

2nd DR D.S. ATHWAL MEMORIAL LECTURE

January 31, 2020

Securing Our Biodiversity and Our Future: New Opportunities and Challenges

ABSTRACT

India accounts for just 2.3% of the global land area but it is home to nearly 8% of global biodiversity, 4 of the 35 global biodiversity hotspots, and is one of 8 Vavilovian Centres of global crop diversity. India's unique and diverse ecosystems, distributed across our landscapes, rivers and oceans, are critical to the survival of humanity, including the quality of life. Over the centuries, this rich fabric of biodiversity has sustained a vibrant, ever-changing tapestry of people, cultures, traditions and knowledge systems. This biodiversity feeds the ever burgeoning human population, provides primary health care to a majority of people, and is a source of ecosystem services such as water, soil, pollinators, insect pests, recreation and spiritual enrichment. Such services valued at Rs128 trillion/year from forests alone, underpin our agricultural productivity, can help mitigate climate change, and provide the foundation for a new model of economic and human development. Yet, the biodiversity science that underpins these services has remained neglected. The lecture shall outline a unique and ambitious long-term initiative on India's biodiversity and its links to human well-being that will represent a long-term investment in science and our future.

ABOUT THE SPEAKER

Dr Kamal Bawa (www.Kbawa.com) is a Distinguished Professor of Biology at the University of Massachusetts, Boston, USA and Founder-President of the Ashoka Trust for Research in Ecology and the Environment (ATREE), one of India's top-ranked environmental think tanks, based in Bengaluru. He has done extensive work in the Himalayas and Western Ghats on a wide range of issues, with focus on generating knowledge about the impact of land use and land cover change, climate change, human use of natural resources on biodiversity and plant population biology. He is interested in developing new paradigms of conservation that take into account alleviation of poverty and strengthening of institutions. Dr Bawa has published more than 200 papers and has authored or edited more than 10 books, and special issues of journals. Among the many awards he has received are: Bullard Fellowship at Harvard University (1972, 2009), Guggenheim Fellowship (1987), Pew Scholar in Conservation and the Environment (1992),



Giorgio Ruffolo Fellowship at Harvard University (2009), the Gunnerus Prize in Sustainability Science from the Royal Norwegian Society of Letters and Sciences (2012), the international MIDORI Prize in Biodiversity from the Aeon Foundation in Japan (2014), the Linnean Medal (2018), and honorary doctorates from the University of Alberta (2014) and Concordia University in Montreal (2019). He is an elected Fellow of the American Academy of Arts and Sciences (2012), the Royal Norwegian Society of Letters and Sciences (2012), the Royal Society (2015), and the American Philosophical Society (2019), the last two being the world's, oldest academies great great learning. Dr Bawa is the Founder Editor-in Chief of Conservation and Society (www.conservationandsociety.org) and Editor of Ecology, Economy and Society (http://ecoinsee.org/journal/eb_editors). His latest coffee table book Himalaya, 'The Mountains of Life', a companion volume to 'Sahyadris: India's Western Ghats', was published in 2013.

ABOUT DR D.S. ATHWAL

Padma Bhushan Dr Dilbagh Singh Athwal (born 12th October 1928) was an Indian geneticist, plant breeder and agriculture scientist, who conducted pioneering research in **plant breeding** and played a pivotal role in initiating Green Revolution in the country. He was a Professor and Head of the Department of Plant Breeding at **Punjab Agricultural University**, Ludhiana and an associate of Dr **Norman Borlaug**, with whom he collaborated for introduction of high-yielding dwarf varieties of wheat. Popularly known as Father of Wheat Revolution, Athwal was instrumental in developing 'PV 18' in 1966 and the most popular amber-grained wheat variety 'Kalyansona' in 1967, named after the village 'Kalyanpur' in Punjab where he was born. Dr Athwal developed world's first grain pearl millet hybrid 'Hybrid Bajra 1' in 1965 that heralded a new era in cultivation of this important crop. In 1967, he joined **International Rice Research Institute**, Philippines, and also served as the Institute's first Deputy Director General. His research led to innovations in rice breeding. His work has been documented in a number of books and articles published in peer reviewed journals. The **University of Sydney** conferred him with the degree of Doctor of Philosophy in 1955 for his contributions to agriculture. In 1964, he was bestowed with the prestigious **Shanti Swarup Bhatnagar Prize** by the **Council of Scientific and Industrial Research**, the highest Indian award in the Science category. In 1975, he was conferred the honour the 'Padma Bhushan' by Government of India, for his immense contributions to biological science. He died in New Jersey on 14 May 2017.



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