giving rights to make use of outputs, i.e. manure/biogas/electricity in-house or selling it, will also encourage practice onsite wastewater treatment.

- Extending incentives, tax benefits and making eco-friendly norms mandatory through modification of Development Control Regulations and byelaws will act as a catalyst which will ensure the sustainability and replicability of such initiatives.
Towards Sustainable Mobility: A Critique of CMP for Tri-city, Chandigarh

Hardeep Singh Sekhon

Introduction

Since the final years of the 20th century, public transit and its planning and development have faced continuing changes and challenges. At the same time, there has been increasing recognition that current trends and lifestyles have dramatically increased traffic congestion which is not supportive of quality of life. With the growth in the number of motor vehicles the traffic related problems like congestion, delays, conflicts and environmental pollution have emerged.

In India, the National Urban Transport Policy aims to ensure safe, affordable, quick, comfortable, reliable and sustainable access for the growing number of city residents to jobs, education, recreation and such other needs within cities and this is to be achieved by incorporating urban transportation as an important parameter at the urban planning stage rather than being a consequential requirement. As such the Government of India has made it mandatory for Class I towns to prepare Comprehensive Mobility Plan (CMP) to deal with the issues and promote sustainable strategies. In sync with the theme, this research paper seeks to examine the context of CMP in terms of its strategies for the Tri-city. The purpose of the same is to analyse the merits and shortcomings towards achieving the larger goal of sustainable transport in Indian cities. Chandigarh and particularly nearby towns are planned to experience high growth in the coming decades.

Projected population for Chandigarh, Mohali and Panchkula is 2349824, 815308 & 542253 respectively. Therefore it is prudent that a compatible, adequate and extensive mass transport network system and road system is planned and developed in order to meet the transport demand up to 2031.
Emerging Transport challenges in the Tri-city

Chandigarh was planned as an administrative town for a population of 5 lakhs with sector size – 800m x 1200 m determined by maximum 10 minute walking distance from facilities at foothills of the Shivalik range. The area of Union Territory of Chandigarh is 114 sq km only with 22 villages falling in the jurisdiction of Union Territory. Panchkula is a planned city in Haryana. It forms part of a metropolitan area with the Union Territory of Chandigarh. Panchkula is surrounded by Himachal Pradesh in the north and east, Punjab and Chandigarh Union Territory in the west and by Ambala district in the south and east. Mohali is a city and a commercial hub lying adjacent to the city of Chandigarh in Punjab. It, along with Chandigarh and Panchkula, forms a part of the Chandigarh Tri-city.

There is now a lot of intercity vehicular traffic from the neighboring states which have strong daily interaction with the city. The emergence of the new towns of Mullanpur and Naya Gaon adjoining the city, and the planned expansion of existing towns in the neighboring states is also likely to generate new travel corridors exerting further pressure on the city’s arteries. The total daily (24 hour) traffic studies at outer cordon points indicate that about 1,52,650 vehicles enter or leave Chandigarh Urban Complex on a working day. Madhya Marg is envisaged to be the worst affected of the roads since it provides the shortest and the direct connection between the towns of Punjab and Himachal.

As per draft master plan, the share of two wheelers and cars in total traffic is more than 80 percent indicating inadequacy of the public transport system. 86 percent of households own at least one car or two-wheeler. The city has the highest car per capita number of motorized vehicles in the country. There were more than 6 lakh motor vehicles registered in Chandigarh in 2005. So on the basis of these traffic issues, a sustainable transport system plan on various corridors is required in order to cater to mobility needs. The balance traffic should be carried by road system in order to satisfy the needs of normal bus system and other modes such as two wheelers, cars, bicycles, trucks and pedestrians.

Derivations from literature review on sustainable transport systems

Sustainable transportation concerns systems, policies, and technologies. It aims for the efficient transit of goods and services, and sustainable freight and delivery systems. The design of vehicle-free city planning, along with pedestrian and bicycle friendly design of
neighborhoods is a critical aspect for grassroots activities, as are telework and teleconferencing. Finding alternative means of transportation is an important issue to ensure implementing sustainability principles effectively. Such suggested transportation alternatives are required to provide passengers with fast, efficient, reliable, and accessible means of transportation. Such means of transportation should also consider producing less harmful gases and emissions. This can be done through private initiatives in which we can provide passengers with well-developed public transit infrastructure. This also involves enhancing the current public transit services. Another effective method to ensure transportation sustainability is to make cities that are friendly to pedestrians and inhabitants who do not rely on vehicles in their daily life activities. For this, some indicators of sustainable transport are derived. Indicators are derived after reviewing the literature on sustainable transport systems from Comprehensive Mobility Plans (CMPs) preparation toolkit given by Ministry of Urban Development (http://sti-india-uttoolkit.adb.org/mod1/index.html accessed on 12-01-2014), National Transport Policy, 2009 and from United Nations guidelines on planning and design for sustainable mobility (Planning and design for sustainable urban mobility, Global report on human settlements, 2013). Based upon these indicators which are listed below, the evaluation of the existing mobility plan of Chandigarh urban complex is conducted.

**Existing routes and land use characteristics of City**

The existing routes are basically the existing transportation plan of the city. From this we can analyse the existing situation of the traffic i.e., problems and potential. From here we can derive the requirements for the existing as well as for the future of the city. The nodes will be identified so that in future, the traffic movement remains good. The existing as well as the proposed master plan of the city will be studied as it will help in proposing the transport plan. Without this, the proposed plan will not be successful.

**Mode Integration**

Transport Integration means that whatever modes or types of transport (rail, road, water, air) are involved they all operate as one 'seamless' entity - for the benefit of the fare paying customer. Private transport usually provides 'door to door' transport (albeit with a walk between the car park and ultimate destination) and whilst this is not always a realistic possibility for public transport, the concept of 'transport integration' is to provide a 'seamless' journey that is as 'door to door' as possible. This is achieved by planning
services so that where a change of vehicle is required, passengers can enjoy easy to use, pleasant & sheltered interchange facilities plus short waits for the next service.

**Geometric Design**

A network is a thoroughfare, route, or way between two places, which typically has been improved to allow travel by some conveyance, including a horse cart, or motorized vehicle. Roads are the most significant local public good affecting us every time we step out of our homes and workplaces. They are significant not only because they connect people to places, but also because they house the rest of the network services that bring power, water, internet, into our homes and take the sewage and the rainwater out of our homes. The ripple effect of the poor state of our roads is felt daily in the quality of life in our cities. Given that urban roads are allocated almost 20-30 percent of total space in a city, they form a significant portion of public space. The characteristics of geometric design are operational integration, parking location, space requirement, geometrical design of roads and networks. The surveys like parking patrol, parking accumulation, parking duration, parking space hours, and accidents in the city should be conducted.

**System Characteristics**

Cities have a multi modal transportation system that serves all of the various land uses and development patterns within their jurisdiction. While different modes of transportation are found in cities (e.g., transit, pedestrian/bicycles, automobile, rides haring), by far the major means of mobility in the country is the automobile. Given the changing dynamics of the country's population and the more urbanized nature of its land use patterns, examining the potential role of other transportation modes is appropriate. The characteristics are like link between two separated terminals within city i.e. airport and railway station. Information integration and fare integration will be studied. The surveys of movement pattern will be conducted to know the system characteristics.

**Classified Traffic**

Traffic is the vehicles moving on a road or public highway. This will indicate which road is highly congested and which is less congested. For this, traffic volume counts should be undertaken. The surveys like journey & running speed & delays, daily and peak hour traffic intensity, composition of traffic, directional distribution, and hourly variation should be conducted.
Demographics

Demographics are the quantifiable statistics of a given population. Demographics are also used to identify the study of quantifiable subsets within a given population which characterize that population at a specific point in time. Demography is used widely in public opinion polling and marketing. Commonly examined demographics include gender, age, ethnicity, disabilities, mobility, home ownership, employment status, and even location. Demographic trends describe the historical changes in demographics in a population over time; for example, the average age of a population may increase or decrease over time. Both distributions and trends of values within a demographic variable are of interest.

Demographics can be viewed as the essential information about the population of a region and the culture of the people there.

Zone Identification

Zone is an area or stretch of land having a particular characteristic, purpose, or use, or subject to particular restrictions. In this case, the zones are identified on the basis of the character of the area according to the traffic behavior. These zones will be social zone, institutional zone, commercial zone, etc. The travel characteristics of the commuters can only help in finding these different zones. So, for this, the surveys like socio-economic characteristics, zone wise employment details, travel characteristics and mode & purpose-wise O-D matrices will be carried out.

Movement Pattern

Traffic phenomena are complex and nonlinear, depending on the interactions of a large number of vehicles. Due to the individual reactions of human drivers, vehicles do not interact simply following the laws of mechanics, but rather show phenomena of cluster formation, both forward and backward, depending on vehicle density in a given area. It depends upon availability of modes, access, egress, passenger flow rate, peak utilization of different modes and directional flow of modes. The surveys like roadside origin-destination at cordon, O-D matrix (external to external, external to internal & internal to external) should be conducted.

This section covers the theoretical framework pertaining to the sustainable transportation system. From this set of indicators, a systematic analysis of the transportation plan of the city can be done.
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Parameters</th>
<th>Characteristics</th>
<th>Surveys required</th>
<th>Data use</th>
<th>Surveys done</th>
<th>Impact / Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Existing routes and Existing &amp; proposed land use in the city</td>
<td>To identify nodes</td>
<td>As proposed in master plan</td>
<td>Helps in detecting unserved areas.</td>
<td>No study is included</td>
<td>Existing and proposed landuse of the city helps in finding the fast developing corridors of the city which is not identified yet.</td>
</tr>
<tr>
<td>2</td>
<td>Mode integration</td>
<td>Maximum accumulation, turn rates, etc.</td>
<td>Public Transport Terminal OD and passenger counts</td>
<td>Improvement measures/system selection Planning of existing and new terminal infrastructure</td>
<td>Only passenger count is done</td>
<td>Integration of terminals is ignored at some places.</td>
</tr>
<tr>
<td>3</td>
<td>Geometric design</td>
<td>• Operational integration.</td>
<td>Parking Patrol Parking accumulation Parking duration Parking space hours</td>
<td>Suggest parking management measures Suggest design improvement</td>
<td>Surveys is done</td>
<td>No proposals are done regarding parking and accident prone areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Parking location.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Geometrical design of roads and networks.</td>
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<td></td>
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</tr>
<tr>
<td>4</td>
<td>System Characteristics</td>
<td>Movement pattern of commuters at terminals</td>
<td></td>
<td>Helps to identify the various zones of the city.</td>
<td>No survey is done regarding this.</td>
<td>Proposals are integrated with other terminals.</td>
</tr>
<tr>
<td>5</td>
<td>Classified Traffic</td>
<td>Traffic Volume Counts</td>
<td>Journey &amp; running speed &amp; Delays Daily and Park hour</td>
<td></td>
<td>Surveys are done</td>
<td>Helps in identifying routes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>traffic intensity Composition of traffic Distribution</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Hourly variation</td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>Demographic profile</td>
<td>Commuters existing and proposed population</td>
<td>As proposed in master plan</td>
<td>The future workforce will be helpful for projection of future travel demand and future commuters</td>
<td>No study is included</td>
<td>Identification of the major activity areas or nodes of the city is important, since these areas have the potential to become the interchanges.</td>
</tr>
<tr>
<td>7</td>
<td>Zone identification</td>
<td>Household Travel Survey</td>
<td>Socio-economic characteristics Zone wise employment details Travel characteristics</td>
<td>The zones of movement can be easily determined Zone, mode and purpose wise O-D matrix is not done.</td>
<td>Zone, mode and purpose wise O-D matrix is not done.</td>
<td>Scope of passenger shift from existing modes to the recommended system</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mode &amp; purpose-wise O-D matrices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Movement pattern</td>
<td>Availability of modes, access, egress.</td>
<td>Roadside origin Destination at cordon O-D matrix (external to external, internal to internal to external)</td>
<td>Planning of terminals Public transport routing Demand modeling</td>
<td>Only external is done.</td>
<td>Internal movement or desired pattern cannot be determined.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Passengers flow rate.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Peak utilization of different modes.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Directional flow of modes.</td>
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</tbody>
</table>
Comprehensive Mobility Plan, Chandigarh Urban Complex (2009)

The population of Chandigarh Urban Complex (CUC) comprising Chandigarh, Mohali and Panchkula has been growing fast at a rate of over 5% per year in the last decade. There has been a phenomenal growth in the population of vehicles as well, especially the two and four wheelers, in this period and their rising use due to rising household incomes. Chandigarh has the highest per capita income in the country. In the absence of adequate and quality mass transport system, people are using the personalized modes which is not only leading to congestion on road network but also increasing environmental pollution. Such growing congestion is resulting in loss of productivity, poor air quality, reduced quality of life, and increased costs for services and goods.

Therefore, on the basis of projected traffic, a transport system plan on various corridors has been suggested in order to cater to traffic up to the year 2041. The mass transport systems have been proposed on various corridors considering expected traffic

Table 2 Corridors of Metro and BRTS

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Corridor Name</th>
<th>Maximum Peak Hour Direction Traffic (PHPDT)</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2014</td>
<td>2021</td>
</tr>
<tr>
<td>1</td>
<td>Khuda Lahora – IT Park (Madhya Marg)</td>
<td>9600</td>
<td>14300</td>
</tr>
<tr>
<td>2</td>
<td>Sector 1 – Sector 43 Bus Terminal – Sector 52 (Purv Marg/Vikas Marg)</td>
<td>7300</td>
<td>11100</td>
</tr>
<tr>
<td>3</td>
<td>Sector 26 – Sector 38 – DadaMajra</td>
<td>6100</td>
<td>10800</td>
</tr>
<tr>
<td>4</td>
<td>Chandigarh Sector 52 – Mohali Sector 104</td>
<td>4100</td>
<td>8500</td>
</tr>
<tr>
<td>5</td>
<td>Housing Board Chowk – Sector 21 Panchkula</td>
<td>3600</td>
<td>6500</td>
</tr>
<tr>
<td>6</td>
<td>Police Housing Complex -Zirakpur</td>
<td>4000</td>
<td>6000</td>
</tr>
<tr>
<td>7</td>
<td>Sukhna Lake - Sector 49- Kharar (Along Sukhna Path via Sector 62 SAS Nagar)</td>
<td>2500</td>
<td>4500</td>
</tr>
<tr>
<td>8</td>
<td>PGI - Pocket F SAS Nagar (Along Vidya Path)</td>
<td>3000</td>
<td>6000</td>
</tr>
<tr>
<td>9</td>
<td>Zirakpur-DeraBasi (Along Dakshin Marg)</td>
<td>2900</td>
<td>5100</td>
</tr>
<tr>
<td>10</td>
<td>Kharar – Bannur</td>
<td>1400</td>
<td>3000</td>
</tr>
<tr>
<td>11</td>
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<td>1800</td>
<td>3500</td>
</tr>
<tr>
<td>12</td>
<td>Sector 28 Panchkula Extension - Mansa Devi</td>
<td>2600</td>
<td>4000</td>
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Source: Comprehensive Mobility Plan, CUC (2009), p140-150
demand by 2041, available road right-of-ways and system capacity. The balance traffic should be carried by road system in order to satisfy the needs of normal bus system and other modes such as two wheelers, cars, bicycles, trucks and pedestrians. The proposed Comprehensive Mobility Plan for CUC contains the following types of proposals, which will cater to requirements of the projected travel demand up to the year 2041.

The identification of the major activity areas or nodes of the city is important which is not identified, since these areas have the potential to become the interchanges, and the location of Metro and BRTS stations is not fixed. The existing transport network has not been studied. The study of whole region is done while proposals remain restricted to Chandigarh only. Only the external to external desired movement pattern is studied while the desired movement pattern of tri-city is ignored and the frequency of buses is not counted yet.

Secondly the metro is not feasible in the tri-city because the expected transport demand for 2018 on mass transit corridors (north-south and east-west) is estimated between 7,007 PHPDT (peak-hour, peak-direction traffic) on north-south corridor and 6,711 PHPDT on east-west corridor. This demand is expected to go up to 31,407 PHPDT and 13,303 PHPDT, respectively, by 2041, states the report. But a metro is most economical and feasible only if PHPDT is between 40,000-70,000. In case of Chandigarh the expected figure may be reached in 2051 only. Therefore, metro would not be an economically viable proposition to tackle the traffic problems of the city. As per a RITES study, major inflow of traffic is from the neighboring areas. Over 4 lakh daily commuters enter Chandigarh from Panchkula, Mohali, Zirakpur, Kharar, Pinjore and Rajpura. Therefore, there is a need to integrate these areas by an efficient transport system so that they are well connected with the city also.

Global studies and experience has shown that metro is a desirable option only for high density corridors and with long trip length of an average of more than 14 km. In Chandigarh the average journey time using private mode of transport is between 5 minutes to 17.5 minutes. This reflects that the majority of the trips generated in the city are short trips in the order of 2.5 to 9.6 km in length. In Chandigarh nearly 71 percent of the motor vehicles are two-wheelers. Around 83 percent of all trips are those work trips which are accessible in 15 minutes time. Clearly Metro is not a feasible option on this count too.
Results and Discussion

There has been a phenomenal growth in the population of vehicles as well especially the two and four wheelers in this period and their rising use due to rising household incomes. Chandigarh has the highest per capita income in the country. Besides nearby towns such as Zirakpur, Kharar and Dera Bassi in Punjab, Pinjore-Kalka and Alipur Kot Behla in Haryana and Baddi-Nalagarh and Parwanoo in Himachal Pradesh are also growing fast and have large traffic interaction with the CUC. In the absence of adequate and quality mass transport system, people are using personalized modes which is not only leading to congestion on road network but also increasing environmental pollution. Such growing congestion is resulting in loss of productivity, poor air quality, reduced quality of life, and increased costs for services and goods.

The analysis of collected data from primary and secondary sources has brought the following major issues regarding the transport system of CUC.

i) The road network capacity in CUC is adequate for now but major travel corridors are beginning to get congested. Travel speeds are generally good but on some roads, speeds are declining. Most of the major roads are of four lane/six lanes with limited scope of their widening. This indicates the need for judicious use of available road space. Thus there is need to optimise the available capacity by adopting transport system management measures.

ii) Many junctions particularly on Madhya Marg, Himalaya Marg, Dakshin Marg, Jan Marg, Purv Marg, Udypath, etc have very high approach traffic volumes and most of the junctions with rotaries have exceeded their capacity. With expected growth of traffic, the situation at these junctions is likely to deteriorate fast. It is observed that a high share of traffic at these junctions is moving straight along the major road. Thus provision of underpasses at these junctions along the major straight travel direction with rotary being retained seems to solve the problem in the best manner. The balance traffic can continue to move at grade around the rotary. This also helps in maintaining the aesthetics of Chandigarh.

iii) Traffic composition on roads indicates very high share of two wheelers on most roads. The share of cars is also growing. On some of the roads, the share of two wheelers and cars in total traffic is more than 80 percent.
This indicates inadequate public transport system. Although V/C ratios on most of the roads are less than 1, these are approaching their capacity fast. Some roads are already serving traffic volumes greater than the capacity. The situation is likely to worsen considering the high growth anticipated in CUC and nearby towns. This not only indicates the need of augmenting road capacity but also the need to plan high capacity mass transport systems on many corridors.

iv) The household travel surveys indicate high ownership of cars and two wheelers. 86 percent of households own at least one car or two-wheeler. In the absence of city wide and high quality mass transport system, their use is growing. The household surveys also indicate high share of work trips. This segment of travel demand needs to be mostly satisfied by public transport system. Considering the large employment centres being planned in the CUC and nearby towns, the mass transport system needs to be upgraded/extended substantially.

v) At present, modal split in favor of public transport is only 16 percent of total motorised person trips. This modal share is very low. Adequate and quality public transport system needs to be provided to the people in order to increase the share of mass transport trips. Share of two wheelers and cars in travel (73 percent of total motorised person trips) is disturbingly very high. This trend needs to be arrested. Out of total person trips in CUC, the share of walk trips is 17 percent. Walk trips as feeder to buses and other modes are additional. There is high pedestrian traffic in core area and some other areas in Chandigarh. Footpath facilities are generally not adequate and their condition is deteriorating. Therefore upgradation of their facilities is very important. Share of cycle traffic has declined over the years. This mode of transport needs to be promoted by providing cycle tracks along the roads.

vi) Parking is assuming critical dimensions in Chandigarh particularly in Sector 17. Parking facilities need to be augmented substantially. In the long run, city-wide mass transport system is needed not only to reduce congestion on roads but also to reduce parking demand.

Developments in Chandigarh have been low rise and consideration for aesthetics has been important in all
planning efforts. Therefore this aspect has to be considered seriously while planning for transport system. The issues relating to traffic and transportation in a large and growing city like CUC need to be viewed in the larger perspective of urban and regional planning and development. Issues relating to land use planning and development control, public-private transportation policy and industrial location would need to be integrated at the perspective planning level. The CUC will require a multi-modal transport system. Thus there will be need to coordinate inter-modal transport issues.

Way forward

The City Development Plan of Chandigarh has provided for densification of certain areas. This is likely to have a major impact on traffic demand. The transport network including mass transport system needs to be planned taking the proposed development into consideration. Major developments have been proposed in the suburban towns of CUC. This is likely to further increase interaction between CUC and these suburban towns. There will be need to provide adequate and quality commuter services to these towns from CUC. Thus while planning for the transport system of CUC, the above problems and issues need to be kept in consideration and in this context, the following recommendations are made.

System Selection (Criteria for Choice of Mode)

Choice of mode will depend mainly on the expected demand by mass transport system on a corridor, available road right-of-way (ROW) and the capacity of the mode. Other considerations are the land-use along the corridor, the location of building lines, and the potential for increasing the ROW. Cost of the same mode of transport can vary at different locations depending on engineering constraints. It is therefore important that the final choice of mode is based on techno-economic considerations.

In choosing a mode for a corridor, first priority should be given to at-grade services and BRT. It offers convenience to commuters particularly the short distance users. Commuters do not have to walk up and down to use the services. The construction cost is low. It offers the best financial sustain ability. If road ROW is inadequate and it cannot be widened, and/or the route is congested, an elevated/underground mode needs to be proposed.

The major transport corridors for mass transport system have been identified on the basis of future land use to be developed in various parts of the Tricity. Expected traffic on various corridors is estimated on the basis of transport demand modeling and forecasting. The mass transport
corridors as suggested in the studies carried out in the study area were considered and review of the given corridors of Madhya Marg, Himalaya Marg and Purv Marg as decided by the government was also done. The stations are assumed at interval of 600 metres and the bus frequency is 7-8 minutes. The BRTS route is proposed according to the proposed landuse of Tri-city. The total length of route is 201.37 kms. The stops are proposed on the major nodes of the city. The major nodes of the Tri-city like Panjab University, Aroma sector 22, Capitol complex, bus terminals, air terminals and railway terminals are interconnected with bus rapid transit system. The proposals are also made based upon the movement pattern of the commuters from terminals to their destinations.

Modal Split

The present modal split in favour of public transport is less than 20 percent. This is due to the high growth rate in personalized motor vehicles. This share is likely to fall more in the absence of effective public transport system. This will result in more traffic on roads. Accordingly, it is suggested that the modal split should be increased to about 60 to 70 percent in favour of public transport by providing a city-wide integrated mass transport system so that all the areas are within 500m of mass transport system.

Development of road system

The strategy for improvement of road system has to maximize the capacity of existing road network by upgrading the road network and improvement of junction 43-44, junction 34-35, junction 21-22, junction 17-18, junction 15-16 and junction 37-38. The missing bus route links to SAS Nagar will be added i.e. from sector 46 to 79, sector 47 to 66 and new links are also proposed according to master plan of SAS Nagar i.e. from sector 68 to 66-B, 79 to 82-A, 83A to 85 and from 120 to 124 sector. There is need for improving primary, arterial and other important roads (particularly radial and ring roads) by providing grade separation in the form of underpasses, junction improvements, adding missing links, widening and other road side facilities wherever necessary.

Nodes

Pockets of economic activities like IT Park & Medi-city having very large employment potential are planned. A large part of the human resources to be engaged in these activities is expected to come from within Chandigarh but quite a large number is also to the expected from the Panchkula, Mohali, Zirakpur and even from towns like Kharar, Derabassi and Pinjore-Kalka. This will require special high capacity mass transport
A system connecting these work centers with the living areas within Chandigarh, Panchkula, Mohali and Zirakpur as well as meeting the needs of the long distance/suburban commuters, especially along the corridors leading to these centers. So, the proposed bus rapid transit route will interconnect all these activities.

**Terminals**

Improvements, alteration and modifications of the existing facilities at terminals, i.e. at ISBT 17, ISBT 43, ISBT VII phase S.A.S. Nagar and I.S.B.T. Panchkula will be done according to the proposed bus rapid transit system. These terminals will be connected to each other either by bus rapid transit system or by feeder services.

**Pedestrian facilities**

Special facilities for pedestrians within the entire network need to be provided especially in the core areas. To include pedestrian subways, footpaths and road furniture along the roads where necessary. Developing V-6 and V-7 roads as pedestrian and cycle pathways across sectors and facilitate their movement across two adjoining sectors.

**Feeder services**

The feeder services will be provided where the bus rapid transit system cannot be accessible. These are basically non-motorized vehicles like rickshaws which will help commuters to travel from their origin journey place to destination by using multi modal transport mode.

**Intelligent transport system for public transport**

Intelligent transport system will be provided for the ease of the commuters. Basic management systems such as navigation, traffic signal control systems, variable message signs, automatic number plate recognition or speed cameras to monitor traffic, security CCTV systems, and to more advanced applications that integrate live data and feedback from a number of other sources, such as parking guidance and information systems, and weather information will be provided.

**Segregation of traffic**

Motorized and non-motorized traffic should be separated to improve the traffic movement and to minimize the traffic disturbances in the city. Proper management for the implementation of rules and regulations and necessary enforcement are necessary.

**Parking**

Parking for auto rickshaws and cycle rickshaws should be provided at
bus rapid transit stops. The multilevel parking is proposed at various landmarks like Capitol Complex, Sector 17, ISBT Phase VII and SAS Nagar to solve the parking problems.

**Conclusion**

The major transport corridors for mass transport system have been identified on the basis of future land use to be developed in various parts of the tri-city. Expected traffic on various corridors on the basis of transport demand modeling and forecasting is worked out. The mass transport corridors as suggested in the studies conducted in the study area were considered and review of the given corridors of Madhya Marg, Himalaya Marg and Purv Marg as decided by the governments was also done. The stations are assumed at intervals of 600 metres and the bus frequency is 7-8 minutes. The BRTS route is proposed according to the proposed land use of Tri-city. The total length of route is 201.37 kms. The stops are proposed on the major nodes of the city. The major nodes of the Tri-city like Panjab University, Aroma sector 22, Capitol Complex, bus terminals, air terminals and railway terminals are interconnected with bus rapid transit system. The proposals are also made based upon the movement pattern of the commuters from terminals to their destinations.

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A substantial part of human history from medieval period is a history of wars. Wars were order of the day for the nations in the past. They grew in size to be called World Wars. The wounds created by World War I resulted in the more devastating World War II, which wiped out a generation in Europe and in Japan. Finally, realization dawned on the nations of the world that the world needs to be made a better place to live in. Soon at the end of the World War II, a bank was set up called the International Bank for Reconstruction and Development (IBRD) in 1944. This was followed by the establishment of the United Nations Organization and various organizations under its aegis. Since the middle of the 20th century, wars have been few and far between. What is important is that there have been several initiatives for the countries of the world to come together on various issues like protection of the environment, pursuing sustainable development, assistance to poor countries and fighting climate change. The era of liberalization, globalization and privatization, ushered in by the close of the 20th century, acted as a cementing force between the nations, notwithstanding some regional conflicts. The first step in the form of IBRD grew in its mandate to develop into a group of five organizations working for noble goals to assist the nations in alleviating hunger and poverty and marching on the path of development agenda.

The IBRD lends to governments of middle-income and credit worthy low-income countries. The second constituent of the group, the International Development Association (IDA) provides interest-free loans and grants to the poorest countries. Together these two institutions make the World Bank. Economic activities and economic development form the key to raising the standard of living of the people and meeting their aspirations for a better life. The International Finance Corporation (IFC), the third constituent, helps developing countries achieve sustainable growth by financing investment, mobilizing capital in international financial markets and provides advisory services to businesses and governments. Direct investment by a country or its companies in another country is a desirable form of investment for the latter. The Multilateral Investment Guarantee Agency (MIGA) was created in 1988 to promote foreign
direct investment into developing countries, with a view to support economic growth, reduce poverty and improve peoples’ lives. MIGA fulfills this mandate by offering political risk insurance (guarantees) to investors and lenders. The last agency to be added to this group is the International Centre for Settlement of Investment Disputes (ICSID). The World Bank is now a vital source of financial and technical assistance to developing countries. It is not a bank in the ordinary sense of the term, but a partnership managed by the member countries. It is a provider of technical assistance to support poor countries. While each of these five institutions has its own mandate, the group has set two overarching goals to be achieved by 2030. These are:

- **End extreme poverty by** decreasing the percentage of people living on less than $1.90 a day to no more than 3%.

- **Promote shared prosperity by** fostering the income growth of the bottom 40% for every country.

The World Bank Group has 120 offices worldwide. These offices keep track of the economies of the developing and poor countries and identify issues and problems in development so as to extend the required support as per its mandate. One of its functions is to bring out a document called *World Development Report* annually. Every such report focuses on a particular issue, which is the most relevant at that time concerning the world that needs attention for action. This annual report is a veritable source of information and recommendations to work on. It is a huge exercise with all the niceties of collection of information from across the globe, compilation of data, incisive analysis, making illustrations in lucid language with catchy graphics, and elaborating the theme into a compact volume of highest standard of content and form. It suggests and recommends solutions for betterment of lives, better management of resources, acts like a guide for policy making and formulation of action plan on the topic dwelt upon. The report also forms the basis for extending technical or financial assistance to the developing and poor nations. It is a highly valuable document in development literature.

A number of things have made this world a better place to live in. A series of discoveries and inventions over the centuries marks the path of human ascent. The internet connected the world in a web of instant communication. Information Technology gave remarkable speed and accuracy to the methods of doing things in almost all walks of life. In generic terms these are *digital technologies*. This is a set of technologies that have revolutionized the world. A technology is an enabling and facilitating tool and the result is the
benefit—the dividend, a very apt term used by the *World Development Report 2016*, which is the theme of the report. The report makes a convincing presentation that the digital dividends are in the form of growth, jobs, and services as the most important returns of the digital investments. It explores the impact of the internet, mobile phones, and related technologies on economic development. Part I of the Report shows that potential gains from digital technologies are high, but often remain unrealized. This Part dwells upon how digital technologies help businesses become more productive, people find jobs and greater opportunities; and governments deliver better public services to all. Part 2 proposes policies to expand connectivity, accelerate complementary reforms in sectors beyond information and communication technology (ICT), and address global coordination problems.

Why the World Bank Group chose this theme and what it suggests, recommends, and makes a case for? It says: “Digital technologies are spreading rapidly, but digital dividends—the broader benefits of faster growth, more jobs, and better services—are not. If more than 40 per cent of adults in East Africa pay their utility bills using a mobile phone, why cannot others around the world do the same? If 8 million entrepreneurs in China—one third of them women—can use e-commerce platform to export goods to 120 countries, why can’t entrepreneurs elsewhere achieve the same global reach? And if India can provide unique digital identification to 1 billion people in five years, and thereby reduce corruption by billions of dollars, why can’t other countries replicate its success? Indeed, what is holding back countries from realizing the profound and transformational effects that digital technologies are supposed to deliver?” The voluminous report is seminal exercise of the highest order to recommend policy formulation and action plans.

The report proceeds to drive home the point that: “*While the digital revolution has forged ahead, its analog complements*—the regulations that promote entry and competition, the skills that enable workers to access and then leverage the new economy, and the institutions that are accountable to citizens—have not kept pace. And when these analog complements to digital investments are absent, the development impact can be disappointing.” The report is highly evocative. It gives an account of the great progress made and at the same time it says that many are still left out because they do not have access to digital technologies. According to the study, nearly 6 billion people do not have high-speed internet, making them unable to fully participate in the digital economy. The digital technology has mass benefits and requires conscious
efforts to make it percolate. To quote from the report: “Full benefits of the information and communications transformation will not be realized unless countries continue to improve their business climate, invest in people's education and health, and promote good governance”. The analysis done for the Report threw up the finding that in countries where these fundamentals are weak, digital technologies have not boosted productivity or reduced inequality. Countries that complement technology investments with broader economic reforms reap digital dividends in the form of faster growth, more jobs, and better services. Any technology for mass application needs a supporting environment. The emphasis of the Report is that digital investments need the support of “analog complements” which consist of three essentials, namely, regulation so that firms can leverage the internet to compete and innovate; skills, so that people can take full advantage of digital opportunities; and accountable institutions, so that government responds to citizens' needs and demands. It says that digital technologies can, in turn, augment and strengthen these complements by accelerating the pace of development.

The report points out: “First, 60 per cent of the world’s population are still offline and can’t participate in the digital economy in any meaningful way. Second, and more important, the benefits of digital technologies can be offset by growing risks. Startups can disrupt incumbents, but not when vested interests and regulatory uncertainty obstruct competition and the entry of new firms. Employment opportunities may be greater, but not when the labour market is polarized. The internet can be a platform for universal empowerment, but not when it becomes a tool for state control and elite capture.”

The Report finds that the divide in digital access and use persists across countries. Only 15 per cent of the world's population can afford access to broadband internet. Mobile phones have reached almost four-fifth of the world's people, but even then nearly 2 billion people do not own a mobile phone and nearly 60 percent of the world's population has no access to the internet. The Report makes a case that digital technologies make for inclusion, efficiency and innovation. The innovation platform provided by the internet brings together job-seekers, travelers, entrepreneurs and artists with employers, airlines, hotels, investors and consumers by making available matching platform. The traders and senders of money find customers and recipients of money through e-commerce and digital payments.

It brings home that “market competition, public-private partnerships,
and effective regulation of internet and mobile operators encourage private investment that can make access universal and affordable. Public investment will sometimes be necessary and justified by large social returns. A harder task will be to ensure that the internet remains open and safe as users face cybercrime, privacy violations and online censorship.”

The takeaway of the Report- the main conclusion is very clear and convincing that the countries which have lagged behind in adoption of digital technologies “should formulate digital development strategies that are much broader than current information and communication technology (ICT) strategies. They should create a policy and institutional environment for technology that fosters the greatest benefits….they need to build a strong analog foundation to deliver digital dividends to everyone everywhere.”

The Report is very profound, intensive in its contents and exhaustive in its coverage, profusely illustrated with 74 boxes, 141 figures, 19 maps and 29 tables that highlight the findings, bear out the contentions and drive home the conclusions. Every chapter is followed by a highlighted sector focus and spotlight. The sector focuses cover application and impact of digital technologies on agriculture, e-health, smart cities, energy, and environmental management. The spotlights are on how the internet promotes development, digital finance, social media, data revolution, and six digital technologies to watch. These are i) Fifth generation (5G) mobile phones, ii) Artificial intelligence, iii) Robotics, iv) Autonomous vehicles, v) Internet of things, and vi) 3D Printing.

The Report is of absorbing interest as the reader is enlightened with nuggets for example, it graphically shows a typical day in the life of the internet:

As for India, the report has an accolade for the digital identification given to 1 billion people (Aadhaar Card). However, the report shows India still has a substantial number of people offline. India has been in the forefront of digital revolution. It launched the National e-Governance Plan in 2006. The ambitious national programme of Digital India, which is a programme for digitally empowered society and knowledge economy, has the vision of i) Digital infrastructure as a core utility to every citizen, ii) Governance and services on demand, and iii) Digital empowerment of
citizens. With these visions and spread of IT education and application India will sooner than later, be an example of a digitally forward country. In the words of Prime Minister Shri Narendra Modi, “I dream of a Digital India where access to information and knowledge knows no barrier.” The Report therefore harmonizes well with the Digital India initiative.

F.B. Khan
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OBJECTIVES

The main emphasis of the Institute’s work is to see that the local bodies can contribute more effectively to the development process and provide the citizens with better living conditions by meeting their aspirations in terms of required amenities, infrastructure and better environmental conditions, thus contributing to social and economic development of the society as a whole by better management of the human settlements. While these are the long-term objectives, the immediate ones are:

- To advance knowledge of the principles and practices of Local Government by conducting research and by organising training courses and programmes at various centres in India for officials and elected representatives in the local bodies.

- To strengthen and improve Local Government Institutions by improving their performance through education, orientation and bringing them together for common endeavor by organising specialised conferences, conventions and seminars.

- To make available a platform for members of local bodies and officials for exchange of views and ideas related to urban development and administration.

- To represent the views of local authorities supported by research work to the concerned higher authorities from time to time.

- To publish bibliographies, articles, books and other literature on matters of interest to local bodies.

- To publish journals, bulletins and other literature on different aspects of Local Government and on the working of Local bodies in different states.

- To undertake research studies in public administration, problems of local bodies and also in related topics of urban and environmental factors and arrange for their publication etc.

- To establish and maintain an information-cum-documentation service for local bodies.

- To undertake consultancy assignments in various areas of urban development and problems of local bodies with a view to improve and develop organisational, managerial and operational efficiency.

In view of the above, the Institute has been collaborating with the relevant government departments, Central and State, Universities, Organisations and Research Institutions. The work of the Institute covers several aspects involving a multi-disciplinary teamwork.
Democracy Promotion through Decentralization of Powers in India

Role of Urban Local Government: A Study

Rural Development Policies and Programmes in India

Tribal women’s participation in Panchayati Raj: Enhancing their socio-economic-political status

Occupational Structure of Migrant Workers: a Literature Survey

Biogas Technology for Decentralised Waste Management - a cost effective green building measure

Towards Sustainable Mobility: A Critique of CMP for Tri-city, Chandigarh