PAVING THE WAY FOR LEARNING: EXPOSURE VISIT BY BANGLADESH GARMENTS MANUFACTURING AND EXPORT ASSOCIATION (BGMEA) MEMBERS ON ZERO LIQUID DISCHARGE TECHNOLOGY, CHENNAI AND TIRUPUR

September 13-16, 2015

A delegation from the Bangladesh Garments Manufacturers and Exporters Association (BGMEA) visited Chennai and Tirupur in September 2015 to seek comprehensive know-how about effluent treatment practices with Zero Liquid Discharge (ZLD) technology, in order to mitigate ecological degradation caused due to traditional effluent discharge methods.

Five members from BGMEA flew down from Dhaka to Chennai to seek guidance on, and demonstration of, effluent discharge practices in the textile hub of Tirupur, India. The purpose was to learn how to arrest the decline in the groundwater tables and increasing water pollution as a result of mass textile production. Bangladesh is the world's 2nd largest exporter of garments (after China). The visit was planned after a policymaker exposure visit for the Department of Energy (DoE) officials in August 2015.

MEETING WITH DYERS EXPORTERS ASSOCIATION, TIRUPUR

Tamil Nadu Water Investment Corporation (TWIC) was identified as the facilitation partner by Instititute of Industrial Productivity (IIP). The agenda was spread across 5 days to allow interaction with a host of relevant organisations that get affected by any change in effluent treatment methods, due to cost implications. TWIC has a decade long experience of setting up the Common Effluent Treatment Plant (CETP) facilities in Tirupur and later graduating these to ZLD units. TWIC is expected to be a key contributor if a pilot is initiated in Bangladesh owing to relevant experience in India. *TWIC claimed that it was possible to recover 98 per cent of total inputs by means of its operations.*

The first day in Chennai included a detailed presentation by TWIC on its work on ZLD, followed by a frank interaction. An elaborate cost-benefit analysis was carried out in the form of constructive interaction with BGMEA. The Association had no doubts regarding the utility of the technology, though there were questions related to financial viability. While they had almost zero cost of procuring water, they had questions pertaining to cost of power supply for the ZLD operation along with the availability of land.

A meeting with the Textile secretary was held to establish linkages and an 'in principle' ad-hoc approval to share knowledge with the Bangladeshi counterparts. The meeting was fruitful: The right degree of support from the secretary was obtained for providing impetus for forthcoming deliberations.
The next day started with a visit to the 1st CETP in Tirupur called the Chinnakkarai CETP Pvt Ltd, having a capacity of 8 MLD (Million Ton of Liquid Discharge) with 29 units. The detailed process flow was explained by a TWIC representative followed by an exhaustive tour of the plant right from the effluent inlet stage to the sludge stage. The primary USP of such plants is that they are able to recover water, brine (salt + water) and salt (Na_2SO_4) in its usable forms. This was followed by a visit to a local dying unit to understand the scale of operation, machinery and other wherwithal along with a visit to the Arulpuram CETP (which was the oldest runing CETP in Tirupur) having a capacity of 5.5 MLD. The delegation was particularly glad to

see the mode of operation in this plant with in terms of cleanliness, structure, optimized area, labeling and overall process visibility. In the Indian context, captive power/steam was generated by means of burning firewood (which is not legal in Bangladesh), leaving the delegation worried about captive power generation if it had to have any ZLD-ETP operations.

The following day began with a meeting with the Tirupur Dyers Exporters Association, to establish linkages. The delegation spokesperson proposed the formation of a strategic sub-contenent partnership to share resources and expertise for a win-win outcome. The interaction was further covered by the local vernacular media representatives to establish outward looking intentions of the Indian associations. This was followed by a visit to a spinning and sewing facility at the Netaji Apparel Park.

Bangladesh textile industry uses 2-3 times more water than the global benchmark. Many textile dyeing industries do not have Effluent Treatment Plants (ETPs) and discharge untreated effluent in the nearby area and water body.

Bangladesh DoE has recently issued the Zero Liquid Discharge (ZLD) Regulation to deal with the problem of effluent, mandating all textile mills to install zero liquid discharge effluent treatment plant (ZLD-ETP) systems. The initiative is focused on bringing in learning from best practices, technologies and policy initiatives to support effective implementation of ZLD mandate in Bangladesh

Tirupur now has 500 textile facilities with 20 CETPs in operation with ZLDs. The total cost of treatment is around INR 250 (Effective cost being 150 owing to recovery). Bangladesh has negligible cost of water unlike India that pays INR 75/cubic metre. CETP systems in India are eligile for government subsidy (over stand-alone ETPs) with minimal financial burden on the industry.

In conclusion, while the delegation was completely pro ZLD technology transfer to Bangladesh, they were anxious about the financial and operational aspects of the same. They were further hoping for an incentivised state regulation to subsidise ZLD retrofitting in existing CETP systems as initial support from their government. And as the government representatives had already undergone this drill, the delegation was optimistic in principle. Identified action points included (a) Scoping exercise by TWIC in Bangladesh Policy support by the Department of Energy, Government and Indian policy counterparts to push the initiative (b) Supportive stakeholder groups including major brands to come together in a consultation to sign up for this to mainstream the effluent discharge and recovery system in the Bangladeshi context. This would ensure a deliberation towards a collective cognisance of issues and action related to environmental protection, ecological balance and sustainability.

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