
# Annual Report
# (2020 - 2021)

**People's Science Institute**
**ITBP Road, Dehra Doon – 248006**
**Uttarakhand**

## Table of Contents

# I. ABOUT PEOPLE'S SCIENCE INSTITUTE (PSI)

People's Science Institute (PSI) is registered as a society in New Delhi under the Societies Act (1860) and the Foreign Contributions Regulations Act (FCRA). **Its stated mission is, "To help eradicate poverty through the empowerment of the poor and the productive, sustainable and equitable use of available human and natural resources."** At PSI, poverty is understood in terms of shortages of human, social, natural, physical, and financial capital in communities.

Operationally it provides technical and managerial support to communities and organizations that work with them, implements development programs, and undertakes public interest research. PSI's activities are spread all over India. Its current geographical focus is on the Himalayan states and the poverty-ridden Bundelkhand region.

PSI's activities are grouped under four units: (i) Natural Resources Management, (ii) Disaster Mitigation and Response, (iii) Environmental Quality Monitoring, and (iv) Innovative Projects. The activities of the first three units are defined by the needs expressed by communities or the organizations working with them. The Innovative Projects Group experiments with critical concepts, processes, and technologies to enable PSI to respond to emerging needs. Each unit implements development projects, undertakes research, and provides training as well as professional support. The Institute's approach to implementing development projects is a participatory one with empowerment of the underprivileged and self-reliance as key objectives.

The Institute has a competent staff of socially conscious engineers, scientists, and social workers to carry out the above tasks. It has its ~~own~~ eco-friendly campus building in Dehra Doon. It operates two state-of-the-art laboratories for Geographical Information Systems and Environmental Quality Monitoring. The Institute has a small library with over 3000 books. It subscribes to several professional journals and periodicals. The staff is adequately equipped with personal computers and the necessary applications software. PSI possesses ~~the~~ basic office equipment and training aids.

PSI has established a special niche for itself by undertaking projects on a large scale by using a systems approach to scale-up community-centered projects from a village to a district level, innovating social processes, administrative procedures, and technologies. It is also recognized for its professional, knowledge-based approach from problem analysis to formulation of policy guidelines. The number of communities, voluntary organizations (VOs) working with them, research institutions, government agencies, and occasionally donor organizations that seek the Institute's support or collaboration, continues to increase.

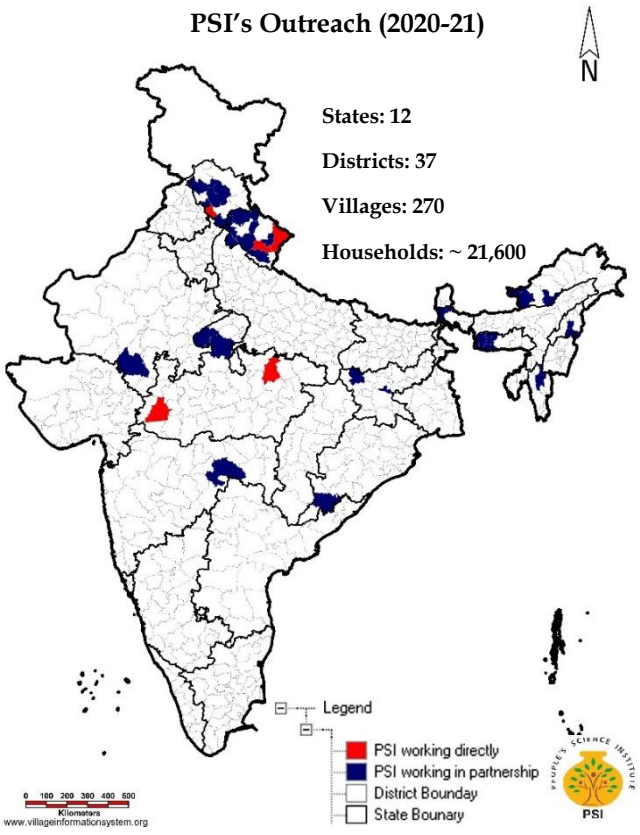
In almost 31 eventful years the Institute has become well-known in the voluntary sector for its pioneering work in the fields of community-based natural resources and watershed management for improved livelihoods, promotion of agro ecological practices, geo-hydrology based springshed development, environmental quality monitoring, disaster-safe housing, river conservation and dissemination of appropriate technologies.

This annual report outlines the major activities of 2020-21.

## II. YEAR 2020-21: AN OVERVIEW

We are all aware of the fact that the world is undergoing climate change whose effects can be seen in the form of uncertain weather events, declining water supplies, reduced agricultural yields and enhanced agricultural crisis, health impacts, increased wildfires in the forests, and enhanced flooding and erosion across regions. In addition to the above concerns, the year 2020-21 also encountered the first wave of COVID-19 pandemic and subsequent lockdown, leading to sickness, deaths, fall in livelihood opportunities, and overall distress. Like all other institutions, PSI, therefore, had an enormous task of addressing these additional challenges both internally and while attending to the affected communities with whom it works.

2020-21 saw PSI continuing to extend support to communities and other institutions to deal with the climate change effects through the adoption of mitigation and adaptation measures, even in the prevailing COVID-19. With restrained financial support and enforced lockdown, PSI did not take up new programmes and decided to accomplish the tasks already in hand. These largely included a wide range of natural resource-based livelihoods' interventions as well as promotion of agro-ecological practices through a range of community-based institutions in the states of Himachal Pradesh, Jharkhand, Madhya Pradesh, Odisha, and Uttarakhand, with the help of grass root level organizations. These programs have helped contribute to the Sustainable Development Goals (SDGs) 1 (End Poverty in All its Forms Everywhere), 2 (End Hunger, achieve food security, and improved nutrition and promote sustainable agriculture), and 13 (Take urgent action to combat climate change and its impacts).




The Institute made special efforts towards promoting geo-hydrology based participatory groundwater management (PGWM) in different geographies including the Western Himalayan (covering eight districts of Uttarakhand), North Eastern Hills (Arunachal Pradesh, Nagaland, North Bengal, and Meghalaya) region, as well as the Central and Western Plateau region (Dhar, Shivpuri, and Sheopur districts in Madhya Pradesh; Udaipur district in Rajasthan and Yavatmal district in Maharashtra) as well as the Central Plateau region (in Dhar district of Madhya Pradesh). These efforts undertaken in partnership mode with government as well as non-government organizations, especially contributed to SDG 6 i.e. ensuring availability and sustainable

management of water and sanitation for all. It also developed atomized training content for PGWM related activities (thus contributing to SDG 4 for quality education), which has been highly appreciated by the concerned stakeholders.

In 2020-21 PSI also took the initiative of undertaking research activities on assessing wetlands hydrological status and livelihoods interactions (taking the case of Renuka Ji in Himachal Pradesh and Sattal Complex in Uttarakhand) while continuing to study the water quality and ecological flows in several rivers of the Gangetic basin. These studies are linked to SDG 14 i.e. conserve and sustainably use aquatic resources for sustainable development. The Institute reached out to the COVID-19 affected families in the different program villages of Madhya Pradesh and Uttarakhand extending support in form of preventive and curative measures along with distribution of dry ration kits among the distressed, thus contributing to SDG 3, i.e. good health and well-being.

Thus, despite all the challenges, it proved to be another year with manifold activities, significant achievements, and satisfying outcomes. PSI took the advantage of its operational field offices across the states of Himachal Pradesh, Madhya Pradesh, and Uttarakhand, through whom it could reach out to the affected communities even during the lockdown situation. The presence of paraprofessionals within the communities further helped in continuation of the program activities, though at a slower pace, while also extending relief to the distressed families. Our colleagues at PSI took some strong and committed decisions. Many of us donated part of our salaries towards COVID-19 relief activities while the senior colleagues decided to forego their annual increments to cope up with the financial uncertainties. It was heartening to see that our General Body and Executive Board in particular guided and encouraged us to sail through all the challenges while the entire team of PSI and its partners stood in solidarity with the organisation to surpass the situation and keep on striving towards its mission.

The year, especially the pandemic helped in familiarizing us with the experience of uncertainties, fear, and restrictions both at the individual and systemic level while addressing the developmental challenges and opportunities, in the context of India's rapidly altering political economy and the accompanying social changes. 20-21's experience has proven PSI's core strengths and capabilities to respond to challenges and uncertainties. In the coming year, the Institute plans to expand its activities, especially to understand and address issues around climate change and livelihood security. We look forward to researching urban rivers at one end while strengthening rural livelihoods amongst marginalized communities at the other end. For this, we will have to focus on organizational development and add new capabilities.

In the end, we would like to extend our gratitude to our well-wishers, development activists, knowledge and technical partners, grass-root level organizations, and communities who have been with us during this challenging yet exciting journey. We are grateful for your support and trust in us because this has stimulated our mission to work towards nation-building based on the principles of productivity, sustainability, equity, and self-reliance while promoting people's science in all that we do.

# III. PROGRAMME BRIEFS

**Title: Ensuring Sustainable Livelihood for Tribal Communities through Forest Rights Act and Watershed-Based Development in Bundelkhand Region of Madhya Pradesh**

**Objective:** The objectives of the project are

- Enable and Empower drought-stricken tribal communities
- Promote sustainable livelihoods
- Access to rights & entitlements of marginalized tribal communities

**Total Project Period:** 3 years (April 2018 to April 2021)

**Total Grant Amount:** Rs. 46,42,165

**Financial Support:** Manav Jeevan Vikas Samiti (MJVS) under Bharat Rural Livelihood Foundation (BRLF)

**Coverage:** A total of 8000 households in Panna district of Madhya Pradesh

**Activities (2020-21):**

- 266 individual forest rights and 8 community forest right applications filed.
- State and National Level Consultations on FRA and agronomic interventions
- Strengthened 48 SHGs, 15 Mahila Mangal Dals, 75 aam sabhas, 68 Van Suraksha Samiti/Van Adhikar Samiti
- Benefits under schemes- 3336 under PM Kisan Samman Nidhi, >7000 households under insurance schemes- PMSBY/PMJJBY, 1648 households availed soil testing facilities, 427 households availed pension schemes, 2295 registrations done under PM Ayushman Yojana, 1720 farmers got KCC
- 3 inter-cluster exposure visits organized
- Improved agronomic practices (SCI, Natural Farming, Non-Pesticide Management) among 4672 households

**Outcomes:**

- Forest land right claims for 618 households settled
- Irrigation security (1992 ha) to 2437 households
- Drinking water accessibility to 78 households of Kathai village through Participatory Ground Water Management (PGWM)
- 1624 ha under improved agronomic practices
- Convergence achieved to the tune of Rs. 8.53 crores for seed, culture, watershed, irrigation and land development activities, community contribution of Rs. 96.69 lakhs and co-finance of Rs.13.1 lakhs for seeds, culture, NPM products, farm equipment, construction of farm ponds, bunds and plantation.

**Title: Promoting climate smart drought mitigation and agronomic measures for enhancing food, nutrition and livelihood security of small and marginal farmers**

**Objective:** The objectives of the project are:

- To enhance food, nutrition and livelihood security
- To establish village level institutions and to increase accessibility to government schemes

**Total Project Period:** 3 years (January 2020 to December 2022)

**Total Grant Amount:** Rs. 3,47,37,300/-

**Financial Support:** Azim Premji Philanthropic Initiatives (APPI).

**Coverage:** A total of 4000 households in 33 villages of Shahnagar block in Panna district of Madhya Pradesh

**Activities:**

- Agronomic practices (885 households), kitchen garden (1115 households), and vegetable cultivation (211 households)
- Support of 55 seed drills and 65 weeders done to reduce drudgery
- About 500 Bamboo saplings planted with 25 Bamboo based basket weavers
- Off-farm livelihood activities promotion and Intra Panchayat exposure visits
- Community based Technology Resource Centre for 33 villages
- 100 households trained around shed, health and feed management under goatry development
- Strong Village Level Institutions (VLIs) to sustain self-reliant development and good governance
- Aam Sabha (village and hamlet unit) meeting conducted in all the 33 villages
- Induction and orientation of Farmers' Interest Groups (FIGs)

**Outcomes:**

- 377 ha of land under improved agronomic practices (SRI, Natural farming and Non-Pesticide Management)
- Irrigation security to 465 Households
- Convergence support to 714 households to the tune of (a) Rs. 71 lakhs for watershed, irrigation and land development activities; (b) Rs. 1.6 lakhs with KVK, Agriculture Dept. and Horticulture Dept. Community contribution amounting to Rs. 11 lakhs.

**Title: Village strengthening through adaptation and resilience (ViSTAR)**

**Objective:** The objectives of the programme are:

- Increasing resilience capacity of farmers to climate change induced crisis through developing climate smart villages and climate resource centres.
- Demonstration of climate resilient interventions through Climate Smart Village models by linking GPDP and other programmes.
- Strengthen the capacity of farmers, PRIs and other stakeholders by establishing climate resource centres and linking with technical institutions.

**Total Project Period:** 6 months (August 2020 to December 2020)

**Total Grant Amount:** Rs.5,24,900/-

**Financial Support:** Indo - Global Social Service Society, New Delhi (IGSSS).

**Coverage:** 15 villages of Pawai block, Panna district in Madhya Pradesh

**Activities (2020-21):**


- Village Development Plans (VDPs) of 15 villages prepared and submitted to Gram Panchayat functionaries to be added as part of GPDP.
- 1 District level consultation organized in KVK Panna with participation from various departments. Information on government schemes and issues raised by farmers were sorted.
- 144 farmers in 6 villages trained around SCI, NPM and composting, 50 of the trained farmers set up demonstrations

- Less water intensive variety of wheat was introduced with support from KVK Panna
- 5 percent model of farm ponds were constructed with 5 farmers
- Training of farmers on usage and benefits of smoke less stove.

**Outcomes:**

- Scaling up of less water consuming variety of wheat introduced as demonstration to other farmers & villages
- 50 farmers opted for healthy and eco-friendly living by opting for smoke less stove as cooking medium

**Title: Promotion of Sustainable Agriculture Practice in Bahadarabad block, district Haridwar, Uttarakhand under Mission Sunhara Kal (MSK)**

**Objectives:** The primary aim of the project is to improve livelihoods of farmers and enhance income through technical inputs and knowledge sharing and strengthen institutions to ensure sustainability of natural resources, assets and processes.

**Project Period:** One Year (April 2020 to March 2021)

**Total Grant Amount:** Rs. 43,98,656

**Financial support:** ITC Kolkata under its "Mission Sunahra Kal" program

**Coverage:** 8 villages of Bhadrabad block of Haridwar district of Uttarakhand

**Activities (2020-21):**

- Village level plans developed for climate smart watershed development, focusing on sustainable natural resource management.
- Promotion of water harvesting and water recharging interventions to enable creation of additional water storage and efficient water use.
- Establishing 7 Farmers' Field Schools with 282 members and capacity building of one established Cluster Hiring Center and village level farmers' groups and schools.
- Training organized on SSI, SWI, kitchen gardening and vegetable cultivation. 282 farmers trained
- Enhancing food grain production through sustainable agriculture practices like sustainable sugarcane initiatives, organic farming practices and nutrient enrichment.

**Farmers' Training on Bamboo Cultivation in Meerpur Village**

**Sustainable Sugarcane Intensification (SSI)**

**Achievements:**

- 7 lead farmers and 282 student farmers developed
- 153 farmers adopted the climate smart sugarcane cultivation methods in 2,64.5 ha.
- 18,646 cu.m. storage capacity created.
- 19 farmers planted 3,630 bamboo saplings in 12.8 ha area.

*"I am happy to adopt Sustainable Sugarcane Cultivation (SSI) method in about 3 ha land. I have learnt to grow SSI nursery which will save water and increase the productivity"*, Baburam, Progressive farmer, Teliwala village.

**Title: "Promotion of Green Watershed"** at Baddi-Nalagarh Area of Solan District in Himachal Pradesh

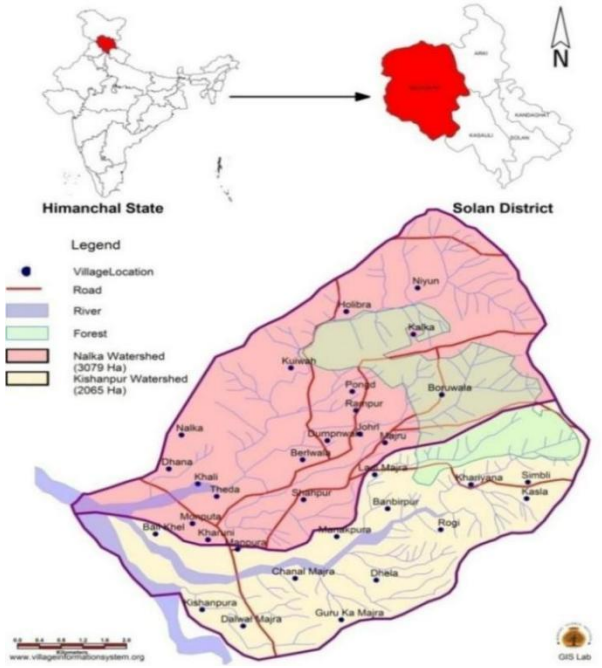
**Objectives:** To increase ground water recharge and enhance agricultural production with minimum input cost.

**Project period:** April 2020 to March 2021.

**Total Grant Amount:** Rs. 26,34,785

**Financial Support:** ITC Kolkata under "Mission Sunahra Kal" program.

**Coverage:** 6 villages of Kishanpura watershed, Nalagarh, Solan district, Himachal Pradesh




**Location map of Kishanpura watershed**

**Activities (2020-21)**

- Community mobilization
- Institution and capacity building
- Establishment of Farmers Field Schools (FFS)
- Farm demonstrations
- Spring catchment treatment and recharge work
- Water storage through construction of farm ponds, community ponds and large tanks

**Achievements:**

- 208 farmers adopted SWI in 125 ha
- A total of 5,506 cu. m. water storage created through trenches (622 cu.m), large tanks (1514 cu. m), farm/community ponds (1932 cu, m), and renovation of community ponds (1,438 cu. m)

- 8.57 ha of spring recharge area treated. A new bawdi constructed in Khariyana village.

"*We should not use poison and protect our families, consumers from the effects of chemicals. Palekar ji motivated me to take on natural farming, the long-lasting impact was possible due to support of PSI and subsidies provided by government*", Ramesh Kumar, Progressive farmer, village Khariyana (Baddi), district Solan, Himachal Pradesh

**Title: Holistic Village Development Through Watershed Approach**

**Objectives:** Holistic development of watershed villages through water management and sustainable agricultural practices

**Project Period:** November 2020 to October 2022

**Total Grant Amount:** **Rs. 1,4869,296**

**Financial Support:** CSR of Mahindra & Mahindra

**Coverage:** Five villages in Bhagwanpur and Bhadrabad blocks of district Haridwar, Uttarakhand

**Activities (2020-21)**

- Develop village level plans for holistic village development.
- Promote soil and moisture conservation, water harvesting and ground water recharge.
- Reduce the water demand and create additional water storage and supply systems.
- Community mobilization through hamlet and village level meetings
- Establishing and strengthening community institutions including Farmers Field Schools (FFS)
- Capacity building of the user groups, farmers, women and other community institutions.
- Increase food grain production, fruit and vegetable cultivation through Integrated Agriculture Practices (IAP)
- Enhance income and improve livelihood through sustainable agriculture practices like System of Wheat Intensification (SWI) and System of Sugarcane Intensification (SSI)

**Achievements:**

- 22 farmers adopted SSI in 15 ha.
- Grading of 5 SHGs. Income generation activities identified for two groups.
- Promotion of organic farming through construction of 25 NADEP compost pits
- 3000 m field bunds constructed in three villages.
- Crop protection ensured for 13 farmers through 790 m fencing between forest and farmland.
- 9360 cu m of water storage created through construction of community pond (1), four farm ponds (4) and 17 field bunds (17).

"This pond is the oldest pond of this village. Many government and non-government organizations have tried to renovate it, but nothing has happened. Finally, People's Science Institute has helped in renovating this pond. Villagers have got a lot of benefits - this will increase the ground water level, as well as reduce soil erosion and the villagers will also get water for irrigation", Mr. Ghyan Shyam Saini, Ibrahimpur village

**Title: Cluster Approach for Development of Pulses (ILSP)**

**Objective:** Promotion of pulse production through training and demonstrations and improvement of income and livelihood of farmers.

**Project Period:** September 2017 to March 2021.

**Total Grant Amount:** 24.9 lakhs

**Financial support:** Integrated Livelihood Support Program (ILSP) Govt. Of Uttarakhand.

**Coverage:** A cluster of 10 villages in Madhuganga valley, Ukhimath block, Rudraprayag district

**Activities (2020-21):**

- Meetings of FIGs and farmers' cooperative
- Capacity building of institutions like FIGs at village level and Farmers' Cooperative at cluster level
- Monitoring of nutrient management
- Promotion of System of Crop Intensification in crops like Kidney Beans and Peas
- Support in processing and marketing through establishment of market outlet

**Achievements:**

- 1,300 farmers from 10 villages adopted pulses cultivation in 32 ha land
- 32 per cent incremental production in Kidney Beans by SCI as compared to conventional method
- 24 per cent incremental production in Peas by SCI as compared to conventional method

*"I have earned Rs. 3,300 in the year 2020 and Rs. 2,500 in the year 2019 from the sale of pulses like Rajma. I am happy that adopting SCI method has resulted in improvement of soil fertility as well as productivity"*, Uha Devi, woman farmer of village Uniyana.

**Title: Springshed Based Watershed Development in Upper Khirganga springshed at Kapkot block of District Bageshwar**

**Objectives:** To prepare DPR followed by community mobilization, awareness generation, initiate institution building and undertake implementation of Entry Point Activities (EPA) in the Pre-Project Implementation Phase (PPIP).

**Project period:** January 2020 to March 2021

**Total Grant Amount:** Rs. 2 lakhs

**Financial support:** NABARD, Regional Office, Dehradun

**Coverage:** Four villages in upper Khirganga watershed of Kapkot block of Bageshwar district.

**Activities (2020-21):**

- Awareness and health camps,
- Initiation of formation of village and watershed level institutions
- Demonstrations of SCI, vegetable and spice cultivation
- EPA activities like drinking water storage tank, irrigation guhl constructed
- DPR prepared.

**Aam sabha meeting in Village Malla Desh**

**Achievements:**

- Active participation of communities in implementation of EPA activities
- DPR preparation
- Formation of village and watershed committees
- Capacity of the local institutions built on preparation of liquid organic manure and SCI.

*"EPA activities helped us in mobilizing local community, institution building and DPR preparation. Now local community is aware about the importance of spring recharge work. It will help us in getting community participation in execution of DPR"*

Khasti Koranga, Woman Motivator

**Title: Scaling-Up Innovative, Water-Saving Cultivation of Nutritional Crops at Kapkot block of District Baleshwar**

**Objectives:** The objectives are

- Promotion of sustainable agriculture through the production of nutritious, less water-consuming food crops like millets, pulses, and vegetables for self-consumption and sale.
- Strengthening of existing institutions like *Mahila Mangal Dals* (MMDs) and Farmer's Interest Groups (FIGs).
- Reduce gender-biases in nutrition and enhancing the access to food and nutrition entitlements available through government development schemes.

**Project period:** October 2020 to September 2021

**Coverage:** 500 farmers from six villages of Kapkot block, Bageshwar district, Uttarakhand.

**Total Grant Amount:** Rs. 5,71,500

**Financial Support:** Rotary Club, US

**Activities (2020-21):** The major activities include (a) Baseline survey and Orientation of team, (b) Development of Package of Practices, (c) Capacity building of farmers, (d) Crop cutting exercise and data analysis, and € Development of MIS.

**Achievements:**

- SCI applied in winter crops – wheat, barley, lentil, pea and green vegetables in an area of 5.7 ha.
- SCI applied in summer crops - finger millet, maize, kideny beans and black gram/ Soyabeans by 657 farmers in 23 ha area.
- As compared to conventional method, the reported incremental crop productivity was 23 percent in barley, 66 percent in wheat, 100 percent in lentil and 125 percent in peas.

**SWI and Conventional plots**

"*We adopted System of Crop Intensification (SCI) method in wheat crop and got good production. Now in Kharif season we have used SCI in finger millet and maize. The practices adopted were seed treatment in water and cow urine, line to line spacing of 6 inch, use of liquid organic manure and weeding. I am happy to see the growth of the crop*", Khushal Singh, farmer of Syuni Dalani village.

**Title: Strengthening Science, Practice and Policy for promoting Agro-Ecology in Rain fed Regions of India**

**Objective:** The objectives of the programme are:

- Piloting of Agro-ecological interventions: 100 farm level demonstrations on Natural Farming in each cluster, covering total 1100 farmers in kharif season in three agro-climatic regions.
- Publishing policy briefs on strategic intervention points for scaling up agro-ecological practices through mainstream schemes.
- State level consultations on promotion of agro-ecological approaches will be anchored by respective state anchors.

**Total Project Period:** 7 months (June 2020 to December 2020)

**Total Grant Amount:** Rs. 24,10,000/-

**Financial Support:** Revitalizing Rainfed Agriculture Network (RRA N)

**Coverage:** 11 districts of 5 states of Himachal Pradesh, Jharkhand, Madhya Pradesh, Odisha and Uttarakhand.

**Activities (2020-21):**

- 1493 farmers trained on natural farming.
- Convergence with block and district level departments.
- Experience sharing workshop and state level workshops of coalitions.

**Outcomes**:

- 1387 farmers adopted natural farming in paddy, maize, finger millet, kidney beans, pigeon pea, and intercropping in 85 acres of lands.
- As compared to conventional method, increment in productivity ranged from 33 percent in kidney beans to 87 percent in finger millet in natural farming method.
- Strengthening of National Consortium on SRI (NCS) and initiation of coalition formation at regional levels to promote policy dialogue from gram panchayat to state level.

*"We have done seed treatment, used spacing and bio culture during seed sowing getting 30 percent increment in crop production."* Munna and Tilakram, farmers of Shahnagar, Panna district, Madhya Pradesh

**Title: Providing Safe and Sustainable Drinking Water and Sanitation in selected remote villages of Pindar valley, district Bageshwar**

**Objectives:** **P**rovide safe drinking water at household level through preparation and execution of DPRs along with formation and capacity building of Users Water and Sanitation Sub Committees (UWSSCs).

**Project Period:** April 2018 to March 2021

**Coverage:** Borachak, Kilpara and Wachham villages in remotely located Pinder valley of Kapkot block, district Bageshwar.

**Total Grant Amount:** Rs. 2,17,42,472

**Financial Support:** The Hans Foundation and The Tata Trust under the Integrated Village Development Program (IVDP).

**Activities (2020-21):**

Community mobilization, institution building, preparation of DPRs, training on water quality testing, laying out of pipelines, construction of silting chambers, storage tanks, and providing household connections.

**Achievement:** Safe and sustainable drinking water and sanitation to 399 households (two connections each) of three villages of Pinder valley. Schemes were also prepared for the schools

.

**Pipeline fitting work in village Wachham**


**Completed Storage tank in Waccham Village**

*"As a village level facilitator I received training on PRA, water quality testing, pipeline layout, construction of silting chambers, storage tanks and household connections. Capacity building of UWSSCs and maintenance fund was the strength of the project. As a trained person from project area I will facilitate the operation and maintenance"*

Deewan Singh Koranga, Village facilitator, Kalu - Badiyakot

## Title: Springshed Management in Tehri and Pauri Garhwal districts of Uttarkhand

**Objectives**: The objectives are to

- Study 6 identified spring sheds - 3 each in Tehri and Pauri Garhwal districts of Uttarakhand
- Identify and geo-tag 120 or more springs (20 springs in each) on the basis of maximum dependency or minimum discharge.
- Select 30 springs (5 springs in each) and identify their micro-spring sheds and conduct detailed study.

**Total Project Period**: October, 2020 to September, 2021

**Total Grant Amount:** Rs. 12,00,000

**Financial Support:** Amity Institute of Global Warming and Ecological Studies (AIGWES)

**Coverage (2020-21):** Bareth watershed (Dwarikhal block), Ghurdauri watershed (Pauri block), and Malan watershed (Dugadda block) of Pauri Garhwal district of Uttarakhand

**Activities:**

- Watershed delineation of Bareth, Ghurdauri and Malan watersheds of Pauri Garhwal district and Kaddukhal, Kotigad, and Moldhar watersheds of Tehri Garhwal
- Historical transect and participatory inventorization of springs in the three watersheds of Pauri Garhwal
- In-situ testing for pH, TDS, EC, discharge and temperature.
- Hydrogeological survey leading to identification of spring typology and recharge area.
- Identification of treatment measures for reviving drying springs
- Rain gauge installed for daily measurement of rainfall with the help of local para workers team.

**Achievement:** Inventory of around 80 springs (including 15 critical springs) in all the three watersheds of Pauri Garhwal.

**Social Meeting in Balori village, Ghurdauri Watershed**

**Discharge measurement at Damli dhara, Badolgaon, Malan Watershed**

*"PSI is doing an impressive, and extensive work in reviving Himalayan springs, which are an indicator of climate change, this research partnership between PSI and AIGWES will definitely bring fruitful results for determining the watershed porosity, and correct measurements for rejuvenation of these springs."* – Shri J.C Kala, IFS (Retd) (Honorary Adviser, AIGWES), Former Director General of Forest, Government of India

**Title: Revival of Springs in Uttarakhand**

**Objective:**

- To regenerate and protect 100 critical springs in five water scarce districts of Uttarakhand.
- To increase fodder availability, improve irrigation, reduce soil erosion and sanitary protocols to protect springs.
- To reduce mountain women's drudgery to fetch water, sustain people's livelihoods and help in reviving a dying culture of managing the local water bodies.

**Total Project Period**: October 2017 to December 2021

**Total Grant Amount**: Rs. 3,39,37,988

**Financial Support:** Bajaj Auto Limited CSR

**Coverage**: Almora, Dehradun, Nainital, Pauri Garhwal, and Pitthoragarh districts of Uttarakhand

**PRA exercise being conducted by PSI's resource person in Ramgad, Nainital district**

**Activities (2020-21)**

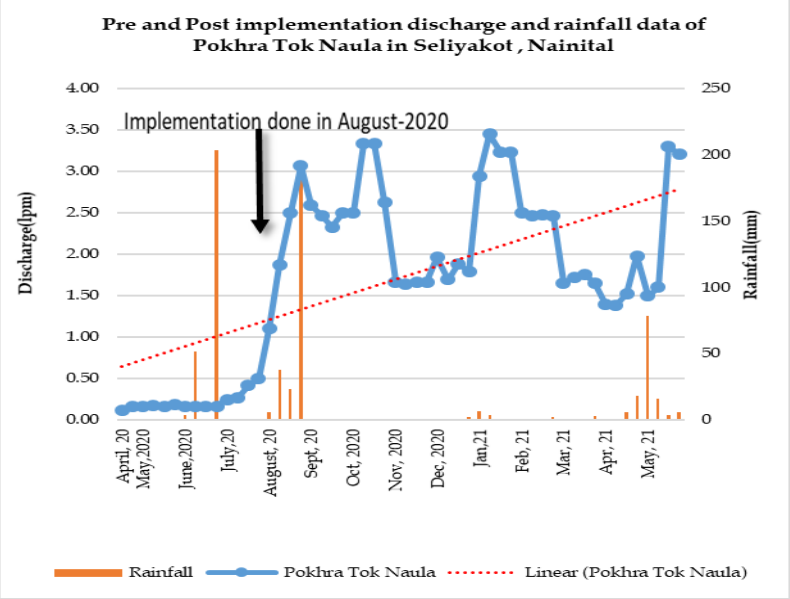
- Activities: The COVID-19 lockdown situation in the beginning of the financial year 2020-21, hindered several of the pre-planned activities. However, the un-lockdown situation in the second half of the year, assisted in initiating some activities.
- At the end of financial year 20-21, a total of 417 springs have been inventorized across all the five districts of which 130 have been deemed critical.
- Implementation works were completed in a total of 82 springs till March 2021. Activities like fencing and plantation were also undertaken along with the implementation.
- Community mobilisation activities in the newly identified springs were conducted in small groups following all COVID protocols.
- Detailed hydrogeological mapping of the newly identified springs were conducted.
- 75 Water User Groups were formed around the treated springs across all the 5 districts.
- Detailed Technical Reports of 66 villages and springshed development plans of 27 villages were completed.

**Fencing work being done in Kalsi**

- 20 para workers attended a three-days' workshop in Dehradun as a part of their capacity building covering topics on PRA, discharge measurement, role of geology in discharge, water quality etc. Analysis of the monthly data provided by the paraworkers was also done for a better understanding of the gaps and identifying challenges.
- An exposure visit was conducted at Someshwar, Almora for the newly appointed para workers of Ramgad, Nainital. Members of KMUM guided the paraworkers through the entire process and also conducted field visits to the implemented spring locations for better understanding of the recharge structures.
- A third party evaluation was conducted by SATTVA to see the impacts of the program by visiting spring sites located in Almora, Dehradun and Pauri Garhwal districts. They interacted with the communities to get their feedback and understand their involvement in the program while visiting springs to understand the impacts of various recharge activities.
- Seasonal water quality testing for summer, monsoon and winter seasons were conducted for 130 critical springs.

**Achievements/Outcomes:**

- Increase in the discharge has been observed at several springs in spite of the low rainfall.
- Water quality has significantly improved in all the implemented springs.
- Communities have shown interest in preserving their water sources and regularly gather to clean their sources.
- In Almora, around 25 women have been trained by para workers to undertake spring discharge and in-situ water quality measurements.




**Pre and Post implementation discharge and rainfall data of Pokhra Tok Naula in Seliyakot , Nainital**

*"PSI has done commendable work for rejuvenating the springs in our village. They carried out several meetings in our village to make us understand about the importance and process of spring rejuvenation"*, Seema Pant, Berinag, Pithoragarh.

*"With the help of PSI, we could revive Goth spring which had dried up many years ago. This is not less than a miracle for us"*, Himmat Singh, Nalai village, Khirsu Block, Pauri Garhwal.

**Title: Water security through community-based springshed development in the IHR**

**Objective:** To demonstrate a model based on hydrological approach for water security in the IHR and promoting social protocols for source sustenance.

**Total Project Period:** 3 years (January 2018 to September 2021)

**Total Grant Amount:** Rs. 1,90,93,920

**Financial Support:** MoEF&CC under the National Mission on Himalayan Studies

**Coverage:** 6 districts across 3 states – Arunachal Pradesh, Nagaland, and Uttarakhand

**Activities (2020-21)**:

- Hydrological modelling at two watershed sites of Uttarakhand to study the impacts of climate variability.
- Virtual training and capacity-building programs on various components of springshed development organized for para-workers, village samiti members, partner organizations, PHED, Forest, and Soil & Water Conservation Department, officials.
- Interventions for spring revival in all the 6 watersheds.
- Consultative meetings to scale-up the work
- Plan for solar lift pump and water supply system

**Preparations for solar lift scheme in Pali village, Pauri Garhwal**

**Achievements/Outcomes:**

- Research paper on Hydrological process monitoring for springshed management in the Indian Himalayan region: field observatory and reference database, Current Science, Vol.,120, NO. 5, 10 March 2021.
- Water security plans for all the 6 watersheds.
- GIS based MIS for 300 springs.
- Study of spring water quality in the 3 states
- Digital training material developed and used for training para-workers. Film on PSI's SSD work.
- Linkages with government departments/agencies in the other states of the IHR.

*"Women would travel great distances earlier to fetch water, where it would take an entire day just for water collection. Fights would also break-out at the source as some would get more water, and some families – none. Through Mahila Mangal Dals (women's groups), we formed smaller committees for which we opened bank accounts. Monthly contributions were collected through which we then dug the trenches and today we can see its benefits. PSI provided the support for this." – Maya Verma, Lakshmi Ashram, Almora.*

**Title: Providing training, capacity building and facilitation on hydrogeology, aquifers and springs and soil & water conservation under Springs Initiative (under Meghalaya Community Led Landscape Management Project i.e. MCLLMP)**

**Objective:** Training and capacity building of Master Trainers on various concepts and skills in Integrated Natural Resource Management using Training of Trainers (ToT) approach

**Total Project Period:** 01.01.2020 to 31.12.2021

**Total Grant Amount:** Rs. 12,60,050

**Financial support:** Meghalaya Basin Development Authority (MBDA)

**Coverage:** All districts of Meghalaya

**Activities (2020-21):**

- PSI and PRASARI jointly validated four CNRMPs under four different DPMUs of Garo Hills region.
- Identification of areas of improvement in the SDM component (including hydrogeological maps, resource map, land use map, community mobilization, spring recharge intervention plan etc.) for further training.
- Field based training of 40 Master Trainers of Garo Hills Districts at Tura covering concepts of hydrogeology and aquifers, spring inventory, hydrogeological mapping, spring recharge area delineation, spring discharge and quality data collection & analysis
- Guided Mentoring/Virtual Interaction with Master Trainers, CLLMP representatives and resource person from Spring Initiative Partners on Watershed, Springshed, Water Quality and Spring Typologies

**Identification of Spring Typology**

**Geological interpretation in classroom**

**Traverse selection and Geological Mapping of Spring**

**Outcomes:**

Based on the learning sessions, participants could undertake

a) Delineation of aquifer based on hydro geology and cross sections.

b) Monitoring of spring discharge and spring water quality data.

c) Estimation of gaps in water supply and demand

**Title: Springshed Management for Drinking Water Source Sustainability" in Arunachal Pradesh**

**Objective:**

- Training and capacity building of PHED officials in order to carry out springshed development activities in Arunachal Pradesh.
- Preparation of one model springshed development plan and DPR.
- Guiding, training and implementation of one model springshed management plan in the site.

**Total Project Period**: 1.5 years

**Total Grant Amount**: Rs. 9,85,600

**Financial Support From**: State Jal Jeevan Mission, Arunachal Pradesh

**Coverage**: Arunachal Pradesh

**Activities (2020-21)**

- A team of experts from PSI conducted virtual training in the month of September 2020 (14 days) where 30 participants were given basic training of various concepts of springshed management.
- The topics covered include concept of springshed development, hydrogeology and aquifer, community mobilization, social survey (PRA Exercises), spring inventory, hydrogeological mapping and recharge area delineation, spring discharge and water quality monitoring, treatment measures, institution building, and report preparation

**Follow Up:**

- The trainees have been requested to undertake participatory inventorization of springs in slected clusters under the Jal Jeevan Mission.
- Prioritization of critical springs need to be undertaken based on the spring inventorization data considering dependency on spring, spring discharge behaviour and potential for revival of spring.
- Online guided mentoring is to be provided for addressing the problems faced by the trained officials on ground.
- On field training is required for conducting participatory springshed planning, recharge area identification and aquifer mapping, use of A frame for slope measurement, and layout of treatment measures.

**Feedback:** The structure and topics of the virtual training were appreciated by the trained PHED officials. The association of geology with water quality was found insightful by several trainees.

## Title: Community-based fluorosis mitigation in Dhar district, MP

**Objective:** To collaborate with the local government departments (by leveraging their resources) whilst implementing the Integrated Water Resources Management approach for WASH; which will ultimately benefit marginalised communities suffering from fluorosis and drinking water scarcity.

**Total Project Period:** One year (April 2020 to March 2021)

**Total Grant Amount:** Approx. Rs. 23 lakh/year

**Financial support:** Frank Water, UK

**Coverage:** 15 villages in Dharampuri and Umarban blocks of Dhar district of Madhya Pradesh

**Meeting in Anjanibedipura village to explain the villagers about the household water supply system**

**Activities (2020-21):**

- Implementation of water supply system in 5 villages by PHED.
- Formation and capacity building of village level institutions for O & M, WASH and nutritional interventions.
- Planning for groundwater recharge measures and implementation through the gram panchayats.
- Improvement of sanitation by getting the toilets constructed through the government system along with development of sanitation protocols.
- Raising fluorosis and hygiene awareness and getting the hand-washing and drinking water points constructed in schools and *anganwadis*.

**Training on water quality.**

**Achievements/Outcomes:**

- Household tap water supply in all the 5 villages.
- Training workshops organized for frontline workers.
- Proposals submitted to gram panchayats for construction of trenches, gabions, recharge pits, toilets and plantation.
- Improved sanitary practices among the communities.
- Hand-washing and drinking water points constructed in schools and *anganwadis*.

*"PSI's work in Dhar over the last 7 years has pushed forward understanding of how water management can be used to reduce fluoride in water and, through this, improve the lives of people affected by fluorosis. This has been life changing for many thousands of people. The PSI team's professionalism and dedication is a testament to PSI as an organization and it is not a surprise to me that the Government of India has recognised this quality work by appointing PSI as a sector partner under the Jal Jeevan Mission. Congratulations to Anita and all the team for this outstanding work."*

Jon Shepherd, Head of Programmes & Funding | FRANK Water

**Title: Integrating Participatory Groundwater Management (PGWM) with livelihood programmes in tribal-dominant regions of India**

**Objective:** Preparation and implementation of water security plan based on the concept of PGWM, emphasizing supply augmentation and demand regulation in along with convergence with government department and community participation.

**Total Project Period:** October 2015 to September 2020

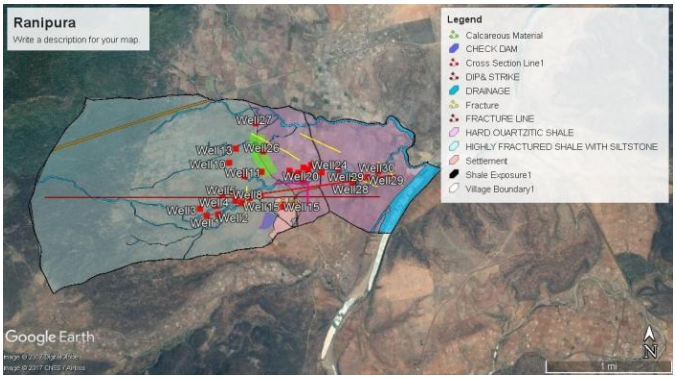
**Total Grant Amount: Rs.** 45,68,961

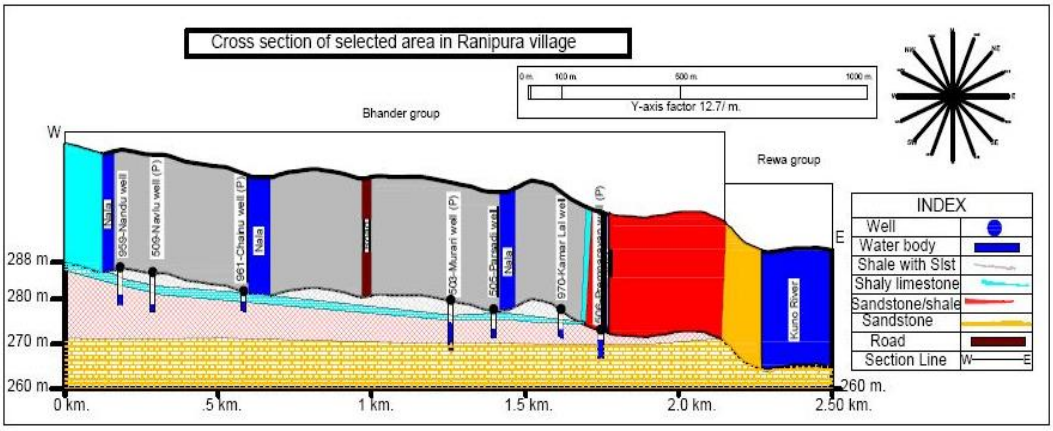
**Financial support:** ACWADAM under Bharat Rural Livelihood Foundation (BRLF)

**Coverage:** Ranipura and Chakrampura villages of Sheopur District (in partnership with NISWARTH), Mudkheda and Kalothara villages of Shivpuri District in partnership with PARHIT Sansthan) in Madhya Pradesh; Dheemri village of Udaipur district in Rajasthan and Lahan Mowada village of Yavatmal district in Maharashtra (both in partnership with FES).

**Activities (2020-21)**:

- Geological mapping leading to delineation of aquifers in the area
- Establishing monitoring network and training of local resource person for monitoring
- Identification of potential recharge and discharge areas, and aquifer characterization
- In situ water quality testing and analysis
- Ground water balance and crop water budgeting
- Preparation of ground water management plan along with protocols
- Strengthening of village institutions and decentralized decision making for groundwater management
- Convergence with relevant schemes

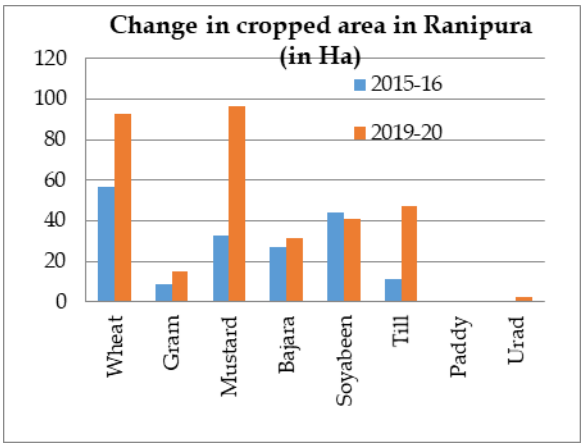


**Practices adopted**:

| Pilot Location | Practice/s |
|---|---|
| Chakrampura | • Distance regulation (30m) from drinking water source<br>• Renovation and maintenance of old water harvesting structures |
| Ranipura | • Well sharing farmer groups<br>• Establishment of seed bank<br>• Improved sanitation practices near drinking water sources |
| Mudkheda | • Ban on construction of bore-wells |
| Kalothara | • Ban on direct lifting from percolation ponds<br>• Ban on new bore-wells in the village |
| Dheemri | • Protection of drinking water source for year round supply<br>• Improved sanitation practices (especially near sources)<br>• Adoption of micro irrigation techniques i.e. sprinkler/drip<br>• Distance regulation between two sources as per govt. guidelines |
| Lahan Mowada and Hiwardhara | • Distance regulation between sources and toilets<br>• Well pooling for irrigation water |

**Outcomes:**




Ranipura

- The total agriculture land increased from 181 ha (in 2015-16) to 327 ha (in 2019-20), with more area under wheat, gram and mustard.
- Total irrigated land increased from 86 ha (in 2015-16) to 127 ha (in 2019-20).
- Each farmers group shares a well which having electric motor used for irrigation judiciously based on protocols.
- Migration has decreased by 40 percent in last 4 years.

Chakrampura

- The total agriculture land increased from 156 ha (in 2015-16) to 376 ha (in 2019-20), with more area under wheat, gram and pulses.
- Total irrigated land increased from 84 ha (in 2015-16) to 135 ha (in 19-20).
- Average of annual income of farmer increased by Rs. 3000 to Rs. 5000.

**Water sharing by farmers with solar pumps**

Convergence worth 1.38 Cr benefitting 759 households across the 5 pilots

**Title:** Building capacities for Participatory Groundwater Management in India

**Objective:** To develop digital learning content on springshed development.

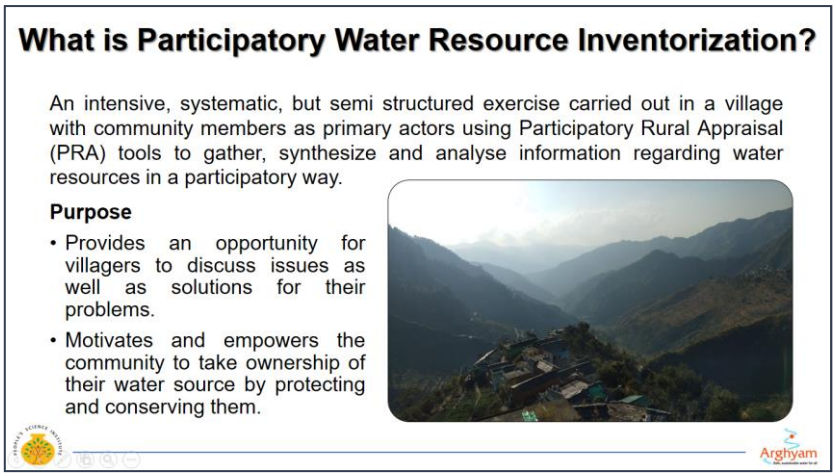
**Total project period:** 1 year

**Total Grant Amount:** Rs. 17,01,000

**Financial Support:** Arghyam

**Activities**:

- Creation of presentations with a voice over to explain the concept/topic.
- Creation of videos to show demonstrations




**Achievements/Outcomes:**

- 65 PPTs with voice over and videos in English and Hindi created on water quality and treatment measures.
- The content was used in virtual trainings and shared with other organizations.

*"The videos are good and informative. The content is easy to view and share"*, Suma Rao, Biome Environmental Trust.

## Title: Renuka Wetland - Ecosystem Services and Livelihood Assessment

**Objectives:**

- Assessment of Ecosystem Services from Renuka Wetland
- Livelihood and Cultural Dependence (Status and Trends)
- Socio Economic Profile of villages
- Impact of Livelihood and Cultural Activities on Wetland
- Appraisal of Institutional Framework
- Recommend Management Practices

**Total Project Period:** One Year (December, 2019 – November, 2020)

**Total Grant Amount:** Rs. 15,46,000

Renuka Lake

**Financial Support:** Deutsche Gesellschaft für Internationale Zusammenarbeit (GiZ)

**Coverage:** 8 villages of Khala Kyar, and Jamu Koti Gram Panchayat around Renuka Lake

**Activities (20-21):**

- Inception workshop among the stakeholder to discuss the issues related to Renuka Wetland and emerging challenges that needed to be addressed for its sustainable management.
- Stakeholders' Mapping including Renuka ji Vikas Board (RVB), Himachal Pradesh Tourism Department Corporation (HPTDC), Forest Department (Territorial and Wildlife Divisions), Boatmen, Shopkeepers, Irrigation and Public Health Department (IPH), and village communities of nearby 8 villages

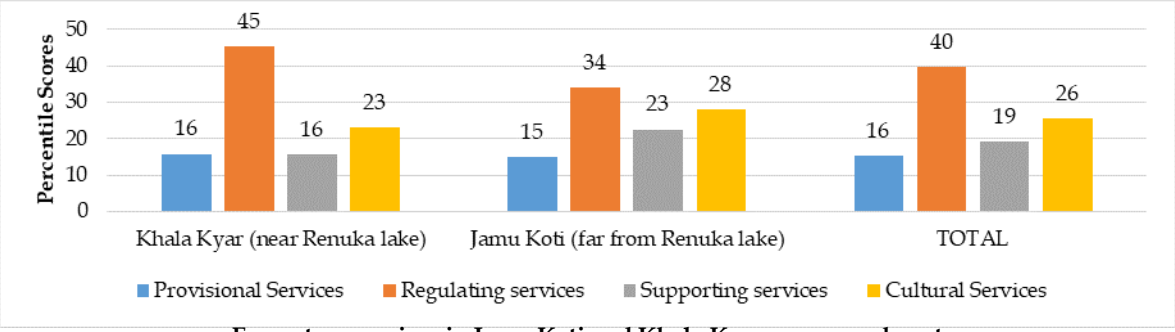
PRA activity with community

- Discussions with stakeholders to know about their roles, responsibilities, dependency on Renuka Lake, and wetland. Ecosystem services were ranked by them in the discussions.
- Historical transect to understand changes in landscape, demography, and activities associated with the wetland.
- PRA exercises like social and resource mapping, and matrix scoring and ranking exercises along with meetings with Mahila Mangal Dals and Youth Clubs for eight villages of Khala Kyar and Jamu Koti gram panchayats
- Village level questionnaires covering qualitative and quantitative data on village demography, infrastructure facilities, village institutions, land holding, occupation, sanitation and waste disposal mechanisms, and villagers' dependency on Renuka wetland

- Sample household survey to know about the dependency on the sanctuary and wetland area for various ecosystem services (Provisional, Regulating, Supporting, and Cutural services), including fuelwood and fodder collection, water recharge, medicinal plants, etc.

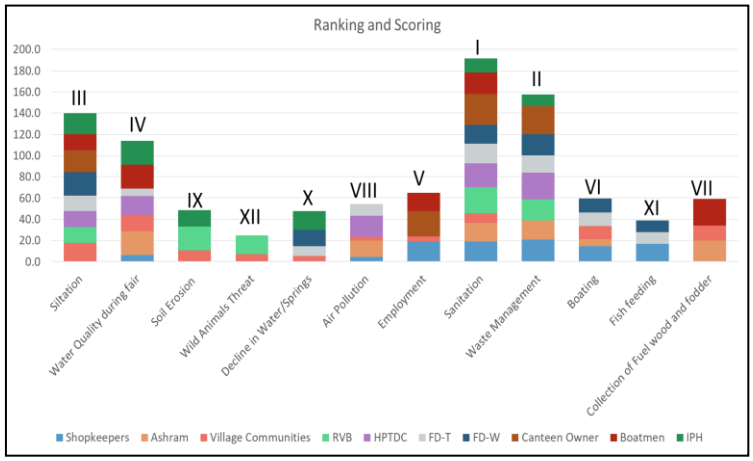
**Findings:**

- The communities recognized all the ecosystem services of Renuka Ji – regulating services (air and water quality, carbon reserve, flood control and soil retention), cultural services (religious belief, recreation and tourism), supporting services (springs' recharge), and provisional services (fodder, fuelwood and herbs).
- The basic infrastructure and livelihood practices (except for grazing of livestock during winters and summers) of these communities are not responsible for causing any significant deterioration of Renuka Sanctuary.
- The Renuka sanctuary provides income generating activities for some of the households of the two panchayats through contractual employment at Renuka Vikas Board, Forest Department and boating services, and running Prashad shops during international fair.




**Ecosystem services in Jamu Koti and Khala Kyar gram panchayat**

- There is a lack of co-ordination among the main stakeholders like the Forest Department (both Wildlife as well as Territorial) and the Renuka Vikas Board.various and others for management of Renuka Ji.
- The major threats and challenges related to Renuka Wetland are:




**Challenges Perceived by Stakeholders**

a. Ecosystem Services: Air Pollution, Degradation of Water Quality, Sanitation, Siltation
b. Livelihoods: Inaccessibility to collect fuel wood and fodder,
c. Lack of employment opportunities
d. Institutions: Sanitation, Waste Management, Boating activities, Encroachment around lake
e. Governance: Illegal forest activities, Mining, Hunting, Fire

- Requirement of Integrated Renuka Wetland Management Plan

**Title: Hydro geological assessment, soil and nutrient status and management strategies for Renuka Wetland, Himachal Pradesh**

**Objective:**

- Hydrogeological characterisation of Renuka Ji
- Assessment of soil erosion and sediment yield in the catchment of Renuka Ji
- Assessment of nutrient status, nutrient flux and water quality
- Impact of sediment loading on wetland ecology (flora and fauna)
- Management measures for maintaining hydrological and ecological characteristics of the wetland

**Project Period:** January 2020 to November 2020

**Project Partners:** ACWADAM and IIT-R

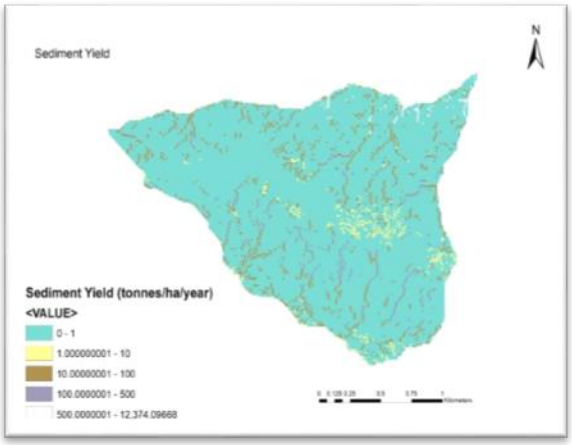
**Total Grant Amount:** 15,71,000/-

**Financial Support:** Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

**Coverage:** **Renuka Ji Wetland, Sirmour district, Himachal Pradesh**

**Activities**

- Demarcation of catchment area of Renuka Lake, identification of springs and recharge zone for springs.
- Identification of erosion prone areas, estimation of sediment yield, and identification of drivers of soil erosion.
- Samples were collected from different locations and depths of Renuka lake and analysed for physio-chemical and bacteriological parameters.
- Bio-monitoring (identification of benthic macro invertebrates) and identification of macrophytes was also performed.

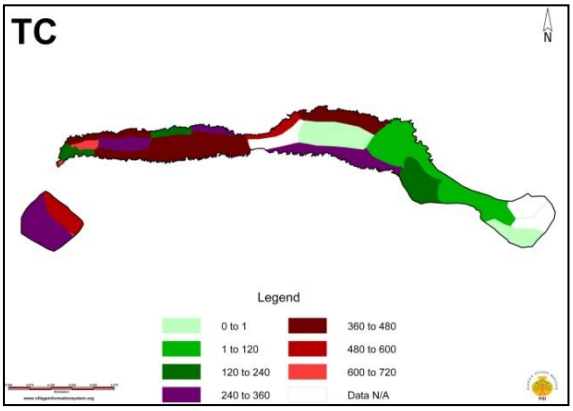


**Erosion Map of Renuka Wetland Catchment**

**Findings:**

- The erodibility study revealed that the catchment has soil which has high affinity towards sediment erosion. Construction of roads has triggered soil erosion and landslides.

- Most of the physico- chemical parameters were within the prescribed permissible limit. Nitrate, though within the standard limit, was higher may be due to decomposition of vegetables, plants and agricultural activities around Renuka Lake. Alkalinity, Total Hardness and calcium were found slightly higher which shows the presence and influence of limestone.
- Total Coliform and Fecal Coliform bacteria were present in Renuka lake water as well as Parashuram Tal indicating influx of domestic sewage from ashrams located on the bank of the lake, and animal excreta from forest and zoo.
- The average Carlson's Trophic State Index (CTSI) was estimated as more than 70, apparently attributing to heavy algal blooms. The lake is hyper-eutrophic in status due to nutrient enrichment coming through soil erosion.
- Macrophyte study also revealed that invasive species (*Azolla, Potamageton, Najas, Hydrilla, Pharagmites*) have replaced the native macrophyte species (*Lemna, Sparganium, Nephrolepsis*) and have become dominant in the lake body.
- Benthic macro invertebrate study shows most of the sampling points falls in moderate pollution class.



**Total Coliform (CFU/100ml) in Renuka Lake**


**Azola dominating zone**


**Benthic Macro Invertebrate in Renuka Lake**

### Recommendations:

- Soil and water conservation measures such as staggered contour trenches, toe trenches, cement grouting, katta crate, retaining wall, gabion check dams etc. are required to control soil erosion from the Renuka catchment area.
- Need for regular water quality monitoring of Renuka lake to help in taking decision.
- Sanitation and waste disposal facilities in the surrounding settlements need to be improved, especially waste water coming directly or by seepage from zoo located on the Renukaji's periphery.

**Title: Study of water quality of high altitude wetlands in Gangotri-Govind and Dharma Byans Landscape Uttarakhand and study of spring-shed hydrology in Sat Tal Wetland Complex**

**Objective:** The objectives of the project are

- Water quality assessment of 11 wetlands from Gangotri-Govind and Dharma-Byans Landscape, Uttarakhand,
- Study of springs to establish the interaction between springs and Sat Tal wetland complex in Uttarkashi district.
- Hydrological studies (establishing baselines of inflows and outflows) of active wetlands and connecting streams

**Total Project Period:** One Month (November 15th to December 15th, 2020

**Total Grant Amount:** Rs. 4,85,000

**Financial Support:** WWF, India

**Coverage**: Uttarkashi and Pitthoragarh districts of Uttarakhand

**Activities (2020-21):** (1) Sample analysis of 10 wetlands (2) Water quality sampling and analysis of Sat tal lake complex (3) Study of Springs around Sat Tal (4) Hydrological Studies of Stream Connecting Lake complex (5) Study of factors affecting Sattal lake complex (6) Preparation of Management plan

**Findings:**

- Most of the parameters - pH, total dissolved solids, electrical conductivity, dissolved oxygen and biological oxygen demand were within the permissible limits.
- Presence of coliform bacteria, especially fecal coliform bacteria most likely due to increased tourist activities in and around the Sat Tal wetland complex.
- Wetlands get recharged by surface runoff from the catchment, feeder streams and underwater springs which are mainly fracture springs emerging in the hard gneiss rock under layer.

**Recommendations:**

- Camping activity should be performed at least 50 meters away from the lakes. Excretion activities should be performed at a minimum 150 meters away from the lakes.
- Deweeding of algae and macrophytes.
- Soil conservation measures such as construction of check walls, gully plugs etc. along the slopes and streams entering into the lakes.
- One automatic weather station for monitoring the hydrology of Sattal lake complex along with six discharge measuring sites

**Title: Socio-Cultural aspects as part of Environmental Flows Assessment for major rivers in the state of Uttar Pradesh**

**Objective:** To prepare a "Starter Document" for the E-Flows Setting workshop for each of the study sites covered rivers, containing (a) knowledge, information and data available, (b) reference/desired conditions based on concerned perspective, and (c) differences in condition and flow requirements that would equate to a category below or above the desired state.

**Total Project Period**: October 2019 to December 2020

**Total Grant Amount:** Rs. 16,00,000

**Financial Support**: WWF India

**Coverage:** Major Rivers of UP: Ganga, Ghaghra, Rapti, Gomti and Sharda

**Activities (2020-21):**

- Participant observations, semi-structured interviews and focus group discussions.
- Historical transect and of the sites, and additional anecdotes.

**Marginalised communities are intricately linked with their ecosystems**

- Purposive sampling covering diverse backgrounds, occupations, communities and genders.
- Surveys for Shahzadpur along the Ganga, Turtipar along the Ghaghara, and all three sections along the Rapti were carried out

**Findings:**

- Drastic shrinking of the river and decrease in flows is the primary source of concern at the survey sites on Ganga, at Shehzadpur (near Karenti Ghat) and Varanasi (just downstream of Rajghat bridge). This impacts nearly every aspect of people's lives, from livelihoods such as palaage and fishing, to religious rituals such as a ceremonial bathing.

**Sandbank or paalage farming is dependent on near-natural flows both in quantities and seasonality**

- All the three sites of Rapti (Balrampur, Bansi, and Gorakhpur) reported diminishing of the river. At Balrampur and Bansi, primary agricultural areas, low summer flows and the lack of monsoon floods as well as the untimely summer floods are issues of concern. Low summer flows are the primary concern at Gorakhpur where farming is now on the decline as compared to livestock herding.

**Title: India River's Forum (IRF)**

**Objective:** To establish a vibrant and active network of organizations and individuals who have dedicated themselves to work for the rejuvenation and restoration of rivers.

**Activities (2020-21)**

- India River's Week (IRW) 2020, the flagship program of IRF was conducted online due to the COVID-19 pandemic.
- The theme for IRW 2020 was "Is sand mining killing the rivers". The various sand mining issues all around the country were discussed over five weekly sessions.

**Achievements/Outcomes:**

- A total of 915 people registered for IRW 2020.
- A robust set of ground stories and incidents has been documented during these series of sessions.
- Through the discussions with renowned experts of the field, various on ground realities and judicial loopholes were highlighted. Such data can always be used in policy reformation.


**A glimpse from IRW 2020 East Zone Dialogue**

**Title: Transdisciplinary investigation of the potential of glacial flour in supporting crop yields and promoting soil care in the Hindu Kush Himalaya (HKH)**

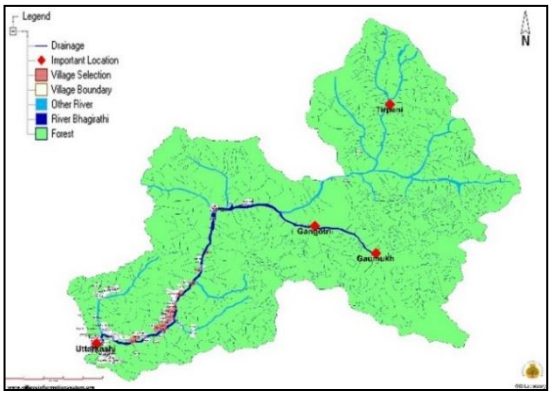
**Objective:** To develop an understanding of (a) the history and ecology of Himachal Pradesh, Uttarakhand and the W. Indian Himalaya region, in terms of long term relationships between the economy, farming communities, and soil fertility; (b) the history of soil fertility practices, and (c) the problems communities face that could be remedied by glacial flour.

**Project Period:** April 2020 to March 2021.

**Total Grant Amount:** Rs. 4,54,000

**Financial Support:** University of Bristol, UK.

**Coverage:** Six villages in two valleys. Three villages each in Bhagirathi valley, Uttarkashi district, Uttarakhand and Parvati valley, Kullu district, Himachal Pradesh.




**Study area: Bhagirathi valley, district Uttarkashi**

**Activities (2020-21):**

- PRA exercises and focus group discussions with farmers regarding cropping pattern, agricultural practices and nutrient use.
- Household surveys of farmers regarding their perceptions about soil productivity, nutrient usage, and potential of glacial flour usage
- Interviews with research scientists of Krishi Vygyan Kendra (KVK) and block level agriculture officers.
- Compilation and analysis of data and workshops with key stakeholders.

**Farmers Interviews during study on Glacial**

**Key Findings:**

- Snowfall reduced upto 60 percent
- Reduced irrigation has resulted in deterioration of soil moisture and fertility
- Loss of agricultural lands due to stream bank erosion, landslides, etc.
- In last 5 years, use of chemical fertilizer has been reduced
- Shift in cropping pattern from paddy, wheat and millets to vegetables, spices and fruits
- Reduced farm productivities has affected the vulnerable groups

"*Due to construction of roads our irrigation canals have been damaged. The glacial water coming from streams was full of minerals which increased the soil fertility and crop productivity. Now we are not getting the water for irrigation which has reduced the crop productivity*"
- Bachan Singh (70) a progressive farmer village Jamak. Uttarkashi.

**Title: Response to Covid -19 first wave**

**Objective:** Provide relief to COVID-19 affected households

the actual affected people and provide relief material.

**Project Period:** April to December 2020

**Total Grant Amount:** Rs. 24,31,676

**Coverage:** Seven districts of Himachal Pradesh, Madhya Pradesh and Uttarakhand.

**Financial Support:** ARGHYAM, APPI and other institutional and individual donors

**Activities (2020-21):**

- Survey and identification of affected villages and families
- Awareness generation (regarding usage of mask, social distancing, quarantine centers) through posters and other methods
- Distribution of relief material (food, mask, sanitizer etc.)
- Marketing of agricultural produce
- Support in operation of rehabilitation centers
- Identify problems of migrant workers.


**Posters developed under the Covid**

**Achievements:** (1) Relief materials distributed to 2,000 affected families, (2) Awareness programs organized at mass scale through posters, audio/video clips, (3) Support given to quarantine centers, and (3) Support like seeds given to farmers during agriculture season.

*"Due to COCID -19 we are unable to get labour work even in the village. We have one disabled person in the family. All the stored food material has finished. We are happy to receive the relief material from PSI which is enough for next one month"*, Panuli devi village Jhopra, Bageshwar

*"I want to thank the field team of People's Science Institute for providing relief and support in such a crisis period"*, Kamlender Sngh Pradhan village Raonlenk, Rudraprayag.

**Panuli Devi, a distressed family with disabled son in Village Jhopra, Bageshwar, provided with relief material**

## IV. OUR PUBLICATIONS 2020-21

- "Uttarakhand: Reaching The Unreach", Puran Bartwal, India Water Portal, Sep' 8, 2020.
- 'Hydrological process monitoring for springshed management in the Indian Himalayan region: field observatory and reference database", Bhargabnanda Dass, Sumit Sen, Anita Sharma, Sana Hussain, Nitin Rana, and Debashish Sen – Current Science, Vol.,120, No. 5, 10 March 2021.
- "Policy Interventions in Public Irrigation Systems in Drought Prone-Bundelkhand: A Critical Review", Ayush Vani, Seema Ravandale, C. Shambu Prasad, Debashish Sen – India Water Portal
- Monograph on "Community based springshed management in Uttarakhand" (Under Print)
- Monograph on "Experiences of Natural farming from five agro-ecological regions of India" (Under Print)
- Farmers' Manual on Natural Farming for crops like Maize, Finger Millet, Pigeon Pea (Under Print)

## V. ICC REPORTS

- Complaint received in the previous year, was resolved.
- Compliance requirements under the ACT were fulfilled in terms of:
  - ✓ Dissemination of PSI's POSH policy to the staff and making it available online
  - ✓ Completed certified online courses on POSH for IC Members, Managers, and staff
  - ✓ Awareness programs/POSH webinars for Managers and IC Members
  - ✓ Posters and notices in the office for creating awareness regarding the law
  - ✓ Quarterly IC meetings
  - ✓ Submitted the annual report to the District Officer
  - ✓ Replacement of two IC members
- No complaint was received in 2020-21.

# VI. FINANCIAL REPORT

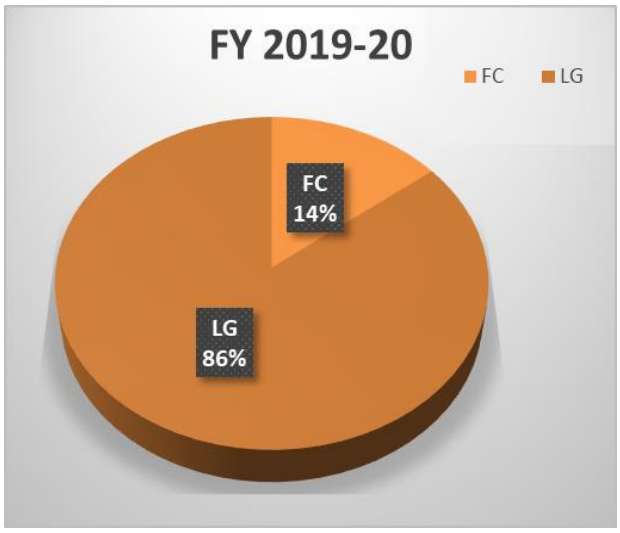
**Project Wise Financial Statement (2020-21)**

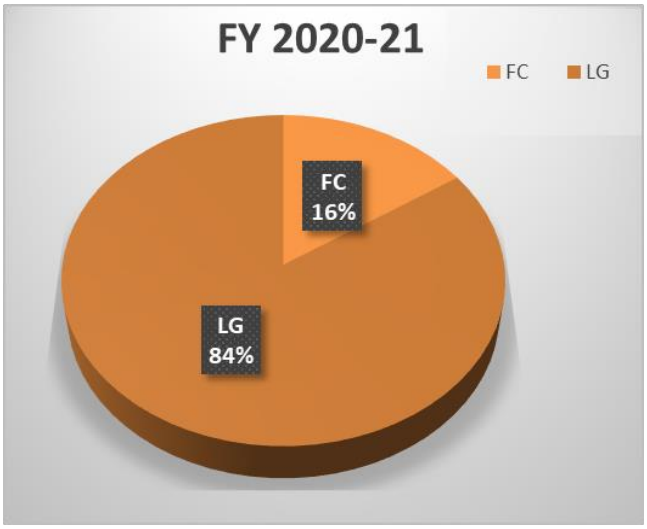
| S. No. | Project | Funding Partner | Opening Balance (Rs.) | Income (Rs.) | Utilization (Rs.) | Balance (Rs.) |
|---|---|---|---|---|---|---|
| 1 | Community Based Springshed Development | G.B. P NIHESD | 29,42,179 | 33,756 | 44,38,095 | (14,62,160) |
| 2 | PGWM | ARGHYAM | 4,30,529 | 26,83,061 | 31,13,590 | - |
| 3 | Reviving Spring in Uttarakhand | Bajaj Auto Limited | 68,16,976 | 65,47,875 | 90,17,915 | 43,46,936 |
| 4 | BRLF | ACWADAM | (89,087) | 2,28,614 | 3,89,938 | (2,50,411) |
| 5 | PSM/MEG | SWCD, Meghalaya | 6,61,793 | - | - | 6,61,793 |
| 6 | Fluorosis Mitigation | Frank water | 4,52,981 | 5,89,491 | 7,37,207 | 3,05,265 |
| 7 | Ganga Water Quality Monitoring | WWF-India | 64,369 | - | 64,369 | - |
| 8 | Springshed Development in Darjeeling & Kalimpong | WWF-India | (5,57,920) | 5,57,920 | - | - |
| 9 | Uttarakhand Flood Disaster | Individual Donations | 66,18,086 | - | 18,25,622 | 47,92,464 |
| 10 | Drinking Water Scheme of 3 Villages- (IVDP-BKW) | The Hans Foundation | 12,67,996 | 58,41,533 | 78,42,254 | (7,32,725) |
| 11 | Implementation of IVDP-DPR (BKS) | The Hans Foundation | 1,30,804 | - | 1,04,265 | 26,539 |
| 12 | ILSP –Pulse project | Uttarakhand Gramya Vikas Samiti | (47,603) | 19,845 | (27,758) | - |
| 13 | Mission SunehraKal (MSK) in Bahadarabad block, Haridwar & Baddi (H.P) | ITC Limited | 33,09,920 | 20,83,908 | 66,76,005 | (12,82,177) |
| 14 | Holistic Village Development Through Watershed approach in Haridwar. | Mahindra & Mahindra Ltd. | | 75,30,128 | 16,74,363 | 58,55,765 |
| 15 | Sustainable Development in Bundelkhand region of M.P | MJVS-BRLF | (71,548) | 15,07,136 | 13,92,534 | 43,054 |
| 16 | To demonstrate & extend a model of climate smart agriculture (2) Covid relief | Azim Premji Philanthropic Initiatives PVT LTD (APPI) | 94,99,895 | 17,53,550 | 79,69,677 | 32,83,769 |
| 17 | SCI RRAN | Friends of WWB India | (1,95,528) | 26,05,528 | 24,10,000 | - |
| 18 | Village Strengthening through adaptation and resilience | Indo-Global Social service society | - | 5,24,900 | 5,24,900 | - |
| 19 | Glacial Flour Study | University of Bristol | - | 2,24,626 | 1,18,012 | 1,06,614 |
| 20 | SCI-RC | Metrobethesda Rotary Club | - | 4,35,937 | 3,43,292 | 92,645 |

PSI's balance sheet and consolidated income and expenditure account for 2020-2021, ending March 31, 2021 are attached as Annexures 1a and 1b.

During the year the Institute generated grants worth Rs. 2,54,28,586 and donations worth Rs. 93,20,711. Other receipts from bank interest, consultancies, sale of products and publications amounted to Rs.53,72,892. Adding the opening balance and other incomes the total income for 2020-2021 amounted to Rs. 7,13,56,031. The Institute spent Rs.5,82,63,723 leaving a balance of Rs. 1,30,92,309. Unutilized grants carried forward amounting to Rs. 1,57,87,372, the deficit transferred to the capital fund is Rs. 26,95,063**.**

The pie-charts below show the sourcing of income from local grants & donations and foreign grants & donations for 2020-2021 & the previous year.




The main donors for local and foreign grants are listed below. PSI is thankful to all of them for their support.

**Indian:** ACWADAM, Arghyam, The Hans Foundation, ITC Ltd., MJVS, Soil & Water Conservation Department of Meghalaya. Bajaj Auto Limited, G.B. Pant National Institute of Himalayan Environment & Sustainable Development, UGVS, APPI, NEIDA, CML, S&WC, RWD Itanagar, Govt of Arunachal Pradesh, GIZ India, Forest Department Uttarkhand, Indo-Global Social Service Society, and Mahindra & Mahindra Ltd.

**Foreign:** Frank Water, Friends of WWB India, The Hans Foundation, and GIZ, ICIMOD, WWF India, University of Bristol, and The Rotary Club USA.

## VII. EXECUTIVE BOARD 2020-21

| | | |
|---|---|---|
| **Dr. Nivedita Narain** | Chairperson | Social Scientist |
| **Dr. Navin Juyal** | Treasurer | Scientist |
| **Prof. Janki Andharia** | Member | Disaster Management |
| **Dr. V. C. Goyal** | Member | Hydrologist |
| **Dr. Kshama Metre** | Member | Medical Practitioner |
| **Prof. Shambu Prasad** | Member | Rural Management |
| **Dr. Debashish Sen** | Director (Ex-Officio) | Scientist |

## VIII. PSI STAFF 2020-21

| No. | Name | Date of Joining | Date of Leaving |
|---|---|---|---|
| 1 | Iqbal Ahmad | 01.02.20 | |
| 2 | VargishBamola | 04.01.16 | |
| 3 | PuranBartwal | 03.01.11 | |
| 4 | BiswajyotiBasu | 04.01.19 | 30.11.20 |
| 5 | Priyank Bharti | 01.04.19 | |
| 6 | MeheliChakravorty | 08.11.19 | 05.03.21 |
| 7 | Sandhya Chaudhary | 17.04.17 | 31.07.20 |
| 8 | Sangeeta Chauhan | 01.11.20 | |
| 9 | Shubham Chauhan | 01.01.20 | 30.04.20 |
| 10 | Kamal Dawar | 01.04.19 | |
| 11 | D.N. Dwivedy | 17.08.98 | |
| 12 | Ashish Gaur | 24.08.18 | |
| 13 | Anil Kumar Gautam | 01.03.02 | |
| 14 | NaveenGusain | 02.04.18 | |
| 15 | Sandeep Gusain | 02.04.18 | |
| 16 | PushpaJuyal | 21.12.92 | |

| No. | Name | Date of Joining | Date of Leaving |
|---|---|---|---|
| 17 | HeenaKanoj | 01.03.16 | |
| 18 | KhastiKoranga | 01.05.18 | |
| 19 | Manoj Kumar | 10.07.06 | |
| 20 | Abhishek | 01.04.18 | |
| 21 | Rajesh Kumar | 01.04.18 | |
| 22 | Ravinder Kumar | 17.08.18 | 31.08.20 |
| 23 | Vijay Kumar | 01.08.18 | |
| 24 | DarshanLal | 01.06.13 | |
| 25 | Prem Narayan | 01.11.18 | |
| 26 | Arvind Nigam | 06.06.17 | |
| 27 | Ravi Niranjan | 17.07.18 | 12.08.20 |
| 28 | VinodNiranjan | 15.01.14 | |
| 29 | Bhagwati Pandey | 20.03.17 | |
| 30 | Dharmendra Singh Panwar | 18.06.18 | |
| 31 | Gaurav Panwar | 04.11.20 | |
| 32 | MeenaPanwar | 01.06.2019 | 30.11.20 |
| 33 | Amit Petwal | 01.11.16 | |
| 34 | TanmayPisolkar | 18.01.18 | 16.12.20 |
| 35 | R.S. Prasad | 01.11.94 | |
| 36 | Puja Raghubanshi | 08.03.21 | 31.03.21 |
| 37 | Mahendra Singh Rajwar | 01.01.08 | 31.10.20 |
| 38 | Pradeep Singh Rana | 01.06.17 | |
| 39 | Roshan Rathod | 15.03.18 | 30.10.20 |
| 40 | AlokRauthan | 15.05.17 | |
| 41 | SeemaRavandale | 01.04.17 | |
| 42 | AkhileshRawat | 02.02.18 | |
| 43 | Milan Rawat | 12.12.18 | 31.08.20 |
| 44 | Prem Singh Rawat | 01.09.18 | |

| No. | Name | Date of Joining | Date of Leaving |
|---|---|---|---|
| 45 | Ramesh Singh Rawat | 16.09.04 | |
| 46 | Subhash S. Rawat | 01.06.02 | |
| 47 | Ipsita Roy | 01.05.20 | |
| 48 | DebashishSen | 01.03.88 | |
| 49 | Rakesh Sen | 01.08.20 | 15.12.20 |
| 50 | Anita Sharma | 02.07.12 | |
| 51 | Dinesh Sharma | 02.10.97 | |
| 52 | Adarsh Shukla | 01.08.18 | |
| 53 | Dara Singh | 01.10.16 | |
| 54 | Makan Singh | 01.07.17 | |
| 55 | Pappu Singh | 01.06.19 | 30.06.20 |
| 56 | Vikas Singh | 18.06.18 | |
| 57 | Vikram Singh | 01.02.00 | |
| 58 | Yashpaul Singh | 06.07.20 | 31.11.20 |
| 59 | Bharat Singh Takuli | 01.06.19 | 31.08.21 |
| 60 | C. Tripathi | 15.06.88 | |
| 61 | HarshitaUmrao | 01.02.20 | |
| 62 | Sanjay Uniyal | 01.11.17 | |
| 63 | DikshaUpadhyay | 01.05.19 | |
| 64 | KunalUpasani | 01.03.18 | 28.02.21 |
| 65 | SharadYadav | 01.05.17 | |
| 66 | Salman Zaheer | 16.05.19 | |

# IX. INTERNSHIP 2020-21

| S. No. | Name of the Intern | College/ University | Degree Pursued | Internship Period | Project Allocated | Online/ Offline |
|---|---|---|---|---|---|---|
| 1 | Sangita Chouhan | IGNOU | PGDM(Environment and Sustainable Development) | September, 2020-October, 2020 | Renuka Lake Water quality testing, and analysis | Offline |
| 2 | Siddhesh Pundekar | TISS, Mumbai | MA(Development Studies) | December,2020 | Participatory Rural Appraisal activities for Springshed Development in Tehri, and Pauri Garhwal, Uttarakhand -AIGWES (SSD/AU) | Offline |
| 3 | Baby Muskaan | TISS, Mumbai | MA(Development Studies) | December,2020 | Participatory Rural Appraisal activities for Springshed Development in Tehri, and Pauri Garhwal, Uttarakhand -AIGWES (SSD/AU) | Offline |
| 4 | Ragini Dixit | Guru Gobind Singh Indraprastha University, New Delhi | M.Sc.(Environment Management) | June,2020 - 12,July,2020. | Study of Uttarakhand Jal Sansthan-Latest Update on Drinking Water Distribution and Water Quality in Dehradun | Online |
| 5 | Varsha Mishra | Guru Gobind Singh Indraprastha University, New Delhi | M.Sc.(Environment Management) | June,2020 - 12,July,2020. | How COVID resilient is Dehradun Smart City Plan | Online |
| 6 | Gauri Singh | Delhi University | MA (History) | Feb, 2020- March, 2020 | Participatory Rural Appraisal activities for Springshed Development in Tehri, and Pauri Garhwal, Uttarakhand -AIGWES (SSD/AU) | Offline |
| 7 | Krti Verma | Delhi University | | 10th , Oct, 2020 - 10th, Dec, 2020 | Ecosystem Services and Livelihood Assessment of Renuka Wetland, Himachal Pradesh | Online |
| 8 | Akash Glad Minj | XISS, Ranchi | Rural Management Programme | 1st May 2020-June, 2020 | A Study on Impact of COVID-19 Lockdown on Gender Relation within the Households in Ranchi, Jharkhand | Online |
| 9 | Gokul S | TISS, Mumbai | | 24th March, 21-2nd, April, 21 | The Study of Asan River | Offline |

# X. BALANCE SHEET 2020-21

**PEOPLE'S SCIENCE INSTITUTE**
**H-,65,H-Block,Street No-5,Shakarpur, New Delhi-110092**
**BALANCE SHEET AS AT 31st MARCH 2021**

Amount in Rs.

| CORPUS / CAPITAL FUND AND LIABILITIES | SCH. | 2020-21 | | | 2019-20 |
|---|---|---|---|---|---|
| | | LG | FC | Total | Total |
| (a) Endowment Fund | A | - | 5,97,837 | 5,97,837 | 5,97,837 |
| (b) Campus Fund | B | 2,20,230 | 43,13,398 | 45,33,628 | 49,39,009 |
| (c ) Reserve & Surplus | C | 38,18,198 | 20,37,782 | 58,55,980 | 51,66,864 |
| (d) Fixed Asset Fund | | 1,05,35,632 | 2,35,56,668 | 3,40,92,300 | 3,70,71,099 |
| (e) Grant (to the extent Unutilised) Receivable/ Unutilised (net) | D | 1,52,56,309 | 5,31,063 | 1,57,87,372 | 3,12,33,843 |
| (e) Current Liabilities | E | 3,79,699 | 1,27,142 | 5,06,841 | 14,85,110 |
| (f) Staff Gratuity Fund | | 16,39,163 | 10,69,668 | 27,08,831 | 27,08,831 |
| **Total (Rs.)** | | **3,18,49,231** | **3,22,33,558** | **6,40,82,789** | **8,32,02,592** |
| **Assets** | | | | | |
| (a) Non Current Assets | | | | | |
| Fixed Assets | F | 1,05,35,632 | 2,35,56,668 | 3,40,92,300 | 3,70,71,099 |
| (b) Current Assets | | | | | |
| Cash and Cash Equivalents | H | 38,98,594 | 24,33,246 | 63,31,840 | 1,75,42,608 |
| Other Current Assets | I | 17,63,107 | 56,45,807 | 74,08,914 | 84,96,908 |
| Investments | G | 1,56,51,898 | 5,97,837 | 1,62,49,735 | 2,00,91,978 |
| TOTAL (Rs.) | | 3,18,49,231 | 3,22,33,558 | 6,40,82,789 | 8,32,02,593 |
| Significant Accounting Policies | j | | | | |
| Contingent Liabilities & Notes to Accounts | k | | | | |

As per our report of even dated attached

**For Singh Satish & Associates**
**Chartered Accountants**
**FRN: 032138N**

SINGH SATISH & ASSOCIATES * 032138N NOIDA * Chartered Accountants

**Satish K. Singh**
**FCA; BCOM(H)**
**Membership No. 526351**
**Place: New Delhi**
**Date:27th December 2021**

UDIN : 21526351AAAAFJ1726

**For People's Science Institute**

**Dr. Debashish Sen**
**Director**

**Dr. Navin Juyal**
**Treasurer**

## PEOPLE'S SCIENCE INSTITUTE

H-,65,H-Block,Street No-5,Shakarpur, New Delhi-110092

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st MARCH 2021

Amount in Rs.

| INCOME | Sch. | 2020-21 | | | 2019-20 |
|---|---|---|---|---|---|
| | | LG | FC | Total | Total |
| Donations & Project Grants | L | 2,93,40,943 | 54,08,354 | 3,47,49,297 | 7,03,57,742 |
| Interest Income | M | 14,04,444 | 1,01,169 | 15,05,613 | 14,97,008 |
| Other Income | N | 8,30,156 | - | 8,30,156 | 12,59,569 |
| Environment Education and Services Receipts | O | 22,37,123 | 8,00,000 | 30,37,123 | 43,61,544 |
| **TOTAL** | | **3,38,12,666** | **63,09,523** | **4,01,22,189** | **7,74,75,863** |
| Grant Unutilised C/f | | 3,13,39,137 | (1,05,294) | 3,12,33,842 | 2,04,05,485 |
| **Total** | | **6,51,51,803** | **62,04,229** | **7,13,56,031** | **9,78,81,348** |
| **EXPENDITURE** | | | | | |
| **Expenditure** | | | | | |
| Program Expenses | P | 2,90,29,012 | 25,13,166 | 3,15,42,178 | 4,00,01,976 |
| Human Resource Expenses | Q | 1,92,37,918 | 15,35,797 | 2,07,73,715 | 2,16,29,361 |
| Administrative Expenses | R | 20,43,873 | 1,67,285 | 22,11,157 | 21,59,968 |
| Depreciation | F | 14,50,868 | 22,85,805 | 37,36,673 | 41,53,602 |
| **Total** | | **5,17,61,670** | **65,02,053** | **5,82,63,723** | **6,79,44,907** |
| Transfer to Unutilised Grant | | 1,52,56,309 | 5,31,063 | 1,57.87,372 | 3,12,33,842 |
| Transfer to Campus Fund | | - | - | - | - |
| **Excess of Income over Expenditure** | | (18,66,176) | (8,28,887) | (26,95,063) | (12,97,401) |
| **TOTAL** | | **1,33,90,132** | **(2,97,824)** | **1,30,92,309** | **2,99,36,441** |
| Significant Accounting Policies | S | | | | |
| Contingent Liabilities & Notes to Accounts | T | | | | |

**As per our report of even date attached**

**For Singh Satish & Associates**
**Chartered Accountants**
**FRN: 032138N**

SINGH SATISH & ASSOCIATES * Chartered Accountants * 032138N NOIDA

**Satish K. Singh**
**FCA; BCOM(H)**
**Membership No. 526351**
**Place: New Delhi**
**Date:27th December 2021**

**For People's Science Institute**

**Dr. Debashish Sen**
**Director**

**Dr. Navin Juyal**
**Treasurer**

UDIN: 21526351AAAAFJ1726