Promoting Soil-based Decentralised Wastewater Treatment Technology in India

In an endeavor to promote nature based solutions and market validation of new technologies in the Indian context, Technology and Action for Rural Advancement (TARA) - a social enterprise of the Development Alternatives' Group, with support from Japanese International Cooperation Agency (JICA), has partnered with Japanese company Taisei Kougyou, to validate and promote their soil based decentralised wastewater treatment technology in India. The objective of the project is to confirm the competitive advantage of Taisei's nature based technology solution to tackle the problem of wastewater treatment in a decentralised manner, to establish a cooperative operation plan with the local partner NGO for the pay-for-use public toilets, and the formulation of a business development plan for the dissemination of the technology. The biggest advantage of the decentralized Tafgard wastewater treatment technology is its flexibility and no touch operations: it adapts to individual houses, apartments, institutions, hotels and resorts, and even public toilets. This can dramatically improve the adoption of the wastewater treatment practices among various institutions and thus benefit the community at large by enabling a cleaner environment.

The project has been divided into two phases – Feasibility phase and Verification phase. The Feasibility phase has been successfully completed in TARA's Ghitorni, Delhi campus, by testing the performance of technology in Indian conditions. The current Verification phase aims to validate the Taisei's Tafgard wastewater treatment technology in the market, and arrive at a package that can be adopted by institutions to treat wastewater. This includes setting up of two project sites in Varanasi and Muzzafarnagar, both in Uttar Pradesh. The construction of the plant in Varanasi has already completed and the construction in Muzzafarnagar at Shri Ram Group of College is underway. The agreement has been done with the Municipal Cooperation/Municipality in both the cities, who have extended all their possible support to make the project a success including land availability, testing support and

connection with the respective departments, later, to propagate the technology after the validation is completed.

The construction of the wastewater treatment plant based on Japanese Tafgard Technology has started in the Muzzafarnagar at the hostel site of Shri Ram Group of Colleges. Tafgard is a soil based wastewater treatment technology which does not require any mechanical, electrical or chemical inputs for on-going operations. Once constructed, the system keeps running for decades with no touch operations and near zero maintenance, which is one of the most essential features for Indian scenario, where we have seen most advanced technology failing in lack of proper maintenance.

The team was recently covered by local newspaper in Muzzafarnagar, where the construction work was started on 4thApril 2019, in Shri Ram Group of College (SRGC). Dr. Kulsheshtra (Chairman, SRGC), Mr. Matsumot (Director, Taisei Kougyou, Japan), Mr Uchida (Manager, E-Square, Japan) and Mr. Himanshu Mishra (Senior Manager, TARA), along with the Civil Engineering students were present for the groundbreaking ceremony at the project site in SRGC, Muzzafarnagar. The construction work will be carried out in two phases where the tanks and the piping connections will be done in the first phase, and the soil absorption field consisting of Tafgard will be laid in the phase 2, marking the completion of the construction work.