

## PLS

### International Plant Science Awards

#### Abstract

During my Scientific Career, I worked on Taxonomy, Ecology, Valuation, Conservation Prioritization, Conservation Education and Conservation; discovered new species *Elaphoglossum pangteyii* Khullar et Samant; new hybrid *Pteris x Khullarii* Pangtey, Samant et Verma; species new for India (*Oxalis lasiandra* Zucc.); Western (08) and Kumaun Himalaya (16); Developed integrated approach for floristic diversity assessment in the protected, unprotected biodiversity rich and Hydro – Power Project areas; State of art approaches for extraction trends of fuel and fodder resources; threat categorization and conservation prioritization; Data base on Medicinal, Wild Edible, Essential Oil Yielding and Sacred Plants, trees, shrubs and Orchids of the Indian Himalayan Region; Document on NDBR for UNESCO MAB net prepared & accepted; Assessed ecosystem services of agro - ecosystems and Sacred Groves; Assessed populations of threatened and endemic species (20) and developed Ecological Niche Models for predicting suitable habitats; Impact of climate change on floristic diversity, Established Arboreta, Herbal Gardens, Medicinal Plant Nursery, Rural Technology Park and Van Vigyan Kendra; Developed Agrotechniques (26 spp.) of Medicinal plants, promoted under cultivation; Tested Pollination Deficit Protocol and promoted conservation of bee pollinators and bee flora; Promoted Citizen Science Programmes (19) for the first time in the Indian Himalaya; Prepared PBRs (61) for Panchayats, Blocks & Districts; Detailed Project Reports (DPRs) for the rejuvenations of Jhelum, Chenab, Ravi, Beas, and Sutlej River Basins through forestry interventions and implementation by State Forest Departments; Installed 22 Manual Weather Stations in 22 Govt. Schools and promoted conservation education among students, teachers, farmers and other stakeholders; trained > 10,000 students, teachers and stakeholders; Guided 34 students for Ph. D., 07 Summer Fellows, Summer Fellows: 07; 01 M. Phil., and 06 M. Sc. Students, 07 students under guidance for Ph. D., and Published Total 382 Research Papers Published in Full (210); Short Research Papers (19); Scientific Reviews (07); Articles (70); Chapters in Books (38); Authored & Edited Books (15); Himalayan Biosphere Reserves (Biannual Bulletins) (05); Booklets (Hindi) (13); Detailed Project Reports (DPRs) of Jhelum, Chenab, Ravi, Beas & Sutlej River Basins (05 - Vol. I, II & Overview for each river), Received 16 Honors and Awards, and Recognition as Member/Expert/ Counsellor by the Central and State Govt. organizations. Outcomes of the research were utilized for policy documents by the State and Central Governments.