



Registration No. IV/73/59-76/2014

ANNUAL REPORT 2020-21

Overview

This year has been overshadowed by the Corona pandemic with lockdowns and curfews. Despite this, we have ventured into extensions of the domains we worked on previously – solid waste management was moved from urban to peri-urban areas, afforestation was coupled with a summer camp in the forest for village children and research on the nutritional value of stinging nettle has grown into preparation of marketable health foods containing nettle and further research on finger millet. It was also a year in which we tried to address another aspect of environment protection, namely the conservation of mountain springs and treatment of wastewater through vermi-filtration. Unfortunately, the proposals prepared for work in this area have not found takers.

The organisation has become more institutionalised in the course of the year – a new office was set up in September 2020 and new staff and volunteers recruited. Our web-site, www.greenhillsalmora.org, was updated and made more reader-friendly, thanks to our IT specialist, Mr. Harish Bhatt. Ties with the District administration of Almora were strengthened enabling us to scale up our work on waste management.

The two private donors that supported us in the last financial year, namely the Lal Family Foundation, New Delhi and Banyan Tours Pvt. Ltd., Mumbai, renewed their contributions to our work. We are extremely grateful to both as well as to individual contributors from Majkhali. We have also received reimbursement from the State Swajal programme of expenses incurred in preparing Detailed Project Reports on liquid and solid waste management for four villages of Kasar Devi as well as from the Kosi Rejuvenation Fund for afforestation in Maat village. We are now partners of the National Mission on Himalayan Studies (NMHS) for work on nettle and with the Uttarakhand State Council for Science and Technology (UCoST) for research on finger millet. The nettle project is being implemented in collaboration with G. B. Pant University of Agriculture and Technology, Pantnagar and National Collateral Management Services Pvt. Ltd., Hyderabad.

Solid Waste Management

From April to July 2020 our team of two supervisors and three waste collectors continued to work with the *safai karamcharis* of Almora Nagar Palika on segregation of waste at source and door-to-door collection of it. Unfortunately, there was little impact of this work since only a fraction of the municipal employees were willing to collect household waste door-to-door and keep it segregated. Neither they nor the vehicles transporting the waste were equipped for segregation. Furthermore, the infrastructure set up by the Nagar Palika at the trenching ground in Baldoti was not designed to process wet, dry and insanitary waste separately.

An attempt was made by us to create a model in two new wards recently included in the Nagar Palika and not yet serviced for waste collection. On request from the District Magistrate, we prepared a project proposal for end-to-end eco-friendly waste management in Dugal Khola and Railapali that was submitted to GAIL (India) Ltd. Unfortunately, as CSR funds of government corporations were diverted to the PM-CARES fund for Covid relief, this project could not be funded.

We therefore turned our attention to peri-urban areas that lacked solid waste management services. We had already made a start in Majkhali, near Ranikhet, in March 2020 that had been interrupted by the first lockdown. Waste collection had also been discussed with the Hotel and Resorts association branch in Kasar Devi at a meeting chaired by the CDO in August 2019, following which we had proposed our services for cleaning the Kasar Devi Ridge. The intention was to complement the Swajal programme in six villages in the area where infrastructure for solid and liquid waste management was being built.

We could proceed with these plans thanks to the District Magistrate who offered to purchase a vehicle for waste collection and put it at our disposal. He also informed us that the Uttarakhand Tourism Department was interested in facilitating waste management in three tourist destinations around Almora – Chitai, with the Golu devta temple, Katarmal with its sun temple and the Kasar Devi ridge. To these we added Majkhali as well as a plastic waste recycling unit that was lacking in the region. Three versions of a proposal entitled “Boosting Almora’s tourism potential through solid waste management” were submitted with varying levels of plastic waste recycling for shredding, extrusion and moulding. Our new staff member, Mr. Parth Tewari worked on this with Mrs. Asha D’Souza. We did not get any response from the Tourism Department and could pursue only awareness raising for source segregation and regular collection of dry and insanitary waste from the four areas, thanks to financial support from the Lal Family Foundation and the residents of Majkhali.

The project was launched with a Green Walk on the Kasar Devi Ridge on October 4, just after Gandhi Jayanti, a key date in the Swachh Bharat mission. This was organised together with the Uday Shankar Photo Academy Almora. More than 80 persons participated in it including several officials and their families. Refreshments were provided by New Dolma Hotel and Mohan's Binsar Retreat. The walk culminated in a musical programme by Lata and Kritika Pande to the delight of everyone.



Our waste collection team spent the months of October and November cleaning up the picnic spots and dumpsites on Kasar Devi Ridge while using a loudspeaker to encourage segregation at source and recycling of waste in place of dumping and burning of it. Metal dustbins designed by our staff, Mr. Tanuj Verma and Mr. Bhupendra Waldia, replaced the garbage pits that were planned under the Swajal programme. These were installed by the pradhans of Maat, Matena and Gadholi and have greatly facilitated waste collection. Small waste collection centres were also built but are often being used to discard mixed waste, making the task of our team more arduous.



On November 27, 2020 a meeting was held at Sukoon, the home of Mr. and Mrs. Ajay Prasad in Majkhali with Ms. Apoorva Pande, SDM Ranikhet and her staff to plan the start of operations there. Possible locations for a Materials Recovery Centre were visited and one in Naini identified as suitable by the Tehsildar. This was followed by a visit by the Green Hills team to the army cantonment in Chaubatia, Ranikhet, where we had been invited to gather information on current waste management practices and to recommend improvements in them to the commanding officer. Our suggestions were well received and have helped to introduce source segregation and some degree of recycling.

Several residents and commercial establishments of Majkhali had contributed towards the operational costs of door-to-door waste collection for an initial three months. A route map was drawn up by Mr. Aditya Babbar showing the area to be serviced by our waste collection team each week. Temporary arrangements were made for a godown to store the waste until the Materials Recovery Centre was constructed. Route maps were also drawn up for Kasar Devi, Chitai and Katarmal. Regular waste collection began in the four areas from December 1, 2020 using a Gypsy belonging to the Green Hills supervisor, Mr. Waldia, that was lent for this purpose until the vehicle purchase by the District was finalised. It proved too small for the task and got damaged from overload.



The District Magistrate took personal interest in the clean-up drive and chaired several meetings with district officials, Green Hills and the Executive Officer of the Nagar Palika. Mr. Gaurav Pande, Deputy DM was given charge of the project. It was agreed that the cost of the vehicle and of two Material Recovery Centres would be borne by the District Administration and that the operational costs of waste collection would be covered through user fees levied on commercial establishments by the Kasar Devi Swachhta Samiti. Three meetings were held with the Hotel and Resorts Association branch of Kasar Devi and the pradhans of the four villages and one in Majkhali to fix the rates to be charged. These were chaired by district officials – Mr. Gaurav Pande, SDM Sadar Seema Vishvakarma, SDM Ranikhet Apoorva Pande and DDMO Rakesh Joshi. Hotel and homestay owners agreed to pay a monthly charge for the service. Lists of commercial establishments were drawn up in Kasar Devi by hotel owners and pradhans and in Majkhali by the Tehsildar and Patwaris.

The long awaited vehicle, a Mahendra pick-up was inaugurated by the Chief Minister on January 28 and replaced the weary Gypsy from February 1, 2021.



To the detriment of the project, our main interlocutor, Mr. Gaurav Pande was transferred on February 9 to Haridwar to supervise the infamous Kumbh mela and the Kasar Devi Swachhta Samiti has not been able to sustain the momentum. At the end of March, six months after the launch of regular waste collection, we still lacked Materials Recovery Centres for sorting the waste to be recycled and were obliged to deposit it in the trenching grounds of Baldoti and Ranikhet where only a fraction of it is recycled.



Besides, we faced several problems with the waste collection team in mid-February and had to dismiss those that had been trained and start again with new recruits. At the time of writing, no arrangements have yet been made for user fee collection and we have not been reimbursed for the expenses incurred for salaries, equipment, fuel, etc. Our hopes were raised at a meeting called by the District Magistrate on March 31, 2021 during which decisions were taken to resolve the issues cited above. Much will depend on their execution.

Water conservation

One of the aims of our organisation is to prevent pollution of water sources. Many of the mountain springs that were a perennial source of freshwater in

the region have dried up due to deforestation or irresponsible construction. Some are choked with garbage. Water is now pumped up from the Kosi river to supply water to Almora town. Rainwater harvesting and wastewater treatment and recycling, though technically feasible, are lacking both in urban and rural areas. Almora town has only one sewage treatment plant that treats only a fraction of the 8 million litres per day (MLD) supplied by the Jal Sansthan.

The Urban Development Challenge launched by the Asian Development Bank in November 2020 was an opportunity to address both these problems. We worked with the Peyjal Nigam and the Jal Sansthan to propose the establishment of a pilot vermi-filtration plant that is efficient, cheap and adapted to the space constraints of the hills to reduce pollution of rivers while increasing availability of potable water to citizens. The Trans-biofilter developed by Transchem, Gujarat, which has been functioning in 12 states of India, was proposed for the treatment of 1 MLD of wastewater per day. The by-product of the filtering process is vermi-castings that we could use to nurture the saplings that would reforest the catchment area of six mountain springs that we would clean and renovate. A lot of work was done by the Executive Engineer of the Peyjal Nigam to plan and budget for the equipment and operational costs needed. Unfortunately, our proposal was not selected for funding.

In March 2021, we submitted another proposal to a foundation in Bangalore to gather information about the quality of water in selected springs, the variation in flow in different seasons and the dependence of the population on these water sources. We later discovered that this foundation only works in Karnataka and could not partner with us. We will continue to search for other avenues to undertake water conservation.

Afforestation and animation

Our efforts towards mitigating climate change through community forests that started in 2019 July with support from Banyan Tours Pvt. Ltd and the State Kosi Rejuvenation Fund have been successful. About 90 percent of the 400 trees of 19 different indigenous species planted in July-August 2019 in Maat panchayat van have survived thanks to periodic weeding and the erection of fences and tree guards to protect them from grazing. Particularly those in the Miyawaki patch have grown well, demonstrating an appropriate method of indigenous forest creation.

With a view to building ownership of the forest among the people of Maat, a small recreation park had been constructed for children in the forest and colourfully decorated by a group of international residents of Kasar Devi. Schools being closed during lockdown, we decided to organise a two week summer camp from July 12 to 26, 2020 for all the children of Maat. Permission for this was granted by the District Administration on condition that not more than 25 children attended at a time and that they would be equipped with masks, provided with hand sanitizer and respected social distancing. Sessions animated by various experts were held for two hours each day on yoga, voice training and theatre, music and dance, drawing, origami, photography and Taekwando.



The young boys and girls were enthusiastic about these sessions but objections were raised by the van panchayat and other villagers who feared the spread of Covid. We were obliged to stop the camp a week after it had started. Children now seem to be afraid to use the slide, swings, etc. and some of the structures were recently vandalised by destructive elements. Animation does not seem to be welcome but the trees will survive.

Nettle and finger millet

The Ministry of Environment Forests and Climate Change has sanctioned the project "Exploring livelihood potential of wild growing Stinging Nettle "*Urtica dioica*" in Uttarakhand", under the NMHS. The objective is to create a wide knowledge and resource base for therapeutic, nutritional and medicinal applications of the plant. We are exploring many ways of using Himalayan nettle as a nutrition supplement by creating marketable food products that can later be produced by local communities, thus becoming a source of employment particularly for pahadi women. The project is being implemented in collaboration with G. B. Pant University of Agriculture and Technology, Pantnagar and National Collateral Management Services Pvt. Ltd., Hyderabad.

Promising varieties of nettle have been planted on barren, fallow land in semi-arid regions of Almora district, to test the viability of it as a crop, as well as to increase green cover.

Training and awareness workshops have been carried out with 300+ villagers so far. By the end of the project, we intend to involve more than 5,000 people in different activities.

The Uttarakhand Council of Science and Technology has sanctioned our project entitled “Effect of various treatments in reducing phytate content of Finger millet for improved nutrition”. The project will also explore the gene pool for finger millet varieties in the next financial year.

Looking ahead

The way forward is blurred to some extent by the pandemic. However, one cannot deny that it has emphasised the need for environment protection in which we hope to play an ever more important role. We are already exploring ways of substantially reducing the household waste that is dumped or burned by promoting anaerobic composting of green waste inside kitchens using the Japanese method called Bokashi. We intend to “build back better” in the post-Covid era and wish to thank all those who have supported us, worked with us, and encouraged us all this time.
