Role of local governments in fostering the transition to sustainable lifestyles and livelihoods and improved well-being

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Abstract

Unsustainable patterns of consumption and production, including inefficient use of resources, contribute significantly to the challenges of climate change, land degradation, air and water pollution, depletion of non-renewable resources, poverty and hunger. The move towards sustainability can only be ensured if the inhabitants of this planet embrace lifestyles and livelihood behaviours that ensure the wellbeing of all people in an equitable manner while conserving the ecology for both current and our future generations. However, there is a dichotomy of social existence in emerging Asian countries like India and China where there is lopsided income distribution, leading to conspicuous consumption by the rich, an emerging consumer (particularly the middle) class against the many slums in cities and large pockets of poor rural areas where the livelihoods of the poor are being threatened to accommodate the lifestyle patterns and the development projects. Governments are using different kinds of instruments (policy, legislation, fiscal mechanisms and public investments) along with the emphasis on voluntarism. But what is needed in ensuring the accountability and effectiveness of these instruments is a bottoms-up approach. Role of local government in this regard is important due to their close proximity to citizens and their better position in terms of understanding the needs, challenges, and opportunities, influencing consumers' behaviour and fostering the transition to sustainable lifestyles and livelihoods and improved well-being. Local governments are also used to engaging and cooperating directly not only with consumers but also with other levels of governance and economic and social actors, including businesses who are important livelihood creators, academia and NGOs who can all work together towards a common strategy of transition to sustainable lifestyles and livelihoods and improving well-being. Local governments can bring together various stakeholders with different resources and skills and complement national government functions. This paper explores efforts by the local governments in India and neighbouring countries at designing mechanisms for encouraging sustainable lifestyles and identifying the gaps that can be filled

through the use of some innovative mechanisms based on learning from the experiences of other countries.

1 Introduction

Rapid economic growth in countries such as India and China in the last two decades has not only lifted millions out of poverty but simultaneously set the stage for fundamental changes in country's demographics with increasing average household incomes and emergence of a new "middle class" which is the fastest growing segment of the population having its own distinctive lifestyles, consumption patterns and social identity. This is altering the nature and scale of impact on the country's environment and natural resources. The ecological cost in terms of quantity and quality of natural resources available as inputs into the production process and consumption, as well as the ability of the environment to absorb the waste by-products deposited in the air, water, and soil is significant. There is a looming threat to the sustainability of the country's economic growth as the carrying capacity of the natural ecosystems on which country's economic growth depends is being increasingly pressurized. Besides, there are further costs of the spread of consumerism and associated environmental problems including limits to agriculture and industry caused by resource (land and water) scarcity and increase in health problems resulting from rising pollution levels.

Unsustainable patterns of production and consumption have been identified as a significant contributor to the environmental degradation. Agenda 21 (which was the blue print for a plan of action proposed for sustainable development, formulated at the United Nations Conference on Environment and Development, Rio de Janeiro in 1992) mentioned,

'The major cause of the continued deterioration of the global environment (as well as social and economic welfare) is an unsustainable pattern of consumption and production.'

"Because so many of the problems and solutions being addressed by Agenda 21 have their roots in local activities, the participation and co-operation of local authorities will be a determining factor in fulfilling its objectives."

Further as part of the Millennium Development Goals (MDGs) which were agreed by 189 governments in 2000 in response to the world's most significant development challenges and with an objective to achieve sustainable development by 2015, goal 7 is that of *'Ensuring environmental sustainability'*.

In India, the changing consumer lifestyles and attitudes are shaped by recent changes in the socio-economic structure post liberalization and are the most visible representation of India's integration with the global world, and transformation of its behaviour and cultural adaptations towards the west. It has been characterized by shifts in patterns of urban development such as rise of shopping malls and housing societies, increased demand for healthcare and education, indulgence in recreational and leisure activities, increasing heterogeneity of tastes and preferences, and changes in aesthetic and cultural practices, which have been reshaping not only the major

metropolitan cities, but also spreading to smaller cities and towns of the country.

Sustainable production and consumption involves business, government, communities and households contributing to environmental quality through the efficient production and use of natural resources, the minimization of wastes, and the optimization of products and services. One of the most widely accepted and referred to definition of sustainable production and consumption is given by Symposium: Sustainable Consumption. Oslo, Norway; 19-20 January 1994 and is as follows:

"Sustainable consumption and production (SCP) is the use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations."

Sustainable production and consumption is needed to: (a) improve quality of life and provide basic needs for all, including access to food, shelter, health, and education services; (b) decouple economic growth from environmental degradation while maintaining the carrying capacity of ecosystems.

Governments and other stakeholders can be motivated and supported to promote sustainable consumption production practices by informing them of the needed information and examples to adopt such practices. Government at all levels (national, state and local) is placed well to coordinate a collective approach to change towards sustainability through an enabling policy framework. But since the local governments stay close to the citizens and understand their real needs, they may be in a better position to respond to those needs compared to other sub-national and central government. Their work can further be supported by the business sector and industry associations, NGOs and grassroots community groups.

In this context, chapter 4[i] of the Agenda 21that defined the action plan needed to achieve sustainable development recognized the important role of local authorities in this regard in terms of acting as a community leader, supporting sustainable communities and delivering sustainable services and operations in their areas. Since then, a growing number of local governments have initiated efforts to create more sustainable communities and recognizing their responsibility for the well-being defined in terms of their economic growth, social welfare and environmental quality. Local governments are also responsible for the provision of a wide range of public services often delivered in partnership with other public sector agencies including parastatal organizations, private sector, NGOs and international partners. They can promote energy efficiency through provision of adequate and specific budget provisions for various energy conservation initiatives, introduce by-laws to facilitate the implementation of these initiatives or engage in capacity development programs on energy conservations for their area people. They can also provide support for conducting energy audits and enforce energy saving measures in their jurisdiction.

In the rural area in particular, the local government in the form of the *'village panchayat'* that are grass root level institutions can play an important role in terms of managing and utilizing natural resources, maintaining the basic infrastructure for economic activities, implementing government development programs, providing housing sanitation facilities, facilitating people participation through in decision making process, collecting information and monitoring the implementation of (sustainable)developmental plans and raising awareness among villagers about global and health issues[ii].

In a study by IGES (2010)[iii] the role of local government working on sustainable consumption issues is discussed. The paper highlights the facilitation and enabling role of the local government through provision of information, finance and capacity development so that other local actors such as NGOs can implement activities, thus better utilization of local stakeholders' grassroots networks and mobilisation capacity. It also points out that it is important for the local government to incorporate local social, environmental and economic interests and concerns into new initiatives of sustainability projects and programmes during their design and formulation stage

Local government also needs to engage with their communities and encourage participation in decision-making, while considering the needs of people who are currently living there and those who will live there in the future. They are also considered as agents for implementing national and international policy and are responsible for initiating new ideas and approaches for sustainability. Innovative schemes[iv] could be designed which encourages the community to adopt more sustainable lifestyles.

The Zero Draft of the Outcome Document for Rio+20 *acknowledges the essential role of local governments and the need to fully integrate them into all levels of decision making on sustainable development*[v]

In the following sections of this paper, we highlight through brief discussions some of the important areas in which local government can play an important role.

2 Bulk procurement of green products by local government/green public procurement (GPP)

If local governments engage in purchasing some "green" products as part of their public procurement strategies, this will improve the reliability of the products because of the size of their purchases and will also promote the development of suppliers' green products. For example, governments can substantially alter demand for hybrid cars or energy efficient appliances. This level of buying power has significant potential to accelerate market transformation toward energy-efficient products, especially if all local government buyers pursue this strategy which can give a clear market signal to manufacturers and vendors through their bulk orders.

As a recruiter of businesses, local government can play a major role in importing green energy companies to set up operations in their localities[vi]. For this local government could allow some temporary tax credits (commonly the renewable energy tax credits) as incentives to the foreign companies.

In many cases, production of green products may require heavy initial costs and thus to recover these costs, demand may play an important role. Local government through their bulk procurement can create the critical amount of initial demand and the public sectors can bring down the cost of green products that happen to be more expensive than conventional ones. This often removes the barrier of cost and promotes green purchasing by the private sector and consumers.

Local governments play an important role in expanding the availability of green products in local areas. For example, in the case of recycled paper, if the local governments establish a policy to purchase the recycled paper on a regular basis, this can create a sorting chain where the local distributors or printing companies are not engaging in recycling on a regular basis, absence of which increases the cost and delivery time. This would also encourage the local suppliers to actually plan for and supply the products on a regular basis and be able to have the products in stock. This also means that it would make it easier for private enterprises to purchase recycled paper.

Local governments also engage in efforts to expand their buying of recycled programs into broader environmentally preferred purchases (EPP) initiatives. EPP advocates within each of these programs research and provide environmental product information, then work with individual purchasers to encourage the purchase of environmentally preferable products when available. In the state of Ohio in US, the state decided to build on its buy-recycled success, which included purchasing more than $3.1 million in recycled-content products in 1997[vii].

Japan is a good example in the direction of green public procurement/green bulk purchasing. There is a law enforced since 2001 concerning the promotion of eco-friendly goods and services by the government authorities. All state institutions are obliged to purchase designated procurement items and as per the statistics, 12% of the designated cities and 68% of local governments and cities undertook green purchasing.

In case of India, there are many barriers to Green public procurement. Firstly there is no regulatory push to promote green purchasing for the local government (and other buyers). Secondly, the procurement staff often are not fully aware of the environmental issues and so do not integrate them into their purchasing decisions. They also have limited awareness and understanding of ‘green procurement’. Thirdly, the procurement process is often very complex and evaluating a product to be greener can be difficult. Fourthly, there is limited availability of data (related to procurement and environment) and systems in place to support effective reporting and performance measurement.

Thus to encourage this, various stakeholders-government, industry organizations like CII, FICCI and ASSOCHAM, consumer organizations, NGOs, academia, research institutions and sector specific institutions will have to play a joint role in evolving easy to understand GPP criteria, understanding market readiness and barriers to deliver green products, ensure availability of green products and creation and dissemination of green purchasing information.

3 Encouraging green building initiatives

With the real estate sector growing at a rapid pace in developing countries like India and China, adopting green approaches to planning, designing and operating buildings and developments to accommodate growing populations that will help promote resource efficiency will play a crucial role. Green building principles encompass all aspects of sustainable development and enable cities to understand and control their small- and large-scale impacts on land use, water, energy, air quality, material resources and human health. Green buildings offer substantial environmental benefits, such as "lower pollution from reduced energy use, reduced water consumption and wastewater output, reduced solid waste creation, cleaner outdoor air reduced 'heat island' effects, and improved health of building users[viii]." Promoting green building also enhances the health, safety, and welfare of a municipality's citizens and in turn can increase citizen satisfaction and retention[ix].

Local (and regional governments) are in a unique and often advantageous position to implement green building and urban design policies that will influence approaches to sustainability in the building sector. As buildings are responsible for approximately one-third of the earth's greenhouse gas emissions, the impacts are significant and quantifiable. Thus the local government can use their position to incentivize green development that will create a more sustainable living environment. Popular incentives that the local government can offer to real estate developers are direct monetary encouragement in the form of tax rebates, fee waivers, or grants[x]; or intangible incentives such as faster permit processing and limited property tax abatements[xi], followed by "density bonuses" and faster development plan review. A combination of these could also be used. Local governments can also partner with utility service providers to offer reductions in the costs of providing service in exchange for the construction of certain green building features.

GRIHA is India's National Rating System[xii] for Green buildings, which has been developed by The Energy and Resources Institute (TERI) and endorsed by the Ministry of New & Renewable Energy (MNRE). It was developed as an indigenous building rating system particularly designed to address the climatic requirements in the country, and it promotes the use of traditional architectural techniques and is synchronized with government policies and programmes. It provides an evaluation method to design, build, operate and maintain a resource efficient built environment. It can be applied to commercial, institutional, and residential buildings. It attempts to minimize a building's resource consumption, waste generation, and overall ecological/environmental impact by comparing them to certain nationally acceptable limits and benchmarks. The unique characteristic of this rating system is a single window process from design to rating because of its compliance with all major environmental and building codes of India. In 2009, it was mandated that all central government and public sector unit buildings be built with a minimum of GRIHA 3- star rating. As of today, over 140 projects have undertaken GRIHA registration. Since GRIHA was introduced, more than 150 green building projects totaling 7.5 million sq m have been registered under it. Eight of these have received certification, and another eight that will be certified this year.

Local governments (municipalities) in India have shown keen interest in adoption of GRIHA in cities. City of Pune in the state of Maharashtra in India has been on the forefront of these initiatives with 20 projects being under way in Pune and the Pimpri Chinchwad Municipal Corporation region, which has made it mandatory for all new projects to conform to GRIHA.

The local government can support the initiatives by organizing awareness, training and advocacy programmes for greater adoption of GRIHA in cities. The fast track environmental clearance routed through GRIHA registration and pre-certification have been good incentives to adopt these ratings. The owners of GRIHA compliant buildings shall receive a 10% rebate in property tax. GRIHA registered and pre-certified projects also qualify for a Fast Track Environmental Clearance, which is a mandatory requirement for projects more than 20,000 square metres. It is extremely important for the local government to in incentivize this rating system for commercial and high rise buildings (energy guzzlers such as hotels, shopping malls, and large institutions).

Local government can also pass bye-laws (set of mandatory and voluntary guidelines) or use market instruments like subsidies for encouraging the use of renewable/recyclables/low energy embodied energy materials in the buildings sector

However, it is important to address issues related to compliance- the local governments need to ensure that developers are not receiving incentives without complying with the applicable green building standard[xiii]. The enforcement or compliance mechanism employed is dependent upon the type of incentive offered.

4 Promoting sustainable tourism

The World Tourism Report defines sustainable tourism "as a model form of economic development that exemplifies stewardship of environment and sensitivity to community and cultural aspirations." It also accounts for both the conservation and preservation of the physical and cultural environment of a particular region. Hence, under sustainable tourism natural resources of the locality are to be located within the parameters which would not degrade the natural assets and the traditional livelihood of the community. Sustainable tourism encourages the community members to set the pace and direction of tourism development in a manner consistent with their lifestyle and tradition in order to respect the cultural heritage of every region. Integrated .community participation between the local people, the local government and national level plan makers has to be adopted.

Local government plays an important role for many local economies in the sphere of tourism, particularly as the federal structure becomes more decentralized. Their policies such as zoning, environmental regulations, economic incentives and license grants have an effect on sustainable tourism development and they are more situated to avoid, remedy or mitigate the sector's potential socio-economic and bio-physical effects. They are responsible for the legislative framework, and the planning system, within which tourism businesses operate. They create enabling communities to look after their places, and their natural and cultural environment, to ensure that tourism brings more benefits to local communities than harm. They may also try to integrate tourism policies within the overall policies and actions towards sustainable development in the area. They are responsible for providing infrastructure and amenities that are required by the tourism sector and they can try to provide these in a sustainable manner.

Some of the SCP actions in this sector related to the local agenda 21 include[xiv]:

Improved environmental planning in the tourist destination-in terms of location and careful design of new development, rehabilitation of the built environment, provision of environmental control measures and relevant local services, such as monitoring and improving air and water quality, waste management and recycling

Promote more sustainable transport- by encouraging use of greener transport for tourists

Helping tourism enterprises- to reduce their energy and water consumption, waste generation and management, encouraging the use of local products

In the state of Kerala in India, the state government has worked with the local panchayat (elected village councils) to increase the benefits flowing to local communities, creating opportunities for farmers to sell fruits and vegetables to the hotels and resorts, to encourage tourists to buy local arts and crafts and to take guided excursions which create authentic experiences for the tourists and economic opportunities for the local communities.

5 Recycling initiatives by local government

The rapid pace of urbanization and changing lifestyles increases the consumption of products that have shorter life spans and higher volumes (paper, plastics, and the like). These products, as well as changes in food choices, are adding to the volume of waste burdening municipal authorities. The popular concept of "waste reduction, re-use and recycle", often referred to as "3R", becomes important in this context. This concept calls for an overall reduction in resources and energy used, increase in the ratio of recyclable materials and further reuse of raw materials and manufacturing wastes. Local government can influence recycling through various policies which include landfill bans, mandates, incentives, and disincentives, subsidies, deposit laws, advance disposal fees, packaging policies, producer responsibility laws, low-interest loans, grants and tax breaks or through government campaigns and awareness generation programmes that encourage eco-friendly consumption habits. Many countries across the world have seen such initiatives being introduced.

The Phitsanulok municipality in Thailand carried out a number of waste management initiatives using the 3R approach which have helped to reduce

the amount of waste for final disposal, thereby mitigating environmental impacts and GHG emissions. As a strategy, the municipality decided to make waste management a priority area in several departments. It educated residents through a door-to-door campaign and by making public announcements. The municipality then reduced the budget for automatic street sweepers by 70 per cent, creating new jobs for residents. In addition, public-private partnerships were established to promote recycling and decentralized composting of household waste. In another city- Rayong[xv] in Thailand, to address the difficulties in handling increasing amounts of municipal solid waste (MSW) resulting from rapid economic development and a growing population, the city government adopted an integrated plan for a community-based waste management scheme including recycling, production of organic fertiliser, and production of biogas to generate electricity.

In the Naga city of Philippines, the city government aimed to integrate the local waste management issue with global climate change mitigation. The city started a project that focused on developing materials recovery facilities (MRF), which aim to reduce, reuse and recycle waste, by composting biodegradable wastes and separating valuables (Aquitania 2008[xvi]). The MRFs were pilot tested in nine out of the city's 27 districts, though only two are in operation now; the other seven become inactive due to changes in district leaders and their agendas. In the two successful cases, support of local leaders, good management by the district office, and monitoring support by the local NGO were important factors. In addition with the national Local Government Code that gave authority to local governments to establish their own solid waste disposal system and facilities related to general hygiene and sanitation. This also improved livelihoods and reduced health hazards for the waste collectors.

In India local governments bear the sole responsibility for solid waste management in India. According to the 74th Amendment Act of 1992, the Constitution empowers urban local bodies, known as Municipal corporations, Municipal Councils, or Nagar Panchayats depending on the size of the population, "by giving them independence, authority, and power to impose taxes, duties, tolls, and fees for services including public health, sanitation, conservancy, and solid waste management''. Some Local municipalities have recognized the potential of recycling to reduce the amount of waste going to landfills and are involved in recycling. They set up composting plants or support the recycling activities of nongovernmental organizations (NGOs).

In the city of Mumbai in India, that generates a lot of construction waste joined hands with the Youth for Unity and Voluntary Action (YUVA) for the problem of debris management. The initiative got the support of the City and Industrial Development Corporation (CIDCO), the landowning and planning authority of Navi Mumbai and has engaged in recycling more than 1500 metric tons of waste since 2005. The debris is recycled into construction material such as bricks and interlocking pavers[xvii].

6 Promoting renewable energy and energy efficiency

Integrated industrial development, regulation and education to promote solar power, Rizhao, China: In the coastal city of Rizhao in China, with one of the lowest per capita incomes in the region faced expected energy and environmental constraints under rapid economic growth. The local mayor decided to implement strong policies to promote renewable energy, focusing on solar power, including provision of financial support for research and development by local solar panel industries. The provincial government also subsidised research and development for the solar water heater industry, use of which was then spread through regulatory and public education policies. The city government required all new buildings to install solar panels, and it monitored construction activity to ensure implementation and conducted open seminars and television advertisements to raise the public awareness. The first solar panels were installed in government buildings and the residences of city government senior officials.

Indian cities have begun to realise the importance of renewable energy sources and energy efficient technologies as an effective and sustainable solution to the social and environmental problems resulting from the consumption of fossil fuels. Local government is using a mix of policy instruments-legal, fiscal and financial, persuasive and demonstration projects to promoting energy efficiency and renewable energy in their respective communities.

Many local governments are amending their building bylaws to facilitate installation of solar water heaters. The Municipal Corporations of Bangalore, Rajkot, Pune, Nagpur and Thane have already made the necessary amendments. Bureau of Energy Efficiency (BEE) of the Government of India has prepared the 'Energy Conservation Building Code 2006' which can be used by the local governments for approval of new buildings. The purpose of this code is to provide minimum requirements for the energy efficient design and construction of building.

One of the major barriers in the adoption of energy-efficient appliances is the high upfront costs for the consumers. They may also not be aware of the options available. In addition to this, the shopkeepers are largely ignorant about the consumption characteristics of the equipment sold by them. Manufacturers are reluctant to manufacture these appliances as they may have a low demand. This hinders the penetration of energy efficient appliances and technologies. Local government could create awareness about these appliances. They can further encourage energy conservation within their municipal limits by providing efficient street lighting in the city, and encouraging energy-efficiency measures in activities of the municipalities like water pumping for the supply of water, treatment of wastewater etc.

In its effort to promote renewable energy and energy efficiency in the urban environment in India, the Solar Cities Program of the Ministry of New and Renewable Energy (MNRE) targeting 60 cities in the Eleventh Fiver-year plan was introduced. The objective is to promote energy efficiency and renewable energy by supporting cities in becoming a driving force for local energy innovation and investment. Within this framework, ICLEI[xviii] South Asia (SA) and the MNRE have prepared a Guidebook for Developing a Solar City. In the state of Maharashtra, ICLEI SA is working with Thane, a city[xix] that aims to be one of India's first solar cities and has committed to a

10 per cent citywide energy reduction over five years while simultaneously promoting solar energy utilization.

Biogas, derived from animal wastes and other biomass, is a cost effective and climate friendly renewable energy source in rural areas, particularly for cooking and lighting in developing countries in China, India, Sri Lanka and other countries that have suffered from poor systems design and lack of maintenance. More recent designs are more reliable and convenient to maintain and better integrated into farming and household systems[xx].

Fiscal and financial incentives by the local governments are also being used. For example, Thane Municipal Corporation has introduced an incentive through a 10% reduction in property tax for those owners that install solar water heating systems.

Persuasive and information instruments can be another important way that local governments could resort to accelerate the development and deployment of renewable energy and energy efficiency programmes in communities. Workshops are conducted by the municipal corporations in cities for the concerned stakeholders-housing societies, builders, developers and architects. In addition cities of Bhubaneswar and Nagpur have established resource centre on renewable energy and energy efficiency to create a focal point for related activities in the city and generate awareness amongst citizens.

7 Challenges faced by local government

Although local governments have substantial power to implement sustainability programs, they face considerable challenges. They like the government at the national and other sub-national level are confronted with a number of political issues and objectives– economic prosperity, equitable distribution of wealth, provision of social and protective services and a high quality of the environment. Local governments, especially those that heavily rely on national government for their financial resources, are faced with many tradeoffs which include that between the economic and social needs of its people and the protection and improvement of the quality of the physical environment. Some local governments have recognized the inter-linkages between these needs for example the positive contribution of environmental quality and citizens' health and well-being to the overall economic condition of their jurisdiction. What is thus needed is an increased awareness and recognition for a balanced spatial structure that is conducive for economic activities and socially and environmentally suitable for people's living.

Local governments may find it difficult to select between the identified choices available in terms of their social and environmental impact and cost effectiveness and may make wrong choices. Since they are also always balancing high priority policy goals against significant resource constraints, they also need to know what should be done immediately and what can wait.

Increasing awareness at local and regional level on various aspects of sustainable production and consumption, including the importance of tools like Life Cycle Assessment (a tool for the systematic evaluation of the environmental aspects of a product or service system through all stages of its life cycle), through training and workshops is essential. This will help them

to incorporate the sustainability concerns in their behaviour and policy formulations.

The local government initiatives may get subjected to significant corruption which will make it difficult to enforce norms and standards. Further to establish these norms and standards, public authorities need to have all the relevant information, which at times is difficult. They may also face lack of human and technical capacity. Government failures may occur due to the weak institutional capacity for monitoring and using economic instruments and absence of enforceable pollution standards.

Thus an institutional framework with clearly defined authority and well-trained government officials will be required for effective monitoring and enforcement is required.

8 Case for collaboration with businesses and civil society

The challenges highlighted in the previous section suggest that the local government as a single actor may not have the capacity to achieve the scale of change required without the support of others. There exists contrasting rationalities of environment and development which require multi stakeholder participation. NGOs and other civil society groups have an important role in ensuring that `participatory' approaches to sustainable development. Local governments can be a critical input for well-designed community based initiatives. Businesses can perform governance functions by establishing new norms and institutions, and mediate and influence regime formation and implementation. Indeed, the collaboration between local government, businesses and civil society will play an important role in realizing a vision of a more just and sustainable world. Through this collaboration, they can channelize their efforts, provide support to each other and work together to develop and apply the right policy mix that transforms the existing unsustainable patterns and lifestyles, thereby avoiding a number of unintended consequences.

In the Zero Draft of the Outcome Document for Rio+20, need for engagement of the civil society and local government has been highlighted.

'It is important to enable all members of civil society to be actively engaged in sustainable development by incorporating their specific knowledge and practical know-how into national and local policy making'

Government through its policy measures that include command and control, market based and information based can promote sustainable consumption production but there is also a need for voluntary actions by consumers, the businesses that service them and the organizations of civil society.

Also despite the existence of clear legislations to promote sustainable consumption production, there may be weakness in monitoring and enforcement due to lack of capacity. Here collaboration with civil society representatives by making them a part of this monitoring and enforcement mechanism and financial support from the businesses to address the capacity constraints will enhance the effectiveness of the legislations.

Sustainable water management requires collaboration between government, businesses and civil society. Local government needs to work

in cooperation with businesses to ensure that the abstraction of water by the latter from natural resources and their use of water services does not interfere with the provision for the poor or make it difficult to provide services to them. Cities[xxi] in India are moving towards public-private partnership contracts for water and wastewater sector.

The local government through its ability to set policy goals can also dictate procurement of energy in terms of the share of electricity coming from renewable resources and the availability of funding for research and development. Collaboration with the business sector here will also be beneficial. Energy Service Companies (ESCOs) offer advice and assistance on reducing energy consumption to industry, organizations and residential buildings. In the state of Gujarat in India, a programmer by the Ahmedabad Electricity Company (an ESCO) on leasing of high-efficiency equipment was started. Under these high-efficiency fixtures like energy efficient tubes and electronic ballast were leased. The involvement of the utility helped to build consumer confidence in the quality of device and the consumer could pay the capital cost over a long period through the savings achieved. The initial investment was done by the ESCO-which then made this a no-cost affair for the utility. In a span of two years, over 50000 appliances were distributed under this programme.

In another case, in the state of Karnataka, Bangalore Electricity Supply Company (BESCOM) started an Energy Efficient Lighting Programme. Under this consumers were able to purchase CFLs from the market against utility coupons and repay the cost through the utility bills. The consumers received double benefits-CFL cost was lower due to the bulk purchase done by the utility and the consumers could repay the cost through the savings achieved by the use of CFLs. Reputed CFL suppliers were selected through tenders and one year warranty was provided on the appliance. This initiative covered 1.3 million residential consumers.

The attitudes of consumers and their preferences and lifestyle patterns are important drivers of corporate behaviour, through both market demand and their perceptions about the business sector. Companies are increasingly working with environmental organizations and other elements of civil society to demonstrate environmental concern and social responsibility. Voluntary commitments by the business sector to public and community welfare are becoming more common, through codes of conduct, recognition of their corporate social responsibility (CSR) and environmental marketing and labelling.

Local governments, looking for funding to support energy and waste reduction projects, can look for funding support from the businesses at times through the use of various kinds of public private partnerships based on contractual arrangements. An example can be seen from the case of city of Los Angeles which has partnered with several investment banks to take loans that will be used to fit 140,000 energy efficient street lights and the loans will be repaid with the savings from reduced electricity bills[xxii].

Local government can provide the required financial support to trace the impacts of consumption and quantify them which can then be used to set targets and monitor the progress towards these targets can learn a great deal

from how government works with the various stakeholders when working on implementation of their green initiatives.

Public-private partnerships can be developed to strengthen the capacity building and transformation towards sustainable consumption production by creating structural and behavioural changes. Industry associations and NGOs in partnership with various governmental organizations can act as a catalyst in this transformation.

9 Conclusion

To conclude the discussion, it can be seen that there is an important role for the local government in encouraging sustainable consumption production and fostering the transition to sustainable lifestyles and livelihoods and improved well-being. The challenges that are being faced in transition require a much greater engagement with the local government through the channel of distributed governance. They are the closest sphere of government to the citizen, understand their real needs, and thus they may be in a better position to respond to those needs compared to other sub-national and central government. Collaboration with businesses and civil society will be crucial in addressing some of the challenges that the local government acting by itself would face.

But this does not lessen the importance of coordination between the national, sub national and local levels for designing meaningful policies.

Endnotes

[i] Chapter 4 of Agenda 21 “Changing Consumption Patterns”, focuses on the unsustainable patterns of production and consumption, and developing national policies and strategies to encourage changes in unsustainable consumption patterns. It highlights the need for reorienting consumption patterns towards sustainability, and present strategies for achieving required goals. Chapter 4 has also mentioned that the major causes of the continuing deterioration of the global environment are the unsustainable patterns of production and consumption.

[ii] Refer http://iesenvis.nic.in/pdf/Vol-XIV-NO-I-2011.pdf

[iii] Refer http://enviroscope.iges.or.jp/modules/envirolib/upload/2810/attach/iges_whitepaperiii_e_c05.pdf

[iv] A useful scheme that encourages sustainable consumption at the local level is the Nu Spaarpas scheme in Rotterdam, the Netherlands. This scheme was launched in 2002 and it gives the consumers green points when they separate waste for recycling, use public transport or purchase locally-produced, fair trade, or green products. The points can be redeemed for public transport tickets or discounts on sustainable goods. In this way, incentives were provided to change consumption behaviour when both earning and spending the points. Such schemes could be replicated in other countries as it encourages sustainable consumption in various spheres.

[v] Refer http://www.uncsd2012.org/rio20/content/documents/370The%20Future%20We%20Want%2010Jan%20clean%20_no%20brackets.pdf

[vi] In 2004, in the city of Pittsburg, the local government announced that a Spanish wind energy company would build its America headquarters in Pennsylvania

[vii] Refer http://www.epa.gov/epp/pubs/case/statenlocal.pdf

[viii] Benjamin S. Kingsley, Making it Easy to Be Green: Using Impact Fees to Encourage Green Building, 83 N.Y.U. L. Rev. 532, 537 (2008)

[ix] BuildItGreen.org, Roadmap for Local Government, Overview of Green Building, available at http://www.builditgreen.org/files/uploads/Local%20Governments/RoadmapPart1.pdf

[x] U.S Environmental Protection Agency Region 5, Using Incentives to Promote Green Building Practices (July 31, 2008); http://www.nemw.org/Incentives2PromoteGreenDevMtgSummary.pdf.

[xi] Or a differential property tax system, wherein the users who incorporate green buildings features could be offered some rebate in the property tax they have to pay.

[xii] The United States Green Building Council (USGBC) designed the Leadership in Energy and Environmental Design (LEED) program in the early 1990s. LEED is a rating system designed to provide uniform standards by which to evaluate and certify green design.

[xiii] Lo Baugh et al., supra note 1, at 29.

[xiv] Refer http://www.unep.fr/shared/publications/pdf/3207-TourismAgenda.pdf

[xv] The city also joined the ICLEI Cities for Climate Protection (CCP) programme with strong support of the incumbent and former mayors, and committed to reduce CO2 emissions by 15% from the household sector.

[xvi] Aquitania, Victorino E. 2008. Study of practice diffusion and adoption process under the CCP program in the Philippines. Hayama, Japan: Institute for Global Environmental Strategies.

[xvii] Zhu, et.al (2008) Improving Municipal Solid Waste Management in India :A Sourcebook for Policy Makers and Practitioners

[xviii] ICLEI-Local Governments for Sustainability is the leading non-profit membership organization that has been devoted to local governments engaged in sustainability, climate protection and cleans energy initiatives with an objective to make their communities better places to live in. These communities become greener, more efficient, healthier places and the impacts are felt at the local level. ICLEI was instrumental in the drafting and inclusion of Chapter 28 of Agenda 21, which mandated local governments to undertake a local Agenda 21. It developed modules and technical trainings to capacitate municipalities in engaging in LA21 processes.

[xix] Besides Thane, ICLEI is working with local governments in 41 other cities in India.

[xx] Refer “Biogas Bonanza for Third World Development”, June 2005, www.isis. org.uk/BiogasBonanza.php

[xxi] One example is the city of Bangalore where the Bangalore water supply and sewerage board (BWSSB) is negotiating contracts for operation and management of two pilot areas, where the private operator will be responsible for the water supply, sewerage collection and treatment, revenue collection and customer relation, including grievances in these two areas. BWSSB will continue its responsibility for service delivery to the rest of the city.

[xxii] Refer http://www.guardian.co.uk/sustainable-business/blog/public-private-partnerships-environmental-initiatives