

A
Report on
Technical Workshop
of

“Core-Infrastructure Planning, Designing & Management in Villages”

Date: 22nd March, Saturday, 2014
Venue: GTU, Chandkheda Campus, Ahmedabad



*Presented by: Dr. Indrajit Patel,
Mrs. Jagruti Shah & Mrs. Usha Banker*



**GUJARAT TECHNOLOGICAL UNIVERSITY,
AHMEDABAD**



Gujarat Technological University, Ahmedabad, Gujarat.

A Technical workshop of Vishwakarma Yojana at Gujarat Technological University, Ahmedabad

(22nd March, 2014)



Concept by Dr. Akshai Aggarwal, Hon'ble Vice Chancellor, GTU:

"Rurbanisation" means soul of a village and the facilities/amenities of the urban, is a combined process of preserving the "soul of villages" by providing all the civic and infrastructure facilities available in big towns and cities to arrest migration and at the same time, bringing down the burden on big cities and towns bursting at their seams. Vishwakarma Yojana will create infrastructure - connectivity, civic and social infrastructure along with provision of alternative employment opportunities which are the key pillars that the concept of Rurbanisation hinges on. By taking up project under VY, a student is able to become both a good technologist as well as an agent of change for the better.



GTU had organized a one day Technical workshop on "Core-Infrastructure Planning, Designing & Management in Villages" for Vishwakarma Yojana: Phase-II held on 22nd March, 2014 at 9:30 am at Auditorium of Gujarat Technological University, Chandkheda.

The workshop had inaugurated by Dr. Indrajit Patel, Hon. Director of Vishwakarma Yojana, expert speakers Mr. Harshal Parikh, Associate Civil Engineer, VMS Consultancy Pvt. Ltd, Dr. P J Gundaliya. Professor, L.E College- Morbi, Mr. Balkrishen Pandit, Geologist, GWSSB, Gujarat, Dr. A. M. Jain, SVIT-Vasad and Prof. Ashutosh Patel, GP-Himmatnagar.

7 Nodal officers and 194 Students involved from Ahmedabad, Gandhinagar, Mehsana, Sabarkantha, Banaskatha, Rajkot, Bhavnagar, Junagadh, Kutch & Anand district had attended workshop.



Dr. Indrajit Patel had welcomed all. As per our Indian tradition, Workshop was initiated with Prayer & lighting of the lamp by dignitaries then continued the felicitation process of guest speakers.

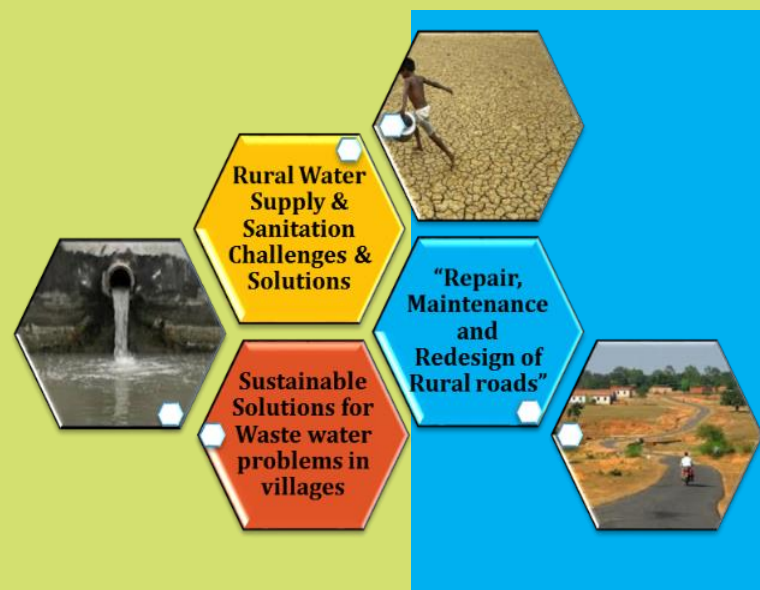
Dr. Indrajit Patel welcomed all to GTU Campus. He appreciated the efforts of all nodal officers and young engineers of future India on behalf of GTU. 187 villages, 48 Degree & Diploma Institutes, +770 Students from Civil & Electrical branch are giving their best for Vishwakarma Yojana: Phase – II due to valuable timely support and motivation from



Hon'ble Vice chancellor, Dr. Akshai Aggarwal. He briefed all about the progress of Vishwakarma Yojana stepwise, objectives features, planning & present status work to be done during current phase, modality of project in context to rural development & role of education institutions.

He indicated that based on Data Analysis, Students will design the core infrastructure facilities for scaling up rural life like Physical Infrastructure Facilities (Water Network, Drainage Network, Road Facilities & Solid liquid waste management), Social Infrastructure Facilities (Health Facilities like PHC, CHC & Child welfare & maternity Home, Education Facilities like Aaganwadi, Primary & secondary school, other vocational course centre, Sanitation Facilities like Public Latrine block, Dry toilets, Eco Sanitation & other), Socio-cultural facilities (Community Centre cum recreation hall, Public Garden, Pond Development, Public Library cum community Hall) and Other (Repair & Maintenance of existing buildings like Panchayat building, schools, PHC & other, Repairing of roads, internal streets & approach road).

He explained that the Main Objective of today's workshop is to facilitate the students for the capacity buildings by enhancement for refreshing was input technical idea based parameter in context. Since beginning vision of project "atma gaon ki suvidha shaher ki" to achieve this, the workshop had divided in three core themes which included Water, Waste water and road network.





Technical session – I: “Sustainable Solutions for Waste water problems in villages”

The first Session was conducted by Shri Harshal Parikh, Associate Civil Engineer in VMS Consultancy PVT LTD, having more than 15 years of experience in Infrastructure planning and management from village to metro city level.

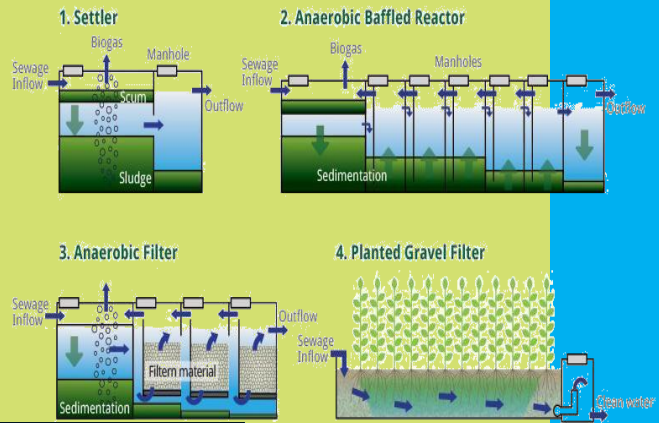


Water plays an essential role in the natural nutrient cycle or ‘waste conversion system. It helps move wastes down into the soils and assists with the absorption of nutrients by plants. He explained the terms waste water, sewage, grey water and black water including types of waste. He briefed about water requirement for domestic need per day per capita. He included the parameters which causes problems in waste water. He stated various Standards for discharge of environmental pollutants elements as per CPCB. He briefed about several Wastewater servicing system, alternatives for treatment at the Source, alternatives at the end of the pipe, on site Treatment, Septic Tank, Aqua Privy (Wet

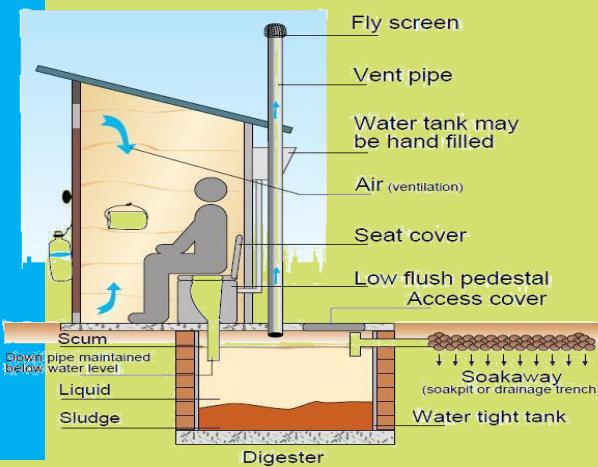
Latrine), Two Pit Pour Flush Latrine, Dry Latrine with Leach Pit & Soak Pit.

He has included Treatment Technologies as per GRIHA (Green Rating for Integrated Habitat Assessment) in his presentation to aware students with new technologies like DEWATS System, Soil Biotechnology, Up flow Anaerobic Sludge Blanket Reactor Rotary Biological Contactor, Activated Sludge Package Plants, Cyclic Activated Sludge, Process and Membrane Bioreactor, Fluidized Aerobic Bioreactor & Bio sanitizer.

He has given example of soil bio technology which is Patented Technology Developed by Chemical Engineering Department, IIT Bombay. SBT has necessary features of green technology that are cost effective, energy efficient and is available to the users at the scale required. Biosanitizer/ eco chip is another technology in which compact water and wastewater treatment bio-catalyst which contains various plant enzymes in its purified forms. The enzymes present in the eco chip degrades the organic component and produces active oxygen. It neutralizes the pH of the medium. He also explained various Sewage Wastewater Treatment Technologies. He concluded by discussing major factors affecting costing of infrastructure networks. He has given solutions to different technical issues of Students.



Sustainable waste water solutions



Technical session -II: “Repair, Maintenance and Redesign of Rural road

The second Session was conducted by Dr. P. J. Gundaliya, Professor of L.E College, Morbi having renowned experience in transportation network, traffic simulation and highway designing. His presentation was about Repair, Maintenance and Redesign of Rural road.

He started with different agency working for Rural development. He gave glimpse of India in 2020. He explained various classification of road network and its status in India. He described role of PMGSY with context to Rural roads. The choice of design and surface for the road would be determined by factors like traffic, soil type and rainfall and technical specifications laid down in the Rural Roads Manual (IRC:SP20:2002). Normally rural roads would need to be designed to carry upto 45 commercial vehicles per day (CVPD) only.

To ensure quality in PMGSY: Creation of Quality Consciousness among Engineers and Contractors, Development of sustainable Quality Control System. Strengthening of Quality Control divisions, Encouraging Public participation, Capacity building for



Quality Assurance, Third Party Quality Audit and Citizen Audit of Rural Roads were explained by him. He briefed students for Quality Control Requirements for designing rural road. Design of rural road with technical details of all sub base layer, Shoulder Construction & Brick Soling has explicated by him with example. He included Preparation of Surface, Pothole and Patch Repairs, Crack Sealing, Profile Corrective Course, Surface Dressing and Premix Carpet Using Bitumen Emulsion.



He concluded with different techniques of Repair and maintenance of rural road and added benefits of rural road and Traffic Signs. Students had asked their various design problems related to road design and solutions were given.

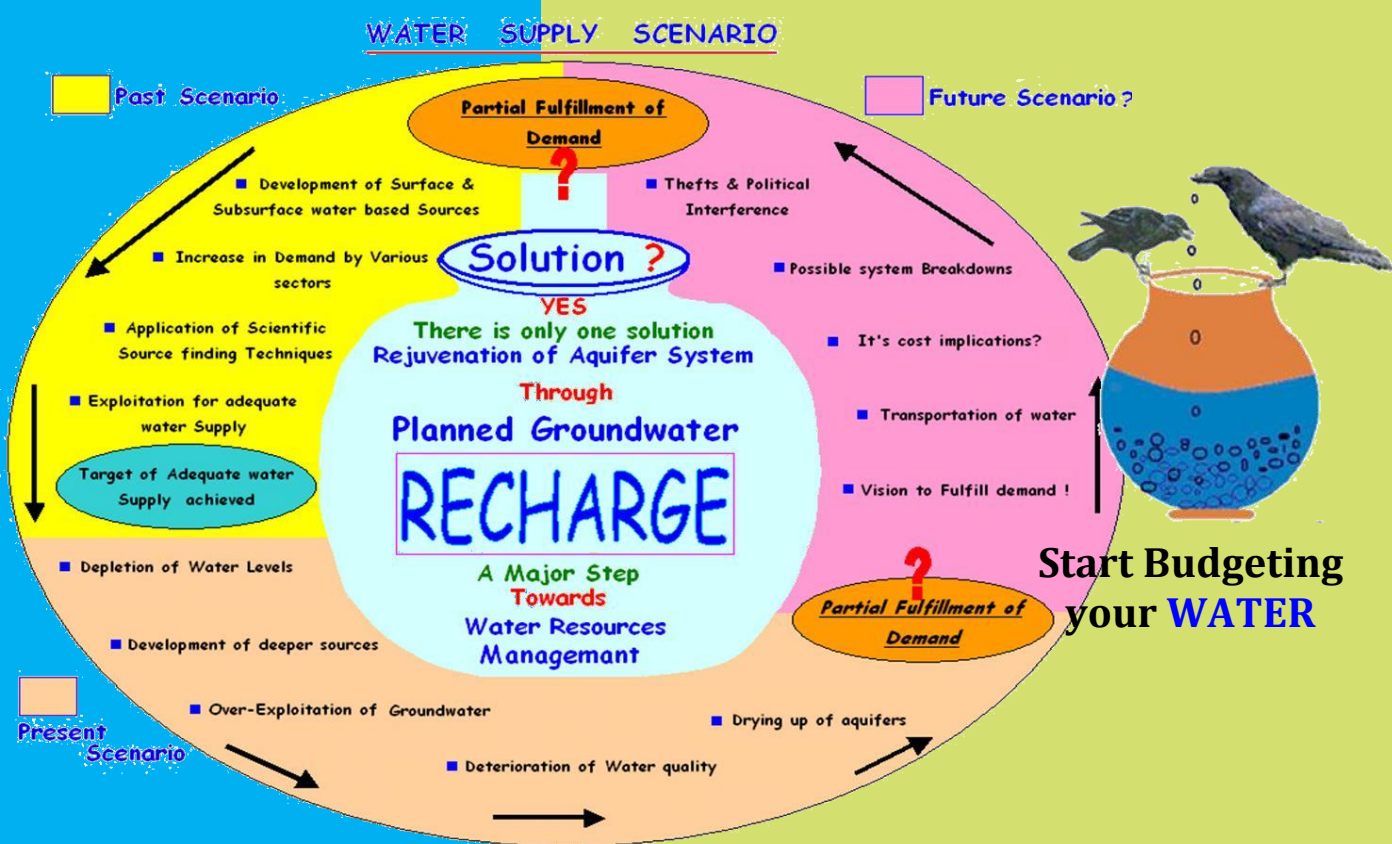
Technical session III: Rural Water Supply & Sanitation Challenges & Solutions

The third session was conducted by Shri Balkrishen Pandit, Geologist, GWSSB, Gujarat having more than 25 years of experience in the sector of Water supply and sanitation. His areas of interest are encouraging water budgeting for sustainable future.



He began with the meaning of the term water budgeting, It is the first step to plan for improved availability of potable water, ensure sustainable agriculture, safeguard the environment and assure overall water security. When linked to village level planning process it will ensure local drinking Water Security a reality. Provide knowledge on the total groundwater availability and promote the concept of volunteerism in reducing overall groundwater pumping, for ensuring sustainability of drinking water supply. WB will improve drinking water management by pinpointing areas of concern that needs close examination and rectification by community. He also shared background information “Drinking Water Security National Pilot Programme”. He

narrated example of practice done by farmers of Andhra Pradesh and the same is implemented by farmers of Kheralu Taluka, Mehsana District for water budgeting. He explained various parameter for water budgeting and its benefits. The techniques of design, awareness programme, stake holder’s role, implanting agency and planning process to achieve goal has been explicated by him. He briefed students that how Water Security plan is Incomplete without proper sanitation. He concluded that Main Challenge is to sustain the interest of the local people in the process over a period of time till the results become visible.





Brain Storming Session

Dr. Indrajit Patel had briefed about Design phase to Student & Nodal Officers. Student & Nodal officers shared their Problems & issues for designs in villages. He had given solutions to different technical issues for village planning. He had explained the design proposals for overall development of village includes Physical, Social and Socio-Cultural infrastructures facilities based from the gap analysis and people's responses and various recommendation & suggestions for Sustainable village development should be included in DPR.

He expressed his gratitude and sincere thanks to Dr. Akshai Agrawal, Hon'ble Vice Chancellor for his motivation and valuable support to project. He thanked Dr. G.P. Vadodaria, I/C Registrar for his timely support. He thanked all eminent speakers, Students, Nodal Officers, Team of GTU for making the workshop success for Vishwakarma Yojana. He acknowledged all the nodal officers and students for their support and requested them to continue in the same manner till the final submission of DPR of all villages.

On behalf of GTU
Dr. Indrajit Patel

Ms. Jagruti Shah & Mrs. Usha Banker