



INTERNATIONAL BIO-GAS ENTERPRISES

For solving the problem of energy, Air and Water Pollution with our Fixed dome Bio-gas plant designed and construction Technology for Clouding, Horse dung, Zoo Animal dung, Rotten Potatoes, Slaughter House wastes, Night-Soil Through-Scavengers and Night-Soil tankers, individual and community Latrine (toilet), Domestic sewer and sewerage treatment, water hyacinth, city garbage and dead animals, 100% success and long life, without maintenance for the country and Abroad Since 1979

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Ref. No.

Date

SOLUTION OF GLOBAL ENVIRONMENTAL POLLUTION & ENERGY PROBLEMS THROUGH I.B.E. BIO-GAS TECHNOLOGY.

Every knowledgeable person is well aware of the fact about animal dung, human excreta, duckweed, agro, flower wastes liquid & solid waste of slaughter house, city garbage & dead animals feed in the fixed dome. Bio gas plant to be degraded to yield a very useful product known as Bio-gas, contains 60% to 65% of highly inflammable methane gas which if burnt without air gives luminous flame and can be used for lighting purposes and if burnt with air gives a high temperature non-luminous flame and can be used as domestic fuel, just like L.P.G. and can also be used to generate electricity and produced liquid and dry Bio-organic manure.

SOME FACTS ABOUT THE BIO-METHANATION FROM THE BIODEGRADABLE WASTES

International Bio-gas Enterprises (I.B.E.) is a registered and nodal organization and is engaged in research & development work since 1979 both at lab & field level for the betterment of mankind. Since its inception, we are concerned with the problems of energy, Bioorganic manure, air & water pollution, scavengers for cleaning dry latrine (toilet) and to keep clean and pollution free city, town & rural areas and to control generation of diseases carrying various insects like mosquitoes, flies etc. for good health and wealth of human being and also protection of ozone layer depletion by the methane gas which is decomposed from Biodegradable wastes in open land, surface drains, slood, pond & rivers.

Animal dung is used for making dung cakes for cooking food in rural & urban areas in dry season. Using dung cakes as kitchen fuel causes dirt and smoke which subsequently causes pollution related diseases and also destroys the valuable manure. Animal dung collects in pits in the rainy season, around the rural areas and drains out in the city. This system also helps tackle, various diseases like cholera, T.B., malaria & dengue etc. which are lethal for human life.

The above problems posed a serious threat to mankind, so we have taken a step to solve these problems which are mainly created through liquid & solid biodegradable wastes, with the help of...

- FOUNDER INTERNATIONAL BIO-GAS ENTERPRISES (I.B.E.) MOHD. IBRAHIM, INTERNATIONAL BIO-GAS SPECIALIST.
- FOUNDER INDIA'S FIRST COMMUNITY BIO-GAS PLANT AT F.S.P. ETAWAH.
- DESIGNER AND INVENTOR OF JANTA BIO-GAS PLANT AND ITS CONSTRUCTION TECHNIQUES.
- EXTENDED FIXED DOME BIO-GAS TECHNOLOGY IN THE COUNTRY UNDER THE AEGIS OF GOVT. OF INDIA AND U.P. GOVT.
- TRAINED IN CHINA BY U.N.F.A.O. UNDER DEPUTATION BY GOVT. OF INDIA.
- EX. MEMBER OF AD-HOC COMMITTEE OF DNES, GOVT. OF INDIA.
- DESIGNER AND INVENTOR OF DOMESTIC SEWAGE AND SEWERAGE TREATMENT PROJECT THROUGH FIXED DOME BIO-GAS PLANT TECHNOLOGY FOR NEWLY DEVELOPED COLONIES, SLUM AND RURAL AREAS IN INDIA AND ABROAD.
- CONSULTANT FOR WOMEN AND CHILDREN AFFAIRS AND COMMUNITY SERVICES. GOVT. OF MALAWI (CENTRAL) AFRICA BY WORLDS BANK SINCE 1993 TO 1998.

Govt. of U.P. & India and we got fruitful results in return of our hard work, deep concentration, long studies, facing of life threats, practical training and regular participation in National and International seminars, workshops & demonstrations organized by Central Govt, State Govt, U.N.F.A.O., World Bank & by other funding resourceful organization at National & International level.

U.N.F.A.O. organized South East Asia seminar on Bio-gas Technology in China 1980. The government of India deputed Mr. Mohd. Ibrahim from P.R.A.D Lucknow to attend the seminar, who got training in the Chinese Bio-gas Technology in 1980. Our design & technology with the fixed dome Bio-gas plant is suitable for plains, hills & high water table regions. The technology aims to make energy sustainable houses. The Bio-gas plant construction budget is within the reach of a rural or urban family it can also be run successfully with the dung of merely one buffalo or two cows, kitchen wastes & attached toilets to meet the requirements of energy for cooking & lighting of a family. The Bioorganic manure extracted in the process can be used in agricultural fields. The pay-back period of a biogas plant is three to ten years as it is a process to produce wealth from waste.

Different wastes have their different characteristics such as their density, retention time & mesophilic temperature for bacterial action in the digester slurry (to produce Bio-gas), their setting position in the digester bottom & floating wastes collecting in the dome of the different type of the carbonic materials are different, therefore, one design of the Bio-gas plant will not be suitable for other wastes to obtain its desired results. Our fixed dome Bio-gas technology is pioneer in the World and cheaper in comparison to other Bio-gas plants and also lasts upto 50 years without any maintenance (on the basis of field experiences) which has been proved in National and International seminars. We conducted serious studies of wastes and finally concluded that different wastes need different designs of Bio-gas plant to obtain good results without a single Bio-gas Plant failure till date in India & abroad.

DESIGN AND CONSTRUCTION OF BIO-GAS PLANT FOR THE FOLLOWING WASTES SINCE 1979

A. BIODEGRADABLE SOLID WASTES

1. Animal dung (cow, buffalo, horse and elephant dung etc.),
2. Individual sewer and Kitchen wastes.
3. Destroyed / Rotten Potatoes,
4. Tobacco wastes,
5. Agricultural wastes,
6. Flower wastes,
7. Sugarcane based,
8. Water hyacinth, Duckweed & Algae,
9. Hotel wastes,
10. Slaughter House liquid and solid wastes,
11. Domestic garbage & Dead animals,

B. HUMAN EXCRETA

1. Individual & small Bio-gas Plant 1 to 4 M³.
2. Community toilet complex.
3. Sewer treatment for slum colonies, new developed colonies and rural area (without bath water).
4. Sewage treatment (with bath water) without using of electrical & mechanical energy, (electricity is used only for pumping sludge from sump well to settling tank).

5. Sewage treatment (without the use of electrical & mechanical energy) in rough terrains including plain & hilly regions.

These Bio-gas Plants are running successfully without any maintenance since 1979. The working of the plants can be seen at any time in U.P., Delhi, Kashmir, Madhya Pradesh, Bihar & Kerala etc., & abroad.

We have designed & constructed fixed dome Bio-gas plant of digester volume 1 to 1000 M³ at mesophilic & thermophilic temperature (high rate fermentation like Kerala), which has successfully controlled 95% pollution and added a new source of income by supplying kitchen fuel / electricity, bottling as CNG for running vehicles and Bioorganic manure in liquid & solid form. Our Bio-gas Plants are installed in Hotels, Police lines, Zoos, Seminaries, Schools, Development Authorities, Slum areas, Cantonment Boards, Training Colleges, Universities, Dairy farms, Sugar Cane & Tobacco Factories, Temples (Mandir) & Institutions. The capacity of Bio-gas plant is decided on the basis of the quantity and type of the waste available in rural & urban areas. We have also designed and constructed a Sewage Treatment Plant (STP) at O.N.G.C. (Oil Natural Gas Commission) Dehradun.

The Govt. of U.P. organized seminars to give training in the different training centers and showed video films to all the participants and I.A.S. officers of U.P. and Govt. of India. Our Bio-gas technology has its mention in National and International books, Newspapers, and National & International telecasts.

This technology has been in use since 1979 in various departments like , Rural Development, N.E.D.A., L.D.A., G.D.A., V.D.A, S.U.D.A./ D.U.D.A, U.P.A.V.P., U.P.R.N.N., UP Jal Nigam, U.P.P.C.L., R.C.U.E.S., Local Bodies, Water Work Department, Tourism Lucknow, Deen Dayal Upadhyay State Institute of Rural Development, Sulabh International, Patna & Lucknow and trained staff of Sulabh, Hotels, Schools in rural and urban areas in India, Vambay & Ambedkar Awasiya Yojna, some Government Departments of Bhopal, Kerala, Kashmir, etc.

MALAWI CENTRAL AFRICA

Malawi Govt. through World Bank deputed their engineers in India for training of design & construction of the Bio-gas plant who were trained by our International Bio-gas specialist Mr. Mohd Ibrahim as a World Bank short term consultant to Govt. of Malawi. He found in Malawi that they had constructed two Bio-gas Plants from some other agencies in 1990 and 1991 with huge investments. These Bio-gas Plants were ineffective and in-operational because of gas leakage from the dome. Our Fixed Dome Bio-gas technology there was constructed during 1993 and 1997 with poor quality of bricks available in the rural areas. The Plant's cost was within their budget. The Malawi Govt. and World Bank team were entirely satisfied with the results of our Bio-gas Plants. All the Bio-gas plants are working successfully till date without any expenses on their maintenance and operation.

KANHA UPVAN, NAGAR NIGAM ,LUCKNOW,

Kanha Upvan is the home of un-owned animal from different parts of the city, where they kept in clean and safe environment. There was a need of a treatment system for solving the energy & environmental pollution problems from the waste generated by these animals. Ministry of Urban Development U.P. invited us to know more about our technology and its working, and allotted the work for the construction of dung, sewer, duckweed and dead animal wastes based IBE fixed dome Bio-gas plant of 177M³ & digester volume of 356M³ for treatment of 4440 kg. per day in year 2016.

The digester has been prepared on the basis of the drawing & design supplied by us. The project is a unique one by itself as it deals variety of wastes with the benefit of production of Bio-gas for 182 kW electricity generation and for cooking purpose in the mess as well as to the 17 families.

Organic manure is been using in the pond for fish and water chestnut farming as well as in the agricultural field and now there is no need to buy LPG cylinder and manure from outside. We are also working to convert methane into BNG/CNG and filling it in the cylinders for cooking and using as a fuel for running vehicles.

SLUM MASHALCHI TOLA

Ministry of Urban Development U.P supported our I.B.E. Bio-gas Technology and invited our specialist Mr. Mohd. Ibrahim to know more about this technology. The Ministry was convinced and allotted the work of Mashalchi Tola project (one of the most dirty slum colonies in Lucknow). Our specialist designed a 60M³ sewer & kitchen waste based Bio-gas plant which was constructed in high water table at slum Mashalchi Tola in 1998. This project controlled 95% pollution of the area and provided cooking gas to the colony.

The Bio-gas plant's results were appreciated at all levels, residents of the colony were happy because they were free from air & water pollution and safe from the fatal diseases such as T.B., Cholera and eye infections etc., which were very common before the installation of the Bio-gas plant. The Bio-gas plant and sewer line are working smoothly without any investment since 1999.

The National and International Bio-gas specialists team of Japan, China & Africa visited the project and appreciated it very much. Ministry of Urban Development Govt. of India was much impressed with the working of the Bio-gas plant. The Ministry sanctioned a proposal submitted by SUDA / DUDA to make every single slum colony pollution free on the pattern of slum Mashalchi Tola.

We have designed & constructed many projects on Mashalchi Tola pattern viz. Slum colony Panni Wali Gali Thakurganj, Vambay Awasiya Yojna, Para Narpat Khera, Slum colony Pandey-Ka-Talab, Moazzam Nagar (Sewer by the Scavengers Pale Depo), Prakash Nagar, Lucknow (By :- Lucknow Jal Sansthan), Deen Dayal Ashrayheen Yojna, Takrohi. Nagar Panchayat Itaunjaa, Lucknow, Haiwat Mau Mavaiyya, Lucknow. Senior Officers of Nagar Nigam, District Urban Development Authorities and Water Boards of U.P. etc. were involved in these projects. All of them were highly impressed to see the pollution free working of the Bio-gas plant. The concerned Departments allotted us work for their various projects under sanitation program in Lucknow.

The sewer line is 35% cheaper in comparison to old sewer line laying system. I.B.E. is an organization who shall run the system upto 30 years on the basis of separate agreement.

DESIGN PARAMETERS FOR A SEWAR BASED PROJECT

A project for the construction of Bio-gas plant, through conversion/construction of dry latrines into pour flush water seal latrines and its connection through sewer line which carries the raw materials (human excreta) to the sewer based Bio-gas Plant. The project could deals with "Night Soil" with the benefit of production of Bio-gas which could be used for Cooking, Lightning and electricity generation.

PROCESS OF BIO-GAS PLANT

- (i) The feed (Sewage) to the plant is carried by the sewer line.
- (ii) Once the sewage has entered into the digester it is subjected to anaerobic Bio-gas degradation and is produced by Mesophilic Bacteria at the temp. between 25°C to 35°C. The Bio-Gas primarily consists of 60 to 65% Methane (CH₄) along with other gases such as CO₂, CO, SO, H₂S, etc.
- (iii) The produced Bio-gas is accumulated in the dome of the Bio-gas plant and is tapped for supply from top of the 'Dome' through gate valve and G.I. / P.P.R. pipeline. When the gas is

not being consumed it accumulates in the dome and the pressure gradually increases as more and more gas accumulates. This gas pressure presses the top surface of the digester slurry and the level of the slurry begins to rise in the outlet of plant upto the discharge hole, finally when sufficient gas has accumulated in the dome the entire gas portion is filled with the Bio-gas and the digester slurry in the upper portion of the digester is forced into the outlet which begins to overflow and the gas portion of digester decomposed slurry flows out through the outlet discharge hole on top to channel into the sun-drying slurry beds or to sloot.

- (iv) When the Bio-gas is consumed then the pressure of the accumulated gas in the dome decreases and the level of the digester slurry begins to rise and the slurry in the inlet and outlet recedes back into the digester. Because of this hydraulic pressure, the sewer line never gets choked and requires no maintenance for cleaning sewer line as proved since 1999 in slum Mashalchi Tola.

FLOWER WASTES BASED PLANT

We constructed a Pilot project at Sri. Balkeshwar Hanumanji Mandir in Nirala Nagar, Lucknow in year 2007, for solving the pollution problem from the flower waste, dung and other bio-degradable wastes of the temple. After the construction of this Bio-gas Plant the temple campus is absolutely free from pollution besides getting cooking gas used for food preparation for temple staff as well as for lighting purpose.

KASHMIR

One case of failure of septic tank & soak pits in Kashmir came to us and we felt necessary to quote it here to know about high effectiveness of our Bio-gas technology. The management of the institution got constructed community latrines (toilets) attached with small septic tank and soak pits in Darul Uloom Bilaliya Lal Bazar Srinagar Kashmir, for students and staff were residing there. There were 10 latrines in main building and 21 community latrines attached with big septic tanks, effluent was connected to two soakage pits, the sewer system there failed completely. The whole area of the Darul Uloom was polluted badly, some students became victims of fatal diseases such as T.B., eye diseases and some of them left the campus.

The management and staff were worried about the situation and they were in search of a solution of such a serious problem, they were contacting concerned departments, persons and specialists who suggested them that drinking water should be treated before consumption to control T.B. All suggested equipment for water treatment was installed in the campus but T.B. was not controlled. The news was broadcasted on T.V. and Radios from Kashmir stations as well.

Through some official contacts, they were suggested to contact our Bio-gas specialist Mr. Mohd. Ibrahim for the solution of their problems. After his visit and studying the situation, he found that T.B. was because of air pollution due to the failure of sewer system and not because of the drinking water. A sewer based Bio-gas plant was constructed in 2002 in the campus which controlled T.B. & eye diseases problem and pollution completely.

I.B.E. SEWAR AND SEWAGE TREATMENT SYSTEM

We have developed designs of suitable sewer and sewage treatment fixed dome Bio-gas Plant without bath water as well as with bath water. Our technology on the basis of our successful experiences speaks loudly that the sewer treatment project without bath water is more effective and less expensive with longer life of 50 years on the basis of field experiences. Also it does not require any extra money to maintain and run the treatment system. The initial capital investment is also lower if the sewer line is laid according to our design and attached with sewer based Bio-gas plant, as has been proved in many slum and new developed colonies.

The specialty of our Bio-gas technology is that it does not need big dia hume pipe in decentralized sewer line laying system. The sewer treatment project can be set up in a colony park or any type of open land near the colony just a 0.60 to 1.20 M deep main sewer line with small dia hume pipe required as sewage flows automatically into the digester due to hydraulic pressure created by the digester.

The project construction/installation does not affect the routine work of the colony residents and other departments like electricity, telephone etc. During the installation of our projects, road accidents, road blockages, overflowing of sewars on roads and lanes is never seen in our design, although they are very common in others' designs.

The treated water of the project is 95% pollution free, which is used for top dressing in parks, lawns and agriculture field etc, or it can be disposed on the surface drains of the road by laying sewer lines. The construction of septic tanks and soak pits are not needed, because this system demands enormous money and also creates air and water pollution in the area soon after their construction and also during the time of cleaning.

OLD SEWAGE TREATMENT SYSTEM

The project installation of sewage treatment with bath water is costlier and needs regular running expenses, i.e. salary of the staff employed in operation of the project, chemical treatment, i.e. consumption of alum, lime & electricity for running the treatment system. Important points to discourage the old technology are that, laying of sewer line is expensive, secondly, it needs a running expenses regularly, thirdly the earning from the project is lesser as there is no income from the treated water, which is directly connected to sloop or river, lastly maintenance of the project is also expensive. It also creates air & water pollution which can be seen on such treatment systems.

BIO- METHANATION SYSTEM FROM SLAUGHTER HOUSE LIQUID & SOLID WASTE

The existence of slaughterhouses can be evidenced from the emergence of British Empire in India. According to the consumption pattern and demand of Indian population (Urban & Rural) slaughtering of buffaloes, cows, goats, chickens and pigs are very common. The slaughter house pay no heed to the liquid and solid wastes but only throw the solid waste in the open land for decomposition of liquid wastes to drain out. These slaughter houses cause enormous air and water pollution. On the other hand, wastes left in open areas attract dogs, vultures, eagles & crows etc. causing localized pollution around the slaughter houses, also spreading it over a large area and as a result, the neighborhood people suffer a lot due to the diseases caused by pollution.

We have seen modern slaughter houses where after slaughtering the solid wastes are burnt in the incubator and its smoke passes out in the sky through mild steel chimney and thus creates air pollution and the liquid wastes being carried in open sloop for treatment and thus the whole modern system creates air and water pollution around the area.

The mechanical and electrical systems for treatment are very expensive and need maintenance. Further, for destroying the solid wastes electricity is consumed in the incubators while destroying the wastes. The nation is losing the valuable organic manure and methane gas.

Beyond this, these liquid and solid wastes through I.B.E. Bio-gas technology produce Bio-gas and generate electricity and also organic manure and results in pollution free slaughtered area & without throwing of meat pieces & bones by birds in neighborhood houses.

Now pollution has become a global problem, due to the pressure of growing number of slaughter houses situated in the inhabited areas. Considering the situation of pollution caused by slaughter houses of inhabited areas, the Government has decided to shift such slaughter houses to the outskirts of the cities with a treatment plant for the wastes. This decision, taken by the Government has to insure a large amount of investment on the slaughter houses owners. Of course, the shifting of slaughter houses is a short term or partial measure to confront the problem of pollution caused by slaughter houses because many modern slaughter houses which are constructed according to the directions of the Government in the inhabited areas with modern treatment system and also burning solid wastes through incubator are regularly creating pollution and consumed electricity which can be seen in modern slaughter houses.

SLAUGHTER HOUSE WASTES PROBLEM SOLVED BY I.B.E

In such a situation some other measures have to be explored. We designed and constructed a pilot project for a slaughter house in 1995 at Delhi Cantonment Board New Delhi near Supply Depot Nagal New Delhi on the basis of goats being slaughtered there per day. The project is eco-friendly and produces useful Bio-gas which is still being used as cooking fuel in the staff colony and also provides very valuable Bioorganic manure, which also has immense export potential.

This project was inaugurated by Sri. Jagdish Tytler, surface Transport Minister Govt. of India, The Ex-Chief Executive Officer at the Cantonment Board may be contacted to know the present status of the plant. Mrs. Veena Mitra, the Ex-Director General of the Central Cantonment Board may be contacted for her views on the project as she was the authority who had initiated the setting up of the project. This Pilot Project is running satisfactorily since 1995 without maintenance & any kind of pollution around the area. Bio-gas is being supplying to staff colony and Bio-organic manure being using in the lawns of Cantonment Board, New Delhi. There is another project running since 2013 for the treatment of liquid & solid slaughter house waste of 10 Buffaloes at Nagar Panchayat Fatehpur Distt. Barabanki, U.P.

This pilot Project challenges all previous technologies in India & abroad and there is no air and water pollution and requires no maintenance, running staff and saved slaughtered liquid and solid wastes to burnt and drained out to sloot and no need for extra space for the construction of slaughter house. At first construction slaughter house wastes based Bio-gas Plant projected and then can be constructed a slaughter house structure on the Bio-gas Plant at any capacity. Thus, the valuable agricultural land could be saved which will be used for shifting slaughter house from the city.

CITY GARBAGE

This is a major problem and creates difficulties for human life in the outside & inside of the Municipal areas. With regard to the city garbage and its storage and disposal, various aspects of this

problem & its solutions were discussed in the meeting. Some photographs, certificates, pamphlets and newspaper coverage about our works in this field were showed to the concerned officers. During the subsequent discussions the Nagar Nigams provided sufficient information according to our demands.

PROBLEMS OF CITY GARBAGE

The city garbage & dead animals are big sources of pollution. Besides, it brings no income to the nagar nigam

The decomposing city garbage and dead animals produce unhygienic gases and methane gas, which create air pollution around the dumping station. Also, the methane gas damages the ozone layer directly, because of which the human life is endangered.

The dumped city garbage catches fire automatically or is burnt manually, creating air pollution. The plastic bags eaten by cows in the city and on dumping stations cause their death.

KITCHEN & GARBAGE WASTES BASED PLANT

We designed and constructed a project in 2011 in M.P. Tourism Development Corporation Ltd. at Indore, Madhya Pradesh based on Kitchen & other Bio-degradable wastes.

DEAD ANIMALS FROM URBAN & RURAL AREAS

The dead animals, small and big are carried out from the city on dumping station. The decomposing carrion creates hazardous air pollution around the dumping station, which is a great concern for the Municipal Corporation (Nagar Nigam).

The dead animals are collected from rural areas in the open agricultural land, near National highways and roads.

SOLUTION OF THE PROBLEMS

Our I.B.E. Bio-gas technology can surely solve the above problems. The available city garbage, dead animals, slaughter house wastes and human excreta through tankers from the city can be fed in the fixed dome Bio-gas plant which solves the pollution problem up to 95% and its payback period is within 10 years of the total cost of treatment system of city garbage and dead animals.

CONSTRUCTION OF COMMUNITY LATRINES (TOILET COMPLEX)

Firstly, we construct sewer based Bio-gas plant in available space and after completion of dome of the Bio-gas plant then construct community toilet complex on the dome hence the valuable land is saved which may be used in the construction of septic tanks and soakage pits in other traditional systems.

We also provide water tap at each seat and there is no need to take water in mugs. We also bear maintenance of the Toilet Complex at no profit and loss basis.

The Bio-gas plant's treated liquid slurry (water) free from pollution is connected to the surface drains of road sides. The Bio-gas is used as kitchen fuel, other produces such as Bioorganic manure rich in nitrogen in liquid form, is used in agricultural land to maintain soil's rich fertility. The project's earning is available for running the activities of the project without any financial help from government and the entire area (colony as well as project site) of the site is free from pollution.

FURTHER INFORMATION

Some projects for different wastes like city garbage and slaughter house wastes etc. are being submitted / under process of construction / approval in M.N.E.S. / M.N.R.E. Govt. of India, Urban Development Department, Govt. of U.P. etc.

Many other projects are in process of construction & sanction for the treatment by Bio-methanation system of Sewer & kitchen wastes based Bio-gas Plants in the Ministry of Housing & Urban Poverty Alleviation (M/o HUPA), Govt. of India under B.S.U.P., I.H.S.D.P. & I.L.C.S., Adarsh Nagar Yojna, Nagar Panchayats, Manniya Kashiramji Shahri Garib Awasiya Yojna (MKSGA), Manniya Kashiramji Shahri Dalit Bahulliya Basti Samagra Vikas Yojna & S.C.S.P. Yojna, Development, smart city of Dairy and Kanji House.

For implementing IBE Biogas technology in Uttar Pradesh Government of U.P. has released the following orders for treatment of any kind of liquid & solid biodegradable wastes by constructing fixed dome Biogas Plants in different districts / schemes of Uttar Pradesh. We are constructing another projects for the treatment of slaughter house wastes in Varanasi at (Ardhali Bazar for 50 buffaloes & at Beniyabagh for 100 goats) and in Shahjahanpur at Mohalla Kakra for 50 buffaloes.

1. **Approval as a Nodal Agency vide G.O. No.-4532/नौ-5-15-108सा/2009 dated 31-August-2015 from Urban Development Department of U.P.**
2. **G.O. No.- 4941/नौ-5-2013-108सा/09 dated 21-November-2013 from Urban Development Department of U.P.**
3. **G.O. No.-पी०एम०यू/ 1200 /295 / 2014 dated 10-December-2014 from Local Body Directorate U.P.**
4. **G.O. No.- 3671/10/छ:/विविध dated 19-February-2014) from State Urban Development Agency (SUDA) U.P.**
5. **MoU signed with Regional Centre for Urban & Environmental Studies (RCUES), Lucknow (Estd. By Ministry of Urban Development, Govt. Of India), for technical assistance for treatment of Biodegradable wastes and Pollution control.**

(Er. Adnan Turk)

M.Tech. & Bio-gas Specialist