

G.B. Pant National Institute of Himalayan Environment

Special Lecture Series (Lecture-3)

12th July 2023 (Wednesday) | 4:00 pm (Hybrid mode)

Lecture on: *Solid Waste Management and Sanitation in Leh, Ladakh*



Speaker
Dr. Ishey Namgyal
President
Municipal Committee Leh

Dr. Ishey Namgyal is currently serving as the President of the Municipal Committee – Leh in Ladakh UT, where he has emerged as a key figure in addressing challenges with solid waste management. Under his visionary leadership, the Municipal Committee has made significant strides in this field. One notable achievement is the establishment of a cutting-edge *Solid Waste Management Plant*, powered by solar energy, with a remarkable capacity of 30 tonnes per day. The primary objective of this pioneering initiative is to attain 100% source segregation of waste and achieve an impressive 90% material recovery rate. By implementing advanced techniques and technologies, such as efficient recycling and composting processes, Dr. Namgyal aims to not only address the solid waste problem effectively but also generate revenue through the sale of valuable recyclable materials and organic compost. Dr. Ishey Namgyal's remarkable leadership, commitment, and innovative approach have positioned him as a catalyst for positive change in Ladakh's municipal governance. His tireless efforts in solid waste management and feral dog management exemplify his dedication to improving the quality of life for the residents of Leh town.



Chairperson
Shri. Eshey Tondup
Director, LEDeG



Welcome
Prof. Sunil Nautiyal
Director, GBPNIHE



About Speaker
Dr. Sandipan Mukherjee



Moderator
Dr. Suresh Rana



Vote of thanks
Dr. Arun Jugran

Webex link: (<https://gbpantnationalinstituteofhimalayanenvironment-418.my.webex.com/gbpantnationalinstituteofhimalayanenvironment-418.my/j.php?MTID=m917d14bfcd8d738bc501a6cf0c0cf50b>)

Meeting ID: (2644 393 4085)

Password: (Himalaya@2023)

Solid Waste Management and Sanitation in Leh, Ladakh

Dr. Ishey Namgyal

President, Municipal Committee Leh

Abstract

Leh town of Ladakh UT witnessed a remarkable transformation in its population dynamics over the past two decades. In 2001, the town had a native population of approximately 28,500. However, the current population has surged to an estimated 50,000, reflecting a significant growth of nearly 74% within the span of 22 years. The year 2022 proved to be a pivotal point for Leh's tourism industry, as it welcomed an astounding number of visitors. Over 400,000 tourists flocked to Leh during the short summer season from May to September, representing an astonishing 800% increase over the past 20 years. This surge in tourism has also led to the arrival of approximately 50,000 temporary migrant workers from various parts of India and Nepal. These migrant workers come to cater to the needs of tourists and contribute to infrastructure and construction projects in the region. Aside from the influx of tourists and migrant workers, Leh experiences a substantial presence of the Indian Army and other Paramilitary forces in and around the town. Furthermore, the establishment of the Union Territory of Ladakh has led to an increased number of non-local government employees settling in Leh. This collective presence of various groups has added to the ongoing transition within Leh. However, this rapid growth and transition have come with their share of challenges. Additionally, the expansion of urban areas has encroached upon agricultural practices, leading to a reduction in agricultural land. The surging population has also put a strain on the provision of essential services such as water and sanitation, highlighting the need for improved infrastructure to sustain the growing demands of the town. The Leh municipality faces an escalating challenge in waste management and sanitation due to rapid urbanization, increasing tourism, the influx of migrant workers, and the import of various packaged food items. Despite these mounting challenges, the Leh municipality has achieved a commendable level of success in waste management and sanitation within the town.

To address the issue, Leh installed a solar-powered integrated waste management plant in 2019 with a capacity of 30 tons (20 dry and 10 wet). Each household in Leh town, totaling approximately 5,700, has been provided with two dust bins, one green and one blue, for the separate collection of dry and wet waste. The municipality only collects segregated waste from the source using separate vehicles, equipped with GPS for efficient collection. Collection is done according to a roster that considers the needs of different localities, including night shifts. The municipality collaborates with the Ladakh Ecological Development Group, a local NGO, to conduct awareness camps in every ward. These camps aim to educate citizens about waste management, emphasizing the principles of reduce, reuse, and recycle, as well as the importance of providing segregated waste to the municipality. Additionally, the municipality has distributed free-of-cost reusable carry bags to the citizens. Leh took an early step in banning single-use plastic, preceding other places in the country. Leh generates an average of 8-10 tons of dry waste per day and 2-4 tons of wet waste per day during the summer months (May-September). In winter (October-April), the average decreases to 3-4 tons of dry waste per day and 1-1.5 tons of wet waste per day. The town achieved the status of being open defecation free (ODF) in 2017 and ranked 70th among towns with populations under 50,000 in the north zone for being the cleanest town out of approximately 500 towns. Traditionally, eco-friendly Ladakhi composting toilets were in use in Leh, requiring minimal water usage. Night soil from these toilets was composted into manure for agricultural purposes. However, with modernization and the construction of hotels and guest houses, western-style toilets have become more prevalent, increasing the strain on already scarce water resources. To address this, the municipality has constructed all-weather toilets in various locations in Leh town. Currently, a 3 MLD (million liters per day) sewage treatment plant (STP) covers around 40% of the town, and a Detailed Project Report (DPR) is being prepared for an additional 5 MLD STP to cover the remaining areas. Leh holds the distinction of constructing a 12,000-liter-per-day capacity faecal sludge treatment plant (FSTP) in 2018, the first of its kind in the country, operating under a public-private partnership (PPP) model. As per regulations, commercial establishments are required to have septic tanks instead of soak pits, and de-sludging of septic tanks is carried out for those toilets not connected to the sewer line. The waste is then taken to the faecal sludge treatment plant (FSTP) for further treatment and safe disposal.

In rural Ladakh, the Rural Development Department runs the "SANGDA" Project, which focuses on cleanliness. This project operates in ten different places with high tourist footfall, including solar colony, Nimo, near Pangong Lake, Khaltse, Deskit, among others. Here, waste is collected, segregated, and disposed of safely. With an awareness of climate change, receding glaciers, and water constraints, the Leh municipality now encourages the use of improved eco-friendly dry Ladakhi composting toilets. Efforts are also underway to clear the legacy waste dump site at the Bombguard in Leh, covering an area of over 30 acres, through remediation and bio-mining processes. The Leh municipality is currently focused on fostering behavioral changes among its citizens and tourists through awareness campaigns and the enforcement of various provisions and laws. The ultimate goal is to make Leh-Ladakh a clean, livable, and sustainable town.