

Chairman's Message





Dear Members and Colleagues,

Happy New Year to you all. I hope you celebrated the start of 2017 in good spirits with Family and friends. Now that we are a few days into the New Year, let me take this opportunity to look ahead and think about the endeavours that we intend to embark upon. But first, let's have a look back at the activities and important milestones that we have achieved during the last year.

2016 was quite a year for all of us at AMDA, which experienced concerted efforts from all concerned to effectively deliver programmes and offer meaningful solutions to its members. I am happy to announce that AMDA has continued to act as a forum of true partnership amongst Municipalities and Development Authorities and has actively engaged in connecting and empowering the Urban Local Bodies. To name a few, AMDA organized a Workshop on Urban Management in June 2016 to discuss the key challenges and implementation strategy of Urban Mission of the Ministry of Urban Development, Govt. of India. The overall objective of the Workshop was to familiarize the people working with the Urban Local Bodies with various urban schemes and thus to build their capacities to facilitate better implementation of these schemes such as Smart Cities Mission, AMRUT, Swachh Bharat Mission, Housing for all Mission, etc. The Workshop was graced by then Hon'ble Union Minister of State for Urban Development, Shri Babul Supriyo and experienced wide participation and active discussion.

Of course, there's still a lot of work ahead. In order to achieve the goal of improving urban settlements, it is imperative to build capacities of the urban managers, among other things. I am sure in this year also, AMDA will actively engage in bringing together all stakeholders and will play a pivotal role in extending support by disseminating shared knowledge & ideas. AMDA will also assist its members in formulating appropriate policies & strategies with its cutting edge research and studies. In order to assist the Governments at various levels, urban projects will also be taken up, deploying AMDA's decades-long knowledge base and experience. I sincerely hope that the close-knit network of Municipalities and Development Authorities will further be strengthened and expanded in this year, so that the forum gets even better for sharing knowledge, ideas and concerns.

Finally, I would like to thank Team AMDA for their dedication and hard work over the past year in making AMDA's endeavours a grand success. I am convinced that in the coming year also, we will continue to work together towards the common goal to focus on the concerns of Municipalities and Development Authorities and facilitate improving the quality of life in urban arrears. A am sure, with cooperation and dedication from all, we can usher in a new paradigm in sustainable urban management to make our cities more liveable.

I look forward to very productive year ahead, and wish you all a very Happy New Year.

B K Tripathi Chairman AMDA & Member Secretary, NCR Planning Board



I	Gas Recovery from sanitary landfill at Ghazipur for use as CNG/Power Pradeep Kumar Khandelwal, Chief Engineer		
II	The Importance of Strong Government Support in Success of Public/Private Partnership in Enabling Shelter Strategies United Nations Centre For Human Settlements (Habitat)	pg 07	
III	AMDA Updates	pg 10	
IV	Members List	pg 11	

Editor In-ChiefB K Tripathi
Chairman, AMDA

Editor Shri V. P. Sharma Admin-cum-Accounts Officer **Team in Support**Renu Rana *Training Coordinator*

Gas Recovery from Sanitary Landfill at Ghazipur for use as CNG/Power

Pradeep Kumar Khandelwal, Chief Engineer, East Delhi Municipal Corporation, Delhi

1.0 Introduction:

illions of Tons of Municipal Solid Waste (MSW) is generated daily across the world. The MSW is disposed off in landfill sites. The MSW starts degrading under anaerobic conditions and generates Landfill Gas (LFG). The LFG principally contains Methane (40-50%) and CO_2 (50-60%) and other minor constituents like H₂S in ppm level apart from few micro constituents. The Developing countries are disposing their MSW in open dump yards (which are not scientifically managed) leading to uncontrolled emissions of LFG to atmosphere. The Methane in the LFG is a potential Green House Gas (GHG), considered 25 times more potent than CO₂ in causing Global Warming. Methane emissions from waste handling are the 2nd largest anthropogenic source of Methane emissions after coal mining. Thus capturing of LFG for energy recovery or destructing it by combustion shall lead to mitigation of GHG emissions. In addition, open Landfill sites have safety risks like fire hazard, explosion, and asphyxiation etc. apart from health risks. GAIL had taken up a Project to capture LFG at Ghazipur Landfill site in Delhi and purify it for use as CNG/ Power.

2.0 LFG Generation Process:

LFG generation process consists of complex series of biological and chemical reactions as the refuse decomposes. The earlier studies indicate that atleast four types of decomposition happens: (i) An Initial aerobic phase; (ii) An aerobic acidic phase; (iii) An initial methogenic phase and (iv) A final stable methogenic phase. As the waste is initially dumped at the site it undergoes aerobic digestion leading to depletion of Oxygen and production of Co₂. This phase extends only for a brief period as the waste is being dumped continuously and compacted. The bottom lying waste starts getting subjected to anaerobic condition and supports fermentation reaction. The biodegradable organic constituents of waste are subjected to three types of bacterial actions: (i) Hydrolytic and fermentative bacteria hydrolyze polymers and ferment the resulting monosaccharides

to carboxylic acids and alcohols; (ii) Acetogenic bacteria convert these carboxylic acids and alcohols to acetate, hydrogen and carbon dioxide; and (iii) Lastly, the methanogenic bacteria convert the end products of the acetogenic reactions to methane and carbon dioxide. The above reactions of LFG generation are greatly influenced by the field conditions like the actual composition of organic waste, moisture in the landfill, compaction level, ambient temperature etc. Various theoretical & experimental studies report generation of around 100-200 M³ of LFG per tonne of waste with 60% of bio-mass content. Considering a Methane content of 50% in LFG, the methane generation potential works out to 50-100 M³/Tonne of MSW.

3.0 MSW management In India:

Currently, nearly 210 million metric tonnes/annum of MSW is generated in India & most of it is disposed in open landfills. The typical Indian MSW contains 50% of organic biodegradable components, 20% of recyclable portions, 22% inerts and others 8%. The biodegradable waste is contributed by food &yard waste. It is estimated that the level of per capita waste generation in India is 0.1kg, 0.3kg & 0.5 kg for small, medium and big cities respectively and is expected to grow at a rate of 1.3% per annum. Most of this collected waste (>90%) is not processed and gets disposed off in landfills that are not scientifically managed & lack safe disposal practices like landfill compaction, soil covering etc. Rapid population growth and accompanying urbanisation is putting huge pressure on the existing waste handling infrastructure. New landfill sites could not be developed due to acute scarcity of land. Consequently, Urban Municipal Bodies are not able to improve their waste management system which is leading to overflowing and vertical growth of the exist in landfills. The LFG generated in these landfills is not being captured and utilised for energy recovery or destroyed for GHG mitigation.

4.0 GAIL's LFG Pilot Project:

GAIL entered into an MoU with MCD for implementation of LFG Pilot project. MCD earmarked 4 Hectares of Landfill site out of 29.6 Hectares at the Ghazipur landfill site for the Pilot project. The objective of the Pilot project was to assess the potential of LFG recovery from an active Landfill site (in Phase-1) and study the suitability of its use as an alternate renewable fuel source by purifying it for use as CNG (in Phase-2).

GAIL's R&D Pilot project area comprises of 4 Hectares (10 Acres) in the North-Eastern part of the Ghazipur Landfill site. The area can be subdivided into three parts – Slice A, Slice B & slice C (Figure-2). A detailed topographical survey of the earmarked site was carried out. Based on the topographical

survey, the natural topography and elevation of the area was obtained and the quantity of waste accumulated above ground level was estimated at 0.45 Million Tonnes which is about 10% of the total accumulated waste of Ghazipur.

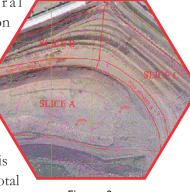


Figure – 2: Satellite image of Pilot Project Area

5.0 LFGPilot Project Implementation:

As this project is first-of-a-kind Project In India, to mitigate the risks, the project is being implemented in 2 Phases viz.

- i) Phase-1 –Involving scientific closure of landfill, construction of LFG collection wells, LFG extraction and LFG Flaring.
- ii) Phase-2–Implementation of LFG purification to enriched Natural gas to utilise it as CNG based upon techno economic feasibility study based on actual LFG Quality and Quantity.

5.1 Phase-1 works:

The Phase -1 field work was started in August-2012 with a project schedule of 7 months involving the following activities:

- i) Waste leveling & Slope reformation
- ii) Provision of Surface Liner (Geo-Membrane & Geo Textile cover)
- iii) Construction of LFG wells and Leachate recirculation system

- (iv) Installation of LFG Collection Network
- (v) Installation of enclosed Flare System
- (vi) Infrastructure Development

5.2 Waste leveling & Slope reformation:

The project area had non-uniform side slopes. Therefore engineered slopes with maximum steepness up to 1V:2H to 1V:3H was proposed with flat benches along the slope for stability purpose. The steep slope was maintained to reduce the earth work to avoid the escape of LFG & maximise the collection efficiency.

Slice A is the flat area with an average height of more than 30m and Slice B&C are steeper with height varying between 15-20 meters.

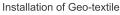
5.3 Provision of Surface Liner:

A cover layer was provided over the final finished profile of the fill (i.e. on the top and side slopes). The final cover for closure of landfill is composed of several layers, each with a specific function. Various components of the surface cover are designed to maximise surface drainage, minimize infiltration and erosion and control the release of the LFG:

i) Protective layer: A protective layer of 200 mm thick soil layer is provided along the reformed slope & top portion.

THE SEQUENCE OF LAYING OF SURFACE LINERS IS INDICATED IN THE FOLLOWING PICTURES:







Installation of Geo-membrane



HDPE Laying



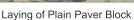
Laying of Top Soil (Vegetation Layer)

ii) Impervious Layer: An impervious layer of 1.5 mm thick HDPE liner (Geo-membrane) was provided as a waterproof layer and to prevent the escape of LFG into the atmosphere. Further a 1.5 mm thick Geocomposite layer was provided to act as a drainage layer.

- iii) Top cover: The top layer was formed by 450mm thick soil layer & vegetative cover was provided over the area where the slope is 1:3
- iv) Top liner in steep slopes: In the steep slopes top cover is provided by paver block in the area adjoining to the active landfill & in other areas grass paver block

INSTALLATION OF LINER SYSTEM WITH PLAIN PAVER BLOCKS:







Plain Paver Block

INSTALLATION OF LINER SYSTEM WITH INSTALLATION OF GRASS PAVER BLOCKS:



Laying of Grass Paver Blocks on Slope



Grass Paver Block installed



Laying of Grass Paver Blocks



Installation of Grass Paver Block

INSTALLATION OF LINER SYSTEM WITH GEOCELL:

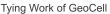






Laying Of GeoCell







Soil Filling in GeoCell on Slope

& GeoCell with grass cover is provided as the top liner to provide stability to the steep slopes.

5.4 Construction of LFG wells and Leachate re-circulation System:

The LFG pump test data indicated the radius of influence of each well as 25m, i.e. equal to 1.25 and 2.5 times its depth. Typically, to minimize gaps in collection system coverage, some degree of overlap in wells' radius of influence is also permitted. Accordingly, 20 No's of LFG wells were constructed in the earmarked area with maximum no. of wells in Slice-A. The bore diameter of wells is 500mm and drilled up to 75% of depth of waste in which HDPE pipe of 160mm, with bottom 2/3 slotted is inserted. The annular core between the HDPE pipe and extraction well are filled with gravels of 25-40 mm size. The top of the LFG well is sealed with Bentonite seal (1500mm in Length) and capped. Out of the 20 wells, 11 wells are dual wells and provided with Leachate pumps. The LFG well cross section is shown in Figure-4:

The leachate extraction pumps are pneumatic type, capable of extracting the leachate from the same bore of LFG hole and each pump is capable of extracting minimum 7.5 litres per minute of leachate from the landfill.

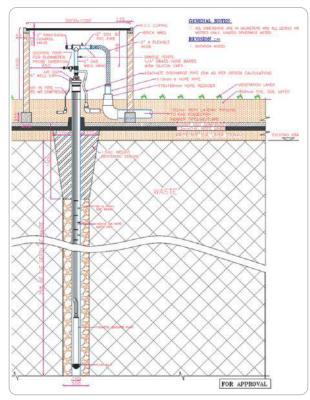


Figure-4: Cross section of LFG well

5.5 Installation of LFG Collection Network:

Gas collection network comprising of adequate number of inter-connected header and feeder HDPE pipes were provided for collection of LFG. The feeder pipe (110mm dia.) collects LFG from the well and transfers the same to the header pipe (200/160 mm dia.). The gas piping network was laid in trenches at a depth of approximately 30cm from the finished level of landfill. Suitable protection was provided to the gas collection network in those areas where vehicular movement is anticipated.

5.6 Installation of enclosed Flare System:

An enclosed Flare System with Blowers and associated Controls was designed with a residence time of greater than 0.3 seconds at 800-1000°C with a destruction efficiency of 99% with smokeless flame under steady state for lean burning of LFG with CH₄ concentration as low as 25%. The flare stack height is 10m.Controlled Automatic/Motorized air dampeners provide ambient air to the flare for combustion and for controlling exit gas temperature. The Ignition is auto controlled and initial pilot ignition is provided by LPG.A Deflagration type flame arrester is provided for preventing back flow. The pictorial illustration of Flare System Installation is provided below:







Flare Sytem Instrumentation





Erection of Gas Flare System



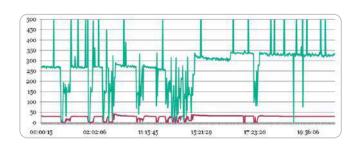
Gas Flare System

5.7Infrastructure Development

The project entailed construction of a Control Room for monitoring the activities during construction phase and O&M after commissioning. Associated infrastructure development viz. Approach Road, Street Lighting, Fencing etc. was also carried out as part of the Project.

5.8 LFG Operations:

The LFG collection and Flare system was commissioned in Apr-2013. The initial LFG flow rate &CH₄ concentration during the trial run period (2nd& 3rd May, 2013) is indicated in **Figure-5**:



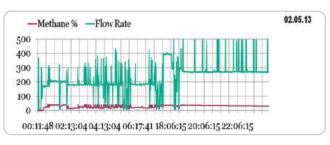


Figure - 5: Methane Quality & Quantity w.r.t. time

After the trial run, LFG plant was operated on continuous basis. The Flare was stabilised and steady state operating process parameters were established. The operating results of three months from May to July-13 were observed & the daily average LFG Flow rate, CH4 Concentration & yields are indicated in Figures 6 to 14:

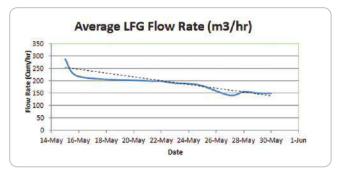


Figure - 6: Daily average LFG Flowrate in May-2013

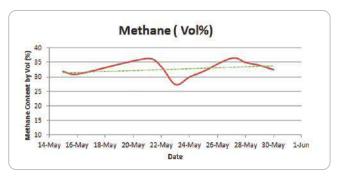


Figure-7: Daily average CH₄ Vol% in May-2013

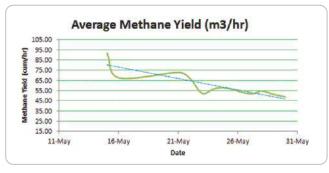


Figure-8: Daily average Yield of CH₄ (m3/hr) in May-2013

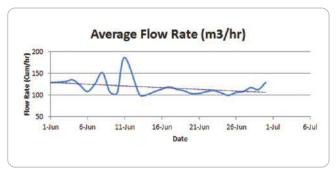


Figure-9: Daily average LFG Flowrate in June-2013

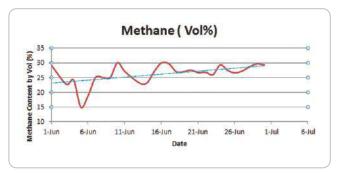


Figure-10: Daily average CH₄ Vol% in June-2013

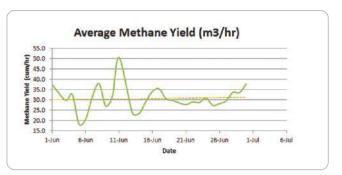


Figure-11: Daily average Yield of CH₄ (m3/hr) in June-2013

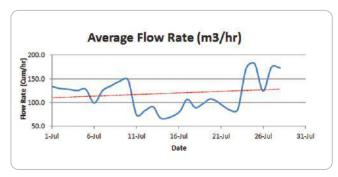


Figure-12: Daily average Flowrate of LFG in July-2013

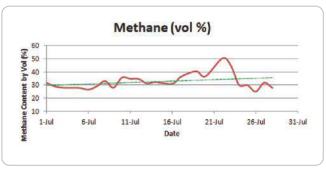


Figure-13: Daily average CH₄ Vol% in July-2013

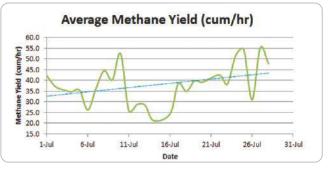


Figure-14: Daily average Yield of $\mathrm{CH_4}\ (\mathrm{m3/hr})$ in July-2013

5.8 Results Analysis:

On careful analysis of LFG operations, it is observed that the average LFG Flow rate has stabilised at 130 m³/Hrwith CH₄ concentration of 28%. It is further observed that the CH₄ concentration falls with increasing LFG Flow rate and comes down to 15% at a Flow rate of more than 350 m³/hr, leading to tripping of flare. It is also observed that at a reduced LFG flowrate of 80-100 m³/Hr the CH₄ concentration goes above 30%.

The average yield of Ch₄ from LFG is dependent on Flow rate and composition (which are inversely related) and comes to about 30-40 m³/hr.Further, it is observed that the LFG flowrate, CH₄ Concentration & Yield have considerably reduced from the trial period indicating that the Landfill site is in matured stage &the yield could further drop in future based on FODPrinciple.

It was also observed that the O₂ content in the LFG remained consistentlybelow 2% eventhough part of closed landfill is in continuation with active landfill. This was possible due to proper design &construction to minimize the influence of the active landfill site. The N₂ content varied between 2-15% and observed H₂S concentation is well below 15ppm. Thus the Design and Operation of Landfill was managed well and did not allow ingress of air from adjoining active landfill site.

5.9 Phases-2 Implementation:

As the actual Flow rate of Ch₄ as well its concentration is very low its upgradation to Natural gas quality i.e as CNG may not tecnoeconomically feasible accordingly other alternate utilisation like power generation is being explored.

6.0 Conclusion:

The huge quantity of MSW generated in India offers a good potential for collection and utilization of LFG butits economic utilisation is a serious challenge. The whole gamut of MSW management system is unplanned as it starts with mixing of organic waste with inerts at the source level itself and finally leading to dumping at landfill sites with C&D material. Eventhough utilization of LFG may not be viable in the near term, but its collection and flaring should be practiced as it is safe and helps destructs Methane, a GHG 25 times more potent than CO₂ (Incidentally,

the CO₂ present in LFG is not considered as a GHG but considered to be biogenic, and therefore a natural part of the carbon cycle) and thereby reduces Global Warming. This shall not only generate carbon credits but also improve the aesthetics of the landfill sites thereby improving the quality of life of people living neaby. These Projects shall also help strengthen India's Case on CO₂ emissions target setting at the World Forums on Climate Change.

The Importance of Strong Government Support in Success of Public/ Private Partnership in Enabling Shelter Strategies

United Nations Centre For Human Settlements (Habitat)

It is, perhaps, a popular misconception that the enabling approach to shelter implies less (or even no) role for government, yet the experiences of partnership recounted in this report demonstrate very clearly that strong government (at both national and local levels) is essential if partnership is to work. While the enabling approach does imply a different role for the State, this new role remains critically important, since only the public sector can facilitate and regulate the overall legal, administrative and economic framework within which people, their organization and the commercial private sector can make their most effective contributions. This implies strong and coherent action by government, including intervention in the land and financial market when they fail to respond appropriately to the needs of lower-income groups. The most successful public/ private partnerships, such as the Batikent experience with cooperatives in turkey, the Joint Venture Program in the Philippines, land-sharing in Bangkok, and inner-city rehabilitation in Mexico city, all take place within a framework of strong and effective municipal government with national-level political support. Successful partnerships require a strong government presence to protect the interests of the urban poor, ensure access to inputs and services among those who would otherwise be excluded by the private market, regulate excessive profiteering and speculation, ensure that different institutions and actors coordinate their efforts, and link the activities if small grassroots group with the wider political and financial system. The municipality in particular has a crucial role to play, because partnership implies mediation between the sometimes conflicting interests of people and, capital, commercial private and third sectors, use-value and exchange-value in land shelter.

The examples of Sao Paulo and Curitiba in Brazil are often quoted in the literature on public/private partnership, and both show that success on a citywide scale can only be achieved within the framework of a strong and efficient municipal authority. In Sao Paulo, the Municipality was able to use its landholdings and planning powers to encourage private-sector

participation in both high-income and low-income shelter development. Using "density bonuses" and special zoning, the municipal authorities were able to promote commercial investment in luxury condominia and re-housing for the residents of some of the city's favelas (slums in Brazil). A key element here was the formation of a development corporation to represent the interests and coordinate the activities of public, private and third sectors. In Curitiba, basic infrastructure and services are being upgraded across the city and the municipal authorities are encouraging the process of "progressive development" by lower-income group on publically-owned land. This includes a new mass transit system and investment in community facilities. Similarly, the development of successful public/private partnerships in the provision of basic services relies to a great extent on supervision, coordination and investment by government.

Strong, government is also essential so that the correct balance between intervention and liberalization (or between the three sectors) can be maintained in the housing market. The enabling



the commercial private and third sectors are free to utilize their energies, talents and resources to maximum effect. This means granting secure tenure to the poor, removing restrictive legal and bureaucratic controls, and providing greater incentives to private investment. However, the effect of these measures is simultaneously to add value to land and housing and so stimulate their exchange on the market. In the highly imperfect land, housing and financial markets characteristic of cities in developing countries, supply constraints must be vigorously attacked if access to adequate shelter is to be preserved among lower-income group. Only government can accomplish this task. Bangkok illustrates this dilemma well. Here, "free" markets have been a feature of the city for many years, and have led to a thriving financial sector and a housing boom for middle-and higher-income groups. However, these developments have not improved the housing situation for the great majority of the city's low-income population, who face the constant threat of eviction and rapidly escalating land prices and rents. Those instances (partnerships) in which poor people have been able to secure improvements in their shelter, such as the land-sharing and resettlement schemes have been possible only because of strong government support in negotiations with landlords and private financial institutions:

"If government errs too far in the direction of laissez-faire, the housing options of the poor will not improve substantially because they will be excluded from access to essential inputs, especially land and finance. ...If the State intervenes too heavily, incentives to private and household-sector production will decline, so reducing the quantity and quality of housing availing....It is no exaggeration to say that the successful implementation of the GSS depends on the ability of government to find and maintain this balance over time" (UNCHS, 1991d, P.67).

This is another way of saying that government plays the crucial role in maintaining the right balance between the interests of different sectors in public/private partnership. The experience of partnerships in the industrialized countries reinforces this conclusion. As Brooks et al (1984, p.307) have shown:

"in true privatization, the government's role is only reduced; it does not disappearthe conceiving, planning, goal-setting, standard-setting, performance-monitoring evaluating and correcting all remain ... if they are done badly, the public

interest suffers, and so, usually, does the private contractor."

Building government competence and effectiveness is therefore a vital pre-requisite for successful public/private partnership in low-income shelter.

recommendations for strenghtening public/ private partnership in developing countries

- 1. Attention must be focused on strengthening different levels of government so that they are able to play their role in facilitating public/private partnerships more effectively. Government roles should emphasise greater efficient coordination at all levels within and across sectors and functions, and enable government to interact more effectively with communities at the grassroots level. Strong government is essential if partnerships are to work in a way which is genuinely beneficial to the interests of the poor. The level of sophistication required maintaining the right balance between interventions and liberalization in the housing market is very high, yet this balance is the key to the enabling approach to shelter. Donor support to initiatives such as the UNDP/UNCHS/World Bank Urban Management Programme is therefore essential.
- 2. It is not sufficient, however, to strengthen one of the partners in a relationship without also supporting the others. There is nothing wrong in promoting commercial private interests so long as government can prevent speculation and profiteering. But this should not be done without also strengthening NGOs and community-based organizations, since without them partnerships involving poor people themselves will be very difficult to operate effectively. Third-sector institutions play the mediating role which is central to partnership, but government needs to guarantee their "political space" and allow them to work freely.
- 3. Consideration of the potential of the third sector leads on to an intriguing possibility, which is beyond the scope of this report but deserves mention anyway. This is the potential of new forms of organization which moves beyond the limitations of public and commercial private sectors as currently defined, to create a fresh synthesis of the two. Underlying discussions about partnership and the factors which work for and against successful corporation are a deeper set of questions about the

future of market, State and people. What possibilities are offered by the transformation of current intuitions into new arrangements which enables the traditional goals of markets (to create wealth) and of states (to distribute it) to be combined together? Some commentators see this as a realistic option, indeed as the only option capable of securing adequate shelter for all in the long term. John Turner(1992), for example, contrasts the objectives as sees it of the World Bank and other donors to "incorporate community-based initiatives into the corporate market" with the radical alternative of "transforming the market through community initiative." Turner uses the example of the Grameen Bank in Bangladesh to illustrate the possibilities of developing a new system which builds on the strengths while neutralizing the weaknesses of the private market-viable, sustainable, yet affordable to the very poor and controlled by them. Whether this is an accurate assessment of Grameen is another matter, but the point remains that partnership offers the potential of blending the strengths and weakness of public, commercial private and third sectors together in a new way, instead of merely facilitating cooperation between them. This is possibility which deserves more attention in the shelter research agenda.

4. Public/private partnership is a subject in which ideology sometimes threatens to outweigh the evidence. It is vital, therefore, that different forms of partnership in different contexts are monitored effectively, so that their real impact can be assessed and the lessons of experience recorded and fed back into shelter policy. At present, the subject of partnership rarely appears on research agendas, yet this is an issue of vital importance to the future of the enabling approach to shelter.

Public/ private partnership is not a panacea for the shelter problems facing the urban poor. In the right circumstances, it can provide an effective mechanism for improving the shelter options of low-income group, but so far partnerships have been limited in scale and reach. Nevertheless, their potential for the future is huge, and the challenge for the international community is to ensure the right environment within which partnerships can flourish. Governments, with support from international donors, must ensure the flow of shelter inputs and generate the legal and regulatory framework required to release the

resources and energies of the poor in developing their own housing.

If enabling shelter strategies are to contribute to the goal of 'adequate shelter for all', there are certain principles to which they must adhere. While compliance to these principles will not necessarily guarantee success, non-compliance will definitely result in failure. These principles require that enabling shelter strategies should be:

Politically endorsed and supported: by government at all levels with governments facilitating the process and broad-based participation in the design and implementation of the shelter strategy.

Participatory: involving all the actors involved in shelter development and improvement—public organizations, the private sector (both formal and informal), NGOs, and most importantly the people themselves.

Needs-driven: recognizing and understanding the realities on the ground, and taking into consideration the priorities and preferences of the people themselves.

People-centred: whereby local communities actively participate in the shelter development and improvement process.

Pro-poor: in particular, focusing specifically on the housing needs of the poor and other vulnerable, marginalized and disadvantaged groups

Results-oriented: identifying goals, objectives and targets, and action planning to achieve them.

Comprehensive: taking account of the multidimensional nature of housing needs; and recognizing the depth and complexity of some of the changes needed.

Based on partnership: between governments and other actors in the housing process.

Sustainable: designed for people-driven, sustainable shelter development and improvement.

AMDA Updates

The Executive Council and Annual General Meeting 28th September, 2016 at the were held on Conference Room of AMDA under the chairmanship of Shri B K Tripathi, IAS (Chairman, AMDA and Member Secretary, NCR Planning Board). The following members were present in the meetings Shri J. C. Ganguly, Chief Engineer, Kolkata Metropolitan Development Authority; Shri C. S. Murugan, Senior Planner, Chennai Metropolitan Development Authority; Shri Ansar Alam, Executive Engineer (P), North Delhi Municipal Corporation; Shri J. S. R. K. Sastry, Director (Strategy), Capital Region Development Authority; Shri Ashok Singh, Assistant Architect, NDMC; Shri R.C. Panday, Town Planner, Ghaziabad Development Authority; Shri Shailesh Kumar, South Delhi Municipal Corporation; Shri Jagdish Kumar, Executive Engineer II, Haryana Urban Development Authority; Shri Naresh Pawar, Superintendent Engineer, Haryana Urban Development Authority; Ms. Ruchi Gupta, Joint Director (Technical), NCR Planning Board; Shri D.R. Bhaskar, Municipal Corporation Faridabad; ; Ms. Shipra Ranjani, Assistant Director (CB&T), AMDA; Shri Harsh Kalia, Assistant Director (Admn.), NCRPB/Handling Charge of AO, AMDA; Shri

Shireesh Sharma, Assistant Director (Finance), NCRPB/Officiatin g Account Officer, AMDA.

The Chairman of A M D A welcomed all the participants in the meetings. In the Executive Council meeting Issues like: Confirmation of the last Annual General Meeting, Adoption of Audited Accounts for the financial year 2015-16, Appointment

of the Auditors for the financial year 2016-17 etc. were discussed in details. Revamped website of AMDA was launched by the Hon'ble Chairman Shri B K Tripathi.

In the Annual General Meeting Issues like: Confirmation of the last Annual General Meeting, Action Taken Report on the minutes of the last Executive Council Meeting, Audited Accounts for the financial year 2015-16, Recruitment of Administrative-cum-Accounts Officer, Professional Activities of AMDA, Annual Increment of AMDA Regular Staff, Appointment of CA firm for preparation of Annual Accounts 2015-16 etc. was discussed in details. The Meeting was concluded with vote of thanks from Ms. Shipra Ranjani, Asst. Director (CB&T), AMDA.



AMDA Members

S.NO.	AMDA MEMBERS - DEVELOPMENT AUTHORITIES	S.NO.	AMDA MEMBERS - MUNICIPAL CORPORATIONS
1	Hyderabad Metropolitan Development Authority	1	Municipal Corporation of Guntur
2	Capital Region Development Authority	2	Greater Hyderabad Municipal Corporation
3	Visakhapatnam Urban Development Authority	3	Greater Visakhapatnam Municipal Corporation
4	Kakatiya Urban Development Authority	4	Ahmedabad Municipal Corporation
5	Ahmedabad Urban Development Authority	5	Vadodara Municipal Corporation
6	Jamnagar Area Development Authority	6	Rajkot Municipal Corporation
7	Rajkot Urban Development Authority	7	Surat Municipal Corporation
8	Surat Urban Development Authority	8	Bhopal Municipal Corporation
9	Vadodara Urban Development Authority	9	Indore Municipal Corporation
10	Bhuj Area Development Authority	10	Municipal Corporation Jabalpur
11	Bhavnagar Area Development Authority	11	Nashik Municipal Corporation
12	Haryana Urban Development Authority	12	Kolhapur Municipal Corporation
13	Bangalore Development Authority	13	Dhule Municipal Corporation
14	Bangalore Metropolitan Region Development Authority	14	Municipal Corporation of Greater Mumbai
15	Bijapur Urban Development Authority	15	Coimbatore City Municipal Corporation
16	Chitradurga Urban Development Authority	16	Tiruchirapalli City Corporation
17	Thiruvananthapuram Development Authority	17	Tirunelveli City Municipal Corporation
18	Greater Cochin Development Authority	18	Kanpur Nagar Nigam
19	Calicut Development Authority	19	Durgapur Municipal Corporation
20	Goshree Islands Development Authority	20	North Delhi Municipal Corporation
21	Mumbai Metropolitan Region Development Authority	21	South Delhi Municipal Corporation
22	Punjab Urban Planning and Development Authority	22	East Delhi Municipal Corporation
23	Jaipur Development Authority	23	Nanded Waghala City Municipal Corporation
24	Chennai Metropolitan Development Authority	24	Corporation of the City of Belgaum
25	Lucknow Development Authority	25	Singrauli Municipal Corporation
26	Kanpur Development Authority	26	Ujjain Municipal Corporation
27	Agra Development Authority	27	Lucknow Municipal Corporation
28	New Okhla Industrial Development Authority	28	Municipal Corporation Gurgaon
29	Varanasi Development Authority	29	Municipal Corporation Faridabad
30	Allahabad Development Authority		
31	Meerut Development Authority		
32	Ghaziabad Development Authority		
33	Greater Noida Industrial Development Authority	S.NO.	AMDA MEMBERS - MUNICIPALITY
34	Bulandshahr-Khurja Development Authority		
35	Hapur-Pilkhuwa Development Authority	1	Guruvayur Municipality
36	Kolkata Metropolitan Development Authority	1	durdvayur Mumerpanty
37	Haldia Development Authority		
38	Asansol-Durgapur Development Authority	S.NO.	AMDA MEMBERS - MUNICIPAL COUNCIL
39	Siliguri Jalpaiguri Development Authority		
40	Delhi Development Authority	1	Bruhat Bangalore Mahanagar Palike
41	Special Area Development Authority, Gwalior	2	Aizwal Municipal Council
42	Greater Mohali Area Development Authority	3	New Delhi Municipal Council
43	Mussorie-Dehradun Development Authority		1
44	Baddi Barotiwala Nalagarh Development Authority	a No-	AMBAMEMBER
		S.NO.	AMDA MEMBERS - STATE REGIONAL LEVEL BOARDS
		1	Gujarat Municipal Finance Board
		2	NCR Planning Board
		l .	



ASSOCIATION OF MUNICIPALITIES AND DEVELOPMENT AUTHORITIES



DELIVERING PROGRAMS, OFFERING SOLUTIONS CONNECTING AND EMPOWERING ULBs

JOIN AMDA TO

Gain access to expert analysis and advice on municipal governance Network with other ULBs and key decision makers

Learn innovative solutions to enhance your local initiatives

For further enquiry please Contact office

7/6, Sirifort Institutional Area, August Kranti Marg, New Delhi-110049, India Phone: 91-11-26494486, 91-11-26497973, 91-11-41017641, Fax: 91-11-26491675 Email at amdadelhi@gmail.com

Web: www.amdaindia.org



ASSOCIATION OF MUNICIPALITIES AND DEVELOPMENT AUTHORITIES

The Association of Municipalities and Development Authorities (AMDA), is the flagship organisation having Municipal Corporations, Municipalities, Council and Development Authorities of India as its members. AMDA is performing the work of institutional development and capacity building of ULBs and development authorities across India.

It acts as a focal point for exchange of ideas and information on urban planning and development. The main goal of the organisation is to assist in institutional, organizational and human resource development of its member organisation through numerous capacity building and trainings.

Since its inception AMDA has withnessed many developments and has emerged as knowledge integration and experience-exchange platform for the Urban Local Bodies and Development authorities. It has been playing a pivotal role in the field of urban development and related issues and acts as a storehouse of critical data and the focal point of adoption of better urban management practices by ULBs.

CONTACT INFORMATION

Association of Municipalities and Development Authorities (AMDA) 7/6, Sirifort Institutional Area, August Kranti Marg, New Delhi -110049, India Phone: 91-11-26494486, 91-11-26497973, 91-11-41017641, Fax: 91-11-26491675 E-mail: amdadelhi@gmail.com, info@amdaindia.org

Web: www.amdaindia.org

Disclaimer Views expressed in invited articles are those of the authors and not necessarily subscribed to. or endorsed by AMDA or any other organisation associated with the publication of AMDA Bulletin.