

Biodata

Name	K. G. Saxena
Date of Birth	15.2.1957
Present position and address for correspondence	Professor School of Environmental Sciences Jawaharlal Nehru University New Delhi 110067, India Email: kgsaxena@mail.jnu.ac.in ; kgsaxena@gmail.com Phone: +91-11-26704305; 9971461199 Fax: +91-11-26717502/26169962 http://www.jnu.ac.in/content/kgsaxena
Educational qualifications	M.Sc., Ph.D.
Fellowship	Fellow, National Academy of Agricultural Sciences (NAAS) Fellow, National Institute of Ecology (NIE). Fellow, Leadership in Environment and Development (LEAD)
Employment	Professor, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi 110067 (since 1998) 1995-1998: Associate Professor (Environmental Biology), School of Environmental Sciences Jawaharlal Nehru University, New Delhi 110067 1992-1995: Scientist-D, Sustainable Development and Rural Ecosystems Core Programme, G.B. Pant Institute of Himalayan Environment and Development (an autonomous Institute of Ministry of Environment and Forests, Government of India), Almora. 1989-1992: Scientist-C, Sustainable Development and Rural Ecosystems Core Programme, G.B. Pant Institute of Himalayan Environment and Development (an autonomous Institute of Ministry of Environment and Forests, Government of India), Almora. 1985-1989: Scientist-SD, Forestry and Ecology Division, Indian Institute of Remote Sensing (National Remote Sensing Agency, an Autonomous organization of Department of Space, Government of India), Dehradun.

1982-1985: Lecturer, Department of Botany, P.P.N. Postgraduate College (Kanpur University), Kanpur

Research Areas Plant Ecology, Natural Resource Management, Environmental Science and Sustainable Development

Research Projects

Sponsored Research Projects-Completed

All India Coordinated Project on Biological Mechanisms of Maintenance of Soil Fertility sponsored by Department of Science and Technology, Government of India; completed in 1992 (involved as National Coordinator).

Rainwater Harvesting Technologies for Sustainable Rural Development in Himalaya sponsored by Department Science and Technology, Government of India; completed in 1992 (involved as Co-Principal Investigator).

Soil and Water Management of selected Watersheds in Himachal Pradesh and Uttar Pradesh Hills, a project involving bilateral cooperation of G.B. Pant Institute of Himalayan Environment and Development (GBPIHED) and Norwegian Agricultural University, completed in 1995 (involved as Principal Investigator).

Mountain Farming System and Mountain Environment Resource Information System Programme activities in India sponsored by International Centre for Integrated Mountain Development, Kathmandu; completed in 1995 (involved as National Coordinator).

Role of Sacred Groves in Conservation and Management of Biological Diversity in India funded by UNESCO, New Delhi and Dutch Embassy, New Delhi; completed in 1998 (involved as Co-Principal Investigator).

Preparation of Computer based Training material on Biology implemented by Communication and Information Services, JNU and funded by UNESCO, involved as a team member/contributed to biodiversity module; completed in 2000.

People-biodiversity-ecosystem function relationship in proposed Cold Desert Biosphere Reserve (Himachal Pradesh) funded by Ministry of Environment and Forests, Government of India; completed in 2003 (involved as Principal Investigator).

Biodiversity Conservation within the context of Traditional Knowledge and Ecosystem Rehabilitation funded by MacArthur Foundation funded project in cooperation with UNESCO, New Delhi, completed in 2005 (involved as a Coordinator).

Biodiversity and Sustainable livelihood in Mountain Regions of south and south-east Asia sponsored by Chiang Mai University, Thailand; completed in 2005 (involved as Co-Principal Investigator).

India's National Communication to UNFCCC – assessment of vulnerability and adaptation of mountain and natural ecosystems sponsored by Ministry of Environment and Forests/Winrock International, New Delhi. Completed in 2005

Monitoring and Modeling of Land cover/use and Vascular Plant Diversity in Dehang-Debang Biosphere Reserve, Arunachal Pradesh funded by the Ministry of Environment and Forests; completed in 2007 (involved as Principal Investigator).

Shifting Agriculture, Environmental Conservation and Sustainable Livelihoods sponsored by the United Nations University (UNU, Tokyo); completed in 2007 (involved as Principal Investigator).

Promoting Sustainable Land Management in the Marginal Regions Indian Himalaya and comparable Regions of Asia funded by the United Nations University, Tokyo (2008-9) (involved as Principal Investigator).

Conservation and Sustainable Management of belowground Biodiversity – India component Global Environmental Facility (GEF)/UNEP/TSBF Institute of CIAT (a multi-country global project (2002-09) (involved as National Coordinator – India work programme).

Promoting Sustainable Land Management in the Marginal Regions Indian Himalaya and comparable Regions of Asia funded by the United Nations University, Tokyo (2009-10) (involved as Principal Investigator).

Global Climate Change in Mountain Sites (GLOCHAMOST) – Coping Strategies for Mountain Biosphere Reserves: case study of Nanda Devi Biosphere Reserve (2009-first phase) funded by UNESCO, Paris

Global Change and Mountain Ecosystems (GLOCHAMOST) – Coping Strategies for Mountain Biosphere Reserves: case study of Nanda Devi Biosphere Reserve (2010-2011-second phase) funded by UNESCO, Paris

On-the-Job Research Capacity Building for Sustainable Agriculture in Developing Countries: shifting agricultural landscapes in north-eastern India and Montane Mainland of Southeast Asia supported by United Nations University Institute for Sustainability and Peace, Tokyo, Japan (2011-2012)

Relating indigenous natural resource management with global climate change adaptation and mitigation sponsored by United Nations University, Tokyo (2010-2012)

On-the-Job Research Capacity Building for Sustainable Agriculture in Developing Countries: Crop-Livestock Mixed Farming in Asian Cold Desert supported by United Nations University Institute for Sustainability and Peace, Tokyo, Japan (2012-2013)

Production and Commercialization of Beans and Pulses in the Republic of India sponsored by IC Net Limited, Saitama, Japan (2013-14)

Sustainable Forest Rehabilitation as part of Agrodiversity to Enhance Local Livelihoods supported by United Nations University Institute for Sustainability and Peace, Japan (2013-14)

On-the-Job Research Capacity Building for Sustainable Agriculture in Developing Countries: Agroforestry Systems for Food Security and Climate Change Adaptation and Mitigation in the Himalaya and Montane Mainland of Southeast Asia supported by United Nations University Institute for Sustainability and Peace – Ministry of Agriculture, Forestry and Fisheries, Tokyo, Japan (2013-14)

On-the-Job Research Capacity Building for Food Security and Environmental Conservation in Developing Countries -Applying Ecosystem Service Framework as a Tool for Enhancing Food Security and Biodiversity Conservation in Marginal Mountain and Coastal Areas in the Face of Climate Change supported by the Ministry of Agriculture, Forestry and Fisheries of Japan and United Nations University-Institute of Sustainability and Peace, Tokyo, Japan (2014-15)

Cultural Landscapes: the Basis for Linking Biodiversity Conservation with Sustainable Development of North-Eastern Hill Region funded by UNESCO, New Delhi/MacArthur Foundation. (2007-14) (involved as Coordinator)

On-the-Job Research Capacity Building for Sustainable Agriculture in Developing Countries: Managing soil, water and biodiversity for food security in flood prone areas of Asia in the face of global change supported by United Nations University Institute for Sustainability and Peace – Ministry of Agriculture, Forestry and Fisheries, Tokyo, Japan (2015-16)

Survey and analysis on the world food supply and demand (Asia). ICNet, Japan (2015-16)

Tropical Soil Biology and Fertility-South Asian Regional Network (TSBF-SARNET) Coordination Unit, supported by Tropical Soil Biology and Fertility Institute of CIAT (long term programme – Indian activity concluded in 2016)

Management of coastal forests for climate change mitigation, food security and biodiversity conservation supported by United Nations University-Institute for the Advanced Study of Sustainability (UNU-IAS), Tokyo, Japan, 2016-17

Survey and Analysis of World Food Supply and Demand sponsored by ICNet, Japan (2018-19)

Research Projects- ongoing

Sustainable mangrove rehabilitation for global and local benefits (a collaborative programme led by University of Philippines in collaboration with the United Nations University-Institute for the Advanced Study of Sustainability (UNU-IAS), Japan, Forest Research Institute, Myanmar and Jawharlal Nehru Univeristy, New Delhi (2017-20)

Survey and Analysis of World Food Supply and Demand sponsored by ICNet, Japan (2018-19)

The International Partnership for the Satoyama Initiative supported by the United Nations University-Institute for the Advanced Study of Sustainability (UNU-IAS), Japan (2019-),

Publications

(a) Research papers published in full

1. Luohui Liang, Evonne Yiu, Leni D. Camacho, Dixon T. Genova, Thuang Naing Oo, Chaw Chaw Sein, Bixia Chen, Yuei Nakama, K. G. Saxena, Kazuhiko Takeuchi and Akira Nagata. 2017. Coastal forest management in the face of global change: Experience of four Asian countries. **APN Science Bulletin**, 7(1). doi:10.30852/sb.2017.70
2. Shimrah, T., Rao, K.S. and Saxena, K.G. 2015. The shifting agricultural system (Jhum) and strategies for sustainable agroecosystems in Northeast India. **Agroecology and Sustainable Food Systems**, 39, 1154-1171.
3. Phondani, P.C., Maikhuri, R.K. and Saxena, K.G. 2014. The efficacy of herbal system of medicine in the context of allopathic system in Indian Central Himalaya. **Journal of Herbal Medicine**, 4, 147-158.
4. Bhadauria, T., Kumar, P., Maikhuri, R.K. and Saxena, K.G. 2014. Effect of application of vermicompost and conventional compost derived from different residues on pea crop productivity and soil faunal diversity in agricultural system in Garhwal Himalaya. **Natural Sciences**, 6, 433-446.
5. Semwal, R.L., Nautiyal, S., Maikhuri, R.K., Rao, K.S. and Saxena, K.G. 2013. Growth and carbon stocks of multipurpose tree species plantations in degraded lands in Central Himalaya, India. **Forest Ecology and Management**, 310, 450-459.
6. Bhadauria, T., Kumar, P., Kumar, R., Maikhuri, R.K. and Saxena, K.G. 2012. Earthworm populations in a traditional village landscape in Central Himalaya, India. **Applied Soil Ecology**, 53, 83-93.
7. Chandra, A., Pardha Saradhi, P., Maikhuri, R.K., Saxena, K.G. and Rao, K.S. 2011. Traditional agrodiversity management: a case study of central Himalayan village ecosystem. **Journal of Mountain Science**, 8, 62-74.

8. Chandra, A., Pardha Saradhi, P., Rao, K.S., Saxena, K.G. and Maikhuri, R.K. 2011. An investigation into the energy use in relation to yield of traditional crops in central Himalaya, India. **Biomass and Bioenergy**, **35**, 2044-2052.
9. Chandra, A. Kandari, L.S., Payal, K.C., Maikhuri, R.K., Rao, K.S. and Saxena, K.G. 2010. Conservation and sustainable management of traditional ecosystems in Garhwal Himalaya, India. **New York Science Journal**, **3**, 71-77.
10. Rawat, L.S., Maikhuri, R.K., Negi, V.S., Bahuguna, A., Rao, K.S., Agarwal, S.K. and Saxena, K.G. 2010. Managing natural resources with eco-friendly technologies for sustainable rural development: a case of Garhwal Himalaya. **International Journal of Sustainable Development and World Ecology**, **17**, 423-430.
11. Phondani, P.C., Maikhuri, R.K., Rawat, L.S., Farooquee, N.A., Kala, C.P., Vishvakarma, S.C.R., Rao, K.S. and Saxena, K.G. 2010. Ethnobotanical uses of plants among the Bhotiya tribal communities of Niti valley in central Himalaya, India. **Ethnobotany Research & Applications**, **8** (online)
12. Choudhary, B.K., Khan, M.A. and Saxena, K.G. 2010. Mycorrhizal spore density in relation to physico-chemical properties of soil: a case study of central Himalaya. **Environment and We**, **5**, 243-251.
13. Bhaduria, T., Saxena, K.G., Kumar, P., Kumar, R. and Chaturvedi, V.K. 2009. Influence of land use and land cover change on diversity of earthworms in Raebareli district of Indogangetic plains, India. **Dynamic Soil, Dynamic Plant**, **3**, 73-81.
14. Singh, K., Maikhuri, R.K., Rao, K.S. and Saxena, K.G. 2008. Characterizing land-use diversity in village landscapes for sustainable mountain development: a case study from Indian Himalaya. **Environmentalist**, **28**, 429-445.
15. Misra, S., Maikhuri, R.K., Kala, C.P., Rao, K.S. and Saxena, K.G. 2008. Wild leafy vegetables: a study of their subsistence dietic support to the inhabitants of Nanda Devi Biosphere Reserve, India. **Journal of Ethnobiology and Ethnomedicine**, **4**, 15 (online).
16. Nautiyal, S., Kaechele, H., Rao, K.S., Maikhuri, R.K. and Saxena, K.G. 2007. Energy and economic analysis of traditional versus introduced crops cultivation in the mountains of the Indian Himalayas: A case study. **Energy**, **32**, 2321-2335.
17. Chandrasekhar, K., Rao, K.S., Maikhuri, R.K. and Saxena, K.G. 2007. Ecological implications of traditional livestock husbandry and associated land use practices: A case study from the trans-Himalaya, India. **Journal of Arid Environments**, **69**, 299-314.
18. Kandari, L.S., Rao, K.S., Chauhan, K., Maikhuri, R.K., Purohit, V.K., Phondani, P.C. and Saxena, K.G. 2007. Effect of presowing treatments on the seed germination of two endangered medicinal herbs of the Himalaya (*Angelica glauca* Edgew. and *Pleurospermum angelicoides* (Wall. Ex D C.) Benth. Ex C.B. Clarke). **Proceedings of Indian National Science Academy**, **73** (1), 11-16.
19. Dhyani, D., Maikhuri, R.K., Rao, K.S., Kumar, L., Purohit, V.K., Sundryal, M. and Saxena, K.G. 2007. Basic nutritional attributes of *Hippophae rhamnoides* (seabuckthorn) populations from Uttarakhand Himalaya, India. **Current Science** **92**, 1148-1152.

20. Wakeel, A. Rao, K.S., Maikhuri, R.K. and Saxena, K.G. 2005. Forest management and land use/cover changes in a typical micro watershed in the mid elevation zone of Central Himalaya, India. **Forest Ecology and Management**, 213, 229-242.
21. Rao, K.S., Nautiyal, S., Maikhuri, R.K. and Saxena, K.G. 2005. Resource flows of villages with contrasting life styles in Nanda Devi Biosphere Reserve, Central Himalaya, India. **Journal of Mountain Science**, 2, 271-293.
22. Semwal, R.L., Nautiyal, S., Sen, K.K., Rana, U., Maikhuri, R.K., Rao, K.S. and Saxena, K.G. 2004. Patterns and ecological implications of agricultural land use changes: A case study from Central Himalaya, India. **Agriculture, Ecosystems and Environment**, 102, 81-92.
23. Nautiyal, S., Rao, K.S., Maikhuri, R.K. and Saxena, K.G. 2003. Transhumant pastoralism in the Nanda Devi Biosphere Reserve India. **Mountain Research and Development**, 23, 255-262.
24. Rao, K.S., Nautiyal, S., Maikhuri, R.K. and Saxena K.G. 2003. Local people's knowledge, aptitude and perceptions of planning and management issues in Nanda Devi Biosphere Reserve, India. **Environmental Management**, 31, 168-181.
25. Semwal, R.L., Maikhuri, R.K., Rao, K.S., Sen, K.K. and Saxena, K.G. 2003. Leaf litter decomposition and nutrient release patterns of six multipurpose tree species of Central Himalaya, India. **Biomass and Bioenergy**, 24, 3-11.
26. Nautiyal, S., Maikhuri, R.K., Rao, K.S., Semwal, R.L. and Saxena, K.G. 2003. Agroecosystem function around a Himalayan biosphere reserve. **Journal of Agricultural Systems**, 29, 70-100.
27. Sinha, B., Bhadauria, T., Ramakrishnan, P.S., Saxena, K.G., and Maikhuri, R.K. 2003. Impact of landscape modification on earthworm diversity and abundance in the Haryali sacred landscape, Garhwal Himalaya. **Pedobiologia**, 47, 357-370.
28. Semwal, R.L., Maikhuri, R.K., Rao, K.S., Singh, K. and Saxena, K.G. 2002. Crop productivity under differently lopped canopies of multipurpose trees in Central Himalaya, India. **Agroforestry Systems**, 56, 57-63.
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32. Nautiyal, S., Rao, K.S., Maikhuri, R.K., Semwal, R.L. and Saxena, K.G. 2001. Traditional Knowledge related to medicinal and aromatic plants in tribal societies in a part of Himalaya. **Journal of Medicinal and Aromatic Plant Sciences**, 22/4A&23/1A, 528-541.

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34. Nautiyal, S., Maikhuri, R.K., Rao, K.S. and Saxena, K.G. 2001. Medicinal plant resources in Nanda Devi Biosphere Reserve in the Central Himalaya. **Journal of Herbs, Spices and Medicinal Plants**, 8, 47-64.
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36. Maikhuri, R.K., Rana, U., Rao, K.S., Nautiyal S. and Saxena, K.G. 2000. Promoting ecotourism in the buffer zone areas of Nanda Devi Biosphere reserve: an option to resolve people-policy conflict. **International Journal of Sustainable Development and World Ecology**, 7, 333-342.
37. Maikhuri, R.K., Rana, U., Rao, K.S., Nautiyal S. and Saxena, K.G. 2001. Conservation policy-people conflicts: a case study from Nanda Devi Biosphere Reserve (A World Heritage Site), India. **Forest Policy and Economics**, 2, 355-365.
38. Maikhuri, R.K., Semwal, R.L., Rao, K.S., Singh, K and Saxena, K.G. 2000. Growth and ecological impacts of traditional agroforestry tree species in Central Himalaya, India. **Agroforestry Systems**, 48, 257-272.
39. Maikhuri, R.K., Rao, K.S., Nautiyal S., Chandrasekhara, K., Gavali R and Saxena, K.G. 2000. Analysis and resolution of protected area-people conflicts in Nanda Devi Biosphere Reserve, India. **Environmental Conservation**, 27, 43-53.
40. Maikhuri, R.K., Semwal, R.L., Rao, K.S., Nautiyal S. and Saxena, K.G. 2000. *Cleome viscosa*. Capparidaceae: a weed or a cash crop? **Economic Botany**, 54, 150-154.
41. Rao, K.S., Maikhuri, R.K. and Saxena, K.G. 1999. Rehabilitation of degraded community land: a case study in a high altitude Himalayan village. **International Tree Crops Journal**, 10, 1-17.
42. Nautiyal, S. Maikhuri, R.K., Semwal, R.L., Rao, K.S. and Saxena, K.G. 1998. Agroforestry systems in the rural landscape- a case study in Garhwal Himalaya, India. **Agroforestry Systems**, 41, 151-165.
43. Maikhuri, R.K., Rao, K.S., Nautiyal, S. and Saxena, K.G. 1998. Role of medicinal plants in traditional health care system: A case study of Nanda Devi Biosphere Reserve. **Current Science**, 75, 152-156.
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45. Maikhuri, R.K., Semwal, R.L., Rao, K.S., Nautiyal, S. and Saxena, K.G. 1997. Eroding traditional crop diversity imperils the sustainability of agricultural systems in Central Himalaya. **Current Science**, 73, 777-782.
46. Maikhuri, R.K., Semwal, R.L., Rao, K.S., Nautiyal, S. and Saxena, K.G. 1997. Rehabilitation of degraded community lands for sustainable development in Himalaya: a case study in Garhwal Himalaya, India. **International Journal of Sustainable Development and World Ecology**, 4, 192-203.

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51. Farooquee, N.A. and Saxena K.G. 1996. Conservation and utilization of medicinal plants in high hills of central Himalaya. **Environmental Conservation**, 23, 75-80.
52. Arya, A.S., Narayana, A., Murthy, T.V.R., Joshi, V., Garg, J.K., Saxena, K.G. and Narian, A. 1996. Geoenvironmental appraisal of Tehri dam reservoir rim with special reference to landslide hazards. **Himalayan Geology**, 17, 157-160.
53. Rao, K.S. and Saxena, K.G. 1996. Minor forest products' management- problems and prospects in remote high altitude villages of Central Himalaya. **International Journal of Sustainable Development and World Ecology**, 3, 60-70.
54. Ghosh, S., Sen, K.K., Rana, U., Rao, K.S. and Saxena, K.G. 1996. Application of GIS for land use/land cover change analysis in a mountainous terrain. **Journal of Indian Society of Remote Sensing (Photonirvachak)**, 24, 190-202.
55. Maikhuri, R.K., Rao, K.S. and Saxena, K.G. 1996. Traditional crop diversity for sustainable development of Central Himalayan agroecosystems. **International Journal of Sustainable Development and World Ecology**, 3, 8-31.
56. Singh, G.S., Rao, K.S., Ram, S.C. and Saxena, K.G. 1996. Traditional knowledge and threat of its extinction in Chhakinal watershed in north western Himalaya. **Man in India**, 76, 1-17.
57. Rao, K.S., and Saxena, K.G. 1995. Effect of land use on *Dendrocalamus hamiltonii* Nees and Arn. Ex. Munro regeneration during early secondary successional states in north east India. **Journal of Tropical Forest Science**, 7, 347-354.
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Teaching aids

Prepared the text of a CD on biodiversity catering the needs of University students in south and south-east Asia sponsored by UNESCO, New Delhi

Vetted the text of e-book Botany-Ecology of National Institute of Science Communication and Information Resources, Council of Scientific and Industrial Research, New Delhi.

Content Editor of Teaching Material on Climate Change prepared by Indira Gandhi National Open University, New Delhi (in 2011)

Other academic assignments (last 5 years)

Member, Editorial Board, Journal of Mountain Science (Science Press/Springer-Verlag)

Member, Editorial Board, Indian Journal of Agronomy

Member, Editorial Board, Journal of Social and Economic Development

Vice-President, Central Executive Council, National Institute of Ecology, India

Co-chairman, Expert Committee, "Technological Interventions for Tribal Empowerment (TITE)" Programme, Department of Science and Technology, New Delhi

Member, Advisory Committee, Special Assistance Programme, Department of Botany, University of Jammu, Jammu (2014-2016)

Member, Monitoring Committee, National Mission on Sustaining Himalayan Ecosystem – Task Force on Himalayan Agriculture. Indian Council of Agricultural Research, Delhi (2015-)

Member, Programme Advisory Committee on Conservation and Management of Mangroves and Coral Reefs, Ministry of Environment, Forest and Climate Change, Government of India (2015-)

Member, Working Group for Evaluation of Projects (Thematic Groups: (i) Supplementary livelihood options and (ii) Awareness and capacity building under National Mission on Himalayan Studies, Ministry of Environment, Forest and Climate Change, Government of India (2015-)

Member, Board of Studies, Institute of Environment, Kurukshetra University, Kurukshetra (2015-)_

Member, Expert Group on Long Term Ecological Observatories (LTEO), Ministry of Environment, Forest and Climate Change, Government of India (2015-)