




Faculty Details proforma for DU Web-site

(PLEASE FILL THIS IN AND Email it to websiteDU@du.ac.in and
cc: director@ducc.du.ac.in)

Title	Prof.	First Name	Sreenivasa Rao	Last Name	Kottapalli	Photograph
Designation		Professor				
Address		Department of Botany University of Delhi Delhi 110007				
Phone No	Office	27667573				
	Residence	27666898				
	Mobile	9313294607				
Email		srkottapalli@botany.du.ac.in , srkottapalli@yahoo.com				
Web-Page		http://people.du.ac.in/~ksrao				
Educational Qualifications						
Degree		Institution			Year	
Ph.D.		North Eastern Hill University, Shillong			1987	
M.Phil. / M.Tech.						
PG		Saurashtra University, Rajkot			1981	
UG		Andhra University, Waltair			1979	
Any other qualification						
Career Profile						
Organisation / Institution		Designation		Duration		Role
Central Sericulture Research and Training Institute, Berhampore, WB		Senior Research Assistant		Dec 1987 to Dec 1988		Research and Training
G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora		Scientist -A		Jan 1989 to Jan 1991		Research and Training
G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora		Scientist -B		Jan 1991 to Oct 1992		Research and Training
G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora		Scientist -C		Oct 1992 to Dec 1997		Research and Training
G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora		Scientist -D		Jan 1998 to May 2003		Research and Training
University of Delhi, Delhi		Reader		May 2003 to August 2008		Teaching and Research
University of Delhi, Delhi		Professor		August 2008 to Contd..		Teaching and Research
Administrative Assignments						
Member – Board of Research Studies, Fac of Sci (DU)				30-10-2014 to 29-10-2016; 30-10-2016-15-06-2020		
Member – M.Phil committee				August 2008.....???? ; 12-03-2015 to 11-03-2017;		
Member – Ad-hoc panel committee				August 2012 to June 2015; 24-06-2015 to ... 16 th June 2017		
Member – Departmental Purchase Committee				August 2014 to ... 16 th June 2016		
Incharge, Departmental Stores				October 2014 to 30 th June 2016		
Member – Management committee Jublee Hall				09-06-2011 to 08-06-2013; 09-06-2013 to 08-06-2015; 09-06-2015 to 08-06-2017; 09-06-2017 to 30-04-2018;		
Member – Governing Body, Deshbandhu College				19-08-2012 to 18-08-2013; 19-08-2013 to 18-08-2014; 19-08-2014		

Member – Governing Body, Shri Venkateswara College	to 18-08-2015; 19-08-2015 to 18-08-2016. 25-01-2014 to 24-01-2015; 25-01-2015 to 24-01-2016; 25-01-2016 to 24-01-2017.
Member – Governing Body, BCAS	21-12-2014 to 20-12-2015; 21-12-2015 to 20-12-2016.
Member – Governing Body, Bharati College	27-03-2020 to 26-03-2020
Member – PG Board of Studies in Environmental Studies, North Eastern Hill University	05-09-2011 to 04-09-2014; 05-09-2014 to 04-09-2017.
Member – PG Board of Studies in Ecology and Environmental Sciences – Pondicherry University	01-12-2013 to 30-11-2016.
Member - Academic Committee – Army Cadet College (ACC), Dehradun	1 st April 2017 to 31 st March 2019
Member – Advisory Committee of Jawaharlal Nehru Institute of Advanced Study (JNIAS)	28 th April 2019 to 27 th April 2021
Member – Board of Studies for Department of Botany Dr. Harisingh Gaur Vishwavidyalaya, Sagar	10 th April 2019 to 9 th April 2022
Member – Board of Studies for School of Life Sciences H N Bahuguna Garhwal University, Srinagar	28 th June 2020 to
Member – Board of Studies for Department of Botany And Microbiology, HNB Garhwal University, Srinagar	18 th September, 2019 to 17 th September 2021
Member – Board of Studies for High Altitude Plant Physiology Research Center, HNBGU, Srinagar	12 th February 2020 to 11 th February 2022
Member – Standing Committee on Recognized Research Institutions of the University (JNU)	31 st December 2019 to 30 th December 2021
Member – Programme Review & Monitoring Advisory Committee on Science Channel Programme of NCSTC Division, DST	19 th August 2019 to 18 th August 2021
Member – Examination Disciplinary Committee (EDC) University of Delhi, Delhi	September 2017 to September 2020
Member – Expert Committee on Climate Change Programme (CCP), DST, New Delhi	1 st August 2019 to 31 st July 2024
Head – Department of Botany, University of Delhi	16 th June 2017 to 15 th June 2020
Areas of Interest / Specialization	
Ecosystem analysis; Adaptation to climate change; Plant nutrition; Ecosystem redevelopment; Agroforestry system researches; Land use/cover analyses; Reserve people conflict mitigation, Soil and water conservation; Sustainable rural development models/approaches.	
Subjects Taught	
<p>M.Sc. – Botany Course 202 – Systematics, Evolution and Environmental Science Course 304 – Principles of Ecology Course 402 - Agroecology Course VIIB: Plant Resource Utilization Course VIII: Plant Ecology</p> <p>M.Sc. - Environmental Biology Course V: Organismal and Population Ecology Course VI: Community Ecology, Ecosystem Dynamics and Modeling</p> <p>M.A./M.Sc. - Environmental Studies Paper 1. Introduction to Environmental Sciences Paper 3. Environment, Development & Sustainability Paper 4. Methodologies for Environmental Studies Paper 5. Environmental Impact and Risk Assessment Paper 10 (M.Sc.). Natural & Managed Ecosystems Paper 19 (M.A.). Global Environmental Issues</p> <p>M.Phil – Botany Course 8 – Population Biology Course 9 – Ecological Adaptations</p> <p>M.Phil. - Environmental Studies</p>	

Course III: Ecological Economics

Ph.D. Course work – Botany

Biostatistics, Methods for field biology

Time table of the subjects taught during the current semester

S.No.	Subject	Days	Time	Classroom
1.	Agricultural Ecology: Principles and Applications BOT 405 Sem IV	Monday	08.45 to 09.40	Room no. 207
			09.40 to 10.35	Room no. 207
			10.35 to 16.05	Lab no. 22
2	RM2, EL2, EL11, EL16 of M.Phil Ph.D. Course work	Tuesday	11.30 to 13.00	Room no. 37
		Wednesday	14.00 to 16.00	Room no. 37

Research Guidance

List against each head (If applicable)

1. Supervision of awarded Doctoral Thesis

- L.R. Gopinath** 1999. Nutrient/Resource Management Relevant to Agroforestry Systems of Traditional Societies of Central Himalaya. Jawaharlal Nehru University, New Delhi.
- Abdul Wakeel** 2002. Land Use and Land Cover Changes and Their Ecological Implications: A Case Study of Kuchgad Watershed in Central Himalaya. Jawaharlal Nehru University, New Delhi.
- Shankar Datt Tiwari** 2002. Studies of Forest Ecosystems in a Protected Area of Garhwal Himalaya. H.N.B. Garhwal University, Srinagar (Garhwal).
- K. Chandrasekhar** 2003. Ecological Analysis of Settled Agropastoral Farming in Cold Desert (Spiti Catchment, Himachal Pradesh). Jawaharlal Nehru University, New Delhi.
- Ravinder Gavali** 2003. Ecosystem Structure and Function in Relation to Grazing in Alpine Landscape of Cold Desert (Spiti Catchment, Himachal Pradesh). Jawaharlal Nehru University, New Delhi.
- Aditya Narayan Purohit** 2003. Studies on Structural and Functional Aspects of Timberline Vegetation in Nanda Devi Biosphere Reserve, Garhwal Himalaya. H.N.B. Garhwal University, Srinagar (Garhwal).
- Laxman Singh Kandari** 2005. Eco-Physiological and Socio-Economic Studies of Some Rhizomatus Medicinal and Aromatic Plant Species. H.N.B. Garhwal University, Srinagar (Garhwal).
- Kusum Payal** 2007. Eco-Physiological and Soci-Economic Studies of Some Multipurpose *Allium* Species of Higher Hiamalaya. H.N.B. Garhwal University, Srinagar (Garhwal).
- Vimla Bisht** 2007. Conservation and Management of Traditional Paddy Cultivars/Landracess by Local Farmers: A Case Study from Central Himalaya. H.N.B. Garhwal University, Srinagar (Garhwal).
- Abhishek Chandra** 2008. Traditional Agrobiodiversity Management in a Central Himalayan Village Ecosystem. University of Delhi, Delhi.
- Tusiem Shimrah** 2009. Land use land cover change analysis in shifting cultivation areas in West Siang district in Arunachal Pradesh. University of Delhi, Delhi.
- Y. Sarathchandra Khuman** 2011. Bio-Energy Modeling in Upland Village Ecosystems. University of Delhi, Delhi.
- Nancy Raina** 2011. Analysing the Spatial and Temporal Patterns of Land Use/Cover Change in Uttranchal. University of Delhi, Delhi.
- Yamal Gupta** 2013. Potential Utility of Microbial Culture Media and Plants to Generate Matal nanoparticles. University of Delhi, Delhi.
- Neha Sharma** 2014. Effect of Elevated CO₂ Concentration on Growth, Phenology, Ultrastructure and Biochemical Composition in Leaves and Seeds of *Brassica juncea* (L.) Czern. And Coss. University of Delhi, Delhi.
- Mohd. Hanif.** 2016. Land Use/Land Cover Change and Associated Ecosystem Soil Carbon Dynamics in a Mountainous Watershed in North Western (Kashmir) Himalaya, India. University of Delhi, Delhi.
- Archana Meena.** 2017. Soil Carbon Dynamics in Different Terrestrial Ecosystems of Delhi, India. University of Delhi, Delhi.
- Ankita Bidalia.** 2017. Performance of Trees Under Abiotic Stress in Keoladeo National Park, Bharatpur, Rajasthan (India). University of Delhi, Delhi.
- Indu Tripathi** 2019. Nutrient Dynamics in Agri-horticultural Systems along an Altitudinal Gradient in Kumaun Himalaya. University of Delhi, Delhi.

2. *Supervision of Doctoral Thesis, under progress*
Krati Vikram Rhizosphere Biology
Kajal Patel Medicinal and Aromatic Plants under Stress Conditions
Tenzen Notup Agroecology of Traditional Cropping System in Cold Desert.
Meenakshi Chaurasia. Soil Fertility in Urban Land Uses.
Heena Chaudhury. Biochar Impacts on Carbon Sequestration.
3. *Supervision of awarded M.Phil dissertations*
J.S. Chandrasekhar. 2005. Impact of Land Use-Land Cover on Selected Soil Organisms in a Village Landscape of Garhwal Himalaya. Jawaharlal Nehru University, New Delhi.
Bharti Sarin. 2009. Analysis of Fungal Diversity in Managed Land Uses of Garhwal Himalaya. University of Delhi, Delhi.
Amit Kumar. 2013. Effects of Different Plantations on Soil Properties. University of Delhi, Delhi.
Meenakshi Chaurasia. 2019. Impact of Dust on Physiological Functions of Selected Roadside Herbaceous Plants in Delhi, India. University of Delhi, Delhi.
4. *Supervision of M.Phil dissertations, under progress*

Publications Profile

List against each head(if applicable) (as Illustrated with examples)

1. **Books/Monographs (Authored/Edited)**

1. Nautiyal, S. Schaldach, R., Raju, K., Kaechele, H., Pritchard, B. & **Rao, K.S.** 2016. *Climate Change Challenge (3C) and Social-Economic-Ecological Interface-Building*. Springer-Verlag, Berlin. 765pp.
2. Saxena, K.G. & **Rao, K.S.** 2016. *Soil Biodiversity: Inventroy, Functions and Management*. Bishen Singh Mahendra Pal Singh, Dehradun. 476pp.
3. **Rao, K.S.**, Saxena, K.G. & Tiwari, B.K. 2016. *Biodiversity, Climate Change and Socio-economic Development in the Indian Himalaya: An Overview*. Bishen Singh Mahendra Pal Singh, Dehradun. 86pp.
4. Nautiyal, S., Manasi, S., Umesh Babu, M. S. & **Rao, K.S.** 2015. Study on the Production and Profitability of Pulses and Beans in India – A Case Study of Karnataka. Social and Economic Change Monographs 37. Institute for Social and Economic Change, Bangalore. 112pp.
5. **Rao, K.S.**, Saxena, K.G. & Tiwari, B.K. 2014. *Linking Conservation of Terrestrial Biodiversity with Climate Change Mitigation and Adaptation and Socio-economic Development in the Himalaya*. Policy Discussion Paper, UNESCO, New Delhi. 52pp.
6. Nautiyal, S., **Rao, K.S.**, Kaechele, H., Raju, K.V. & Schaldach, R. (Eds.) 2013. *Knowledge Systems of Societies for Adaptation and Mitigation of Impacts of Climate Change*. Springer-Verlag, Berlin. 720 pp.
7. Ramakrishnan, P.S., Saxena, K.G., **Rao, K.S.** & Sharma, G. (Eds.) 2012. *Cultural Landscapes: The basis for linking biodiversity conservation with the Sustainable Development*, UNESCO, New Delhi. 217pp.
8. Mendiratta, N., SivaKumar, S. & **Rao, K.S.** (Eds.) 2008. *Standards for Bio-geo Database, Version 1*. TERI, New Delhi.
9. Ramakrishnan, P.S., Saxena, K.G. & **Rao, K.S.** (Eds.) 2006. *Shifting Agriculture and Sustainable Development of North-Eastern India: Tradition in Transition*. Oxford & IBH, New Delhi.
10. Ramakrishnan, P.S., Saxena, K.G., Swift, M.J., **Rao, K.S.** & Maikhuri, R.K. (Eds.) 2005. *Soil Biodiversity, Ecological Processes and Landscape Management*. Oxford & IBH, New Delhi.
11. Kimoti, M.M., Maikhuri, R.K., Murthy, T.V.R., Garg, J.K., **Rao, K.S.** & Bhatt, O.P. 2001. *Bioprospecting for Economic Development of Hippophe rhamnoides (Seabuckthorn) in the Himalayan Wastelands - A case Study in Uttranchal Using High resolution IRS 1D data*. Scientific Report - SAC/RESA/FLPG-FED/SR// /2001. pp 17. Space Applications Centre (ISRO), Ahmedabad; G.B. Pant Institute of Himalayan Environment and Development, Almora; and Dasholi Gram Swarajya Mandal, Gopeshwar.
12. Ramakrishnan, P.S., Chandrashekara, U.M., Elouard, C., Guilmoto, C., Maikhuri, R.K., **Rao, K.S.**, Sankar, S. & Saxena, K.G. (Editors). 2000. *Mountain Biodiversity, Land Use Dynamics, and*

Traditional Ecological Knowledge. Oxford & IBH Publications Ltd., New Delhi. 353pp.

13. Nandy, S.N., Pant, Rekha. & **Rao, K.S.** 2000. *Demographic Data Base of Himalaya*. ENVIS Monograph 2. G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora 263 643, India.
 14. Maikhuri, R.K., **Rao, K.S.** & Rai, R.K. (Editors). 1998. *Biosphere Reserves and Management in India*. Himavikas Occasional Publication No. 12. G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora. 266pp.
 15. Nautiyal, S., Maikhuri, R.K. & **Rao, K.S.** 1999. [Nanda Devi Jaivmandal Aarakshit Kshetr (Biosphere Reserve) mein Oushadiya Padapon ki Krushi Takniki] Traditional Cultivation Practices of Medicinal Plants in Nanda Devi Biosphere Reserve. G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora. 26pp. (in Hindi).
 16. Tolia, R.S., Sharma, R., Bisht, R.S., Joshi, S.M., Singh, V.K., Khali, M.P., Adhikari, S., **Rao, K.S.**, Kumar, K., Bhartarya, S.K., Purohit, A.N., Pandey, R.K. & Shastri, C. 1999. *Shiwalik Watershed Development Strategy, Uttar Pradesh*. Centre for Development Studies, U.P. Academy of Administration, Nainital 263 001. 84pp.
 17. Ghosh, S., Sen, K.K., Rana, U., **Rao, K.S.** & Saxena, K.G. 1997. *GIS Applications to Natural Resource Management and Development Planning in a Rural Area: Pranmati Watershed, Garhwal Himalaya, India*. Menris Case Study Series No. 5. International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal. 84 + xv pp.
 18. **Rao, K.S.** 1997. *Natural Resource Management and Development in Himalaya: A Recourse to Issues and Strategies*. ENVIS Monograph 1. G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora 263 643, India.
 19. Ramakrishnan, P.S., Purohit, A.N., Saxena, K.G., **Rao, K.S.** & Maikhuri, R.K. (Editors). 1996. *Conservation and Management of Biological Resources in Himalaya*. Oxford & IBH Publication Ltd., New Delhi.
 20. Das, A.K. & **Rao, K.S.** (Compilers). 1996. *Biology and Fertility of Tropical Soils: Bibliography and Abstracts*. South Asian Regional Network, Tropical Soil Biology and Fertility Programme, New Delhi.
 21. Garg, J.K., Saxena, K.G., Narayana, A., Murthy, T.V.R., Maikhuri, R.K., Arya, A.S., Joshi, V., **Rao, K.S.**, Sati, V.P. & Ghosh, S. 1995. *Environmental Appraisal of Tehri Dam - Multipurpose River Valley Project Using Remote Sensing and GIS Techniques*. Project Report. RSAM/SAC/RSAG/PR/06/95. GBPIHED, Kosi & SAC, Ahmedabad.
 22. Saxena, K.G., **Rao, K.S.**, Pandey, A., Rana, U., Sen, K.K., Nehal & Majila, B.S. 1994. *Sustainable Rural Development: Opportunities and Constraints. A micro-level analysis of Pranmati Watershed in Uttar Pradesh Himalaya*. Himavikas Publication No. 6. G.B. Pant Institute of Himalayan Environment and Development, Kosi, Almora. 70pp.
 23. Saxena, K.G., Kumar, Y., **Rao, K.S.**, Sen, K.K., Rana, U., Majila, B.S., Pharswan, A., Singh, G.S. & Nehal. 1994. *Hydropower Management for Sustainable Rural Development in Remote Unelectrified Zones of Himalaya*. Himavikas Publication No. 7. G.B. Pant Institute of Himalayan Environment and Development, Kosi, Almora. 28pp.
 24. **Rao, K.S.** & Saxena, K.G. 1994. *Sustainable Development and Rehabilitation of Degraded Village Lands in Himalaya*. Himavikas Publication No. 8. Bishen Singh Mahendra Pal Singh, Dehra Dun. xiv+287pp.
 25. Ramakrishnan, P.S., Purohit, A.N., Saxena, K.G. & **Rao, K.S.** 1994. *Himalayan Environment and Sustainable Development*. Indian National Science Academy, New Delhi. vi+84pp.
- 2. Research papers published in Refereed/Peer Reviewed Journals**
1. Meena, A., Hanief, M., Dinakaran, J. & **Rao, K.S.** 2020. Soil moisture controls the spatio-temporal pattern of soil respiration under different land use systems in a semi-arid ecosystem of Delhi, India. *Ecological Processes*, 9 (1): 15.
 2. Laishram, J., Saxena, K.G. & **Rao, K.S.** 2020. Rice cultivar diversity, associated indigenous knowledge and management practices in a lowland village landscape from north-eastern India.

Vegetos, 33 (1): 172-186.

3. Divya, S., Sharmila, P., Dinakaran, J., Yamal, G., **Rao, K.S.** & Pardha-Saradhi, P. 2020. Specific H⁺ level is crucial for accurate phosphate quantification using ascorbate as a reductant. *Protoplasma*, 257 (1): 319-330.
4. Dinakaran, J., Chandra, A., Vikram, K., Chamoli, K., Tambat, S. & **Rao, K.S.** 2019. Responses of soil carbon, nitrogen, microbial activity, bacterial community composition and grain yield to farmyard manure amendments in a rainfed agriculture (Paddy) system of Himalaya. *Vegetos*, 32 (4): 620-634.
5. Dinakaran, J., Vikram, K., Hanief, M., Bidalia, A., Tambat, S. & **Rao, K.S.** 2019. Changes in vegetation cover and soil intrinsic properties influence the soil bacterial community composition and diversity across different climatic regions of India. *Vegetos*, 32 (3): 288-302.
6. Meena, A., Bidalia, A., Hanief, M., Dinakaran, J. & **Rao, K.S.** 2019. Assessment of above- and belowground carbon pools in a semi-arid forest ecosystem of Delhi, India. *Ecological Processes*, 8(1): 8.
7. Dinakaran, J., Chandra, A., Chamoli, K.P., Deka, J. & **Rao, K.S.** 2018. Soil organic carbon stabilization changes with an altitude gradient of land cover types in central Himalaya, India. *Catena*, 170: 374-385.
8. Dhyani, S., Maikhuri, R.K. & **Rao, K.S.** 2018. Canopy gap phase regeneration: A study in moist temperate forests of Central Himalayas, India. *Sustainable Forestry*, 1 (4):
9. Bidalia, A., Okram, Z., Hanief, M. & **Rao, K.S.** 2018. Assessment of tolerances in *Mitragyna parvifolia* (Roxb.) Korth. And *Syzygium cumini* Keels. seedlings to waterlogging. *Photosynthetica*, 56 (2): 707-717.
10. Bidalia, A., Hanif, M. & **Rao, K.S.** 2017. Tolerance of *Mitragyna parvifolia* (Roxb.) Korth. seedlings to NaCl salinity. *Photosynthetica*, 55: 231-239.
11. Dinakaran, J., Bidalia, A., Kumar, A., Hanif, Md., Meena, A. & **Rao, K.S.** 2016. Near infrared-spectroscopy for determination of carbon and nitrogen in Indian soils. *Communications in Soil Sciences and Plant Analysis*, 47: 1503-1516.
12. Meena, A., Hanief, M., Bidalia, A. & **Rao, K.S.** 2016. Structure, composition and diversity of tree strata of semi-arid forest community in Delhi, India. *Phytomorphology*, 66: 95-100.
13. Arora, P., Bidalia, A. & **Rao, K.S.** 2016. Growth and photosynthetic response of wheat and mustard plants to intercropping. *Phytomorphology*, 66: 35-44.
14. Hanief, M., Bidalia, A., Meena, A. & **Rao, K.S.** 2016. Natural regeneration dynamics of dominant tree species along an altitudinal gradient in three different forest covers of Darhal watershed in north western Himalaya (Kashmir), India. *Tropical Plant Research*, 3: 253-262.
15. Shimrah, T., **Rao, K.S.** & Saxena, K.G. 2015. Soil property variations under different land use/cover types in traditional agricultural landscape in northeast India. *Journal of Chemistry, Environmental Sciences and its Applications*, 2(1): 73-97.
16. Shimrah, T., Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2015. An overview of shifting agriculture (jhum) in eastern Himalayan region as a component of village landscape. *Keanean Journal of Science*, 4: 45-62.
17. Devi, O.Z., **Rao, K.S.** & Bidalia, A. 2015. Characterization of chemical constituents in *Zanthoxylum acanthopodium* D.C. leaf using GC-MS. *Indo-American Journal of Pharmaceutical Research*, 5: 1690-1694.
18. Khuman, Y.S., Raina, N., Pandey, R. & **Rao, K.S.** 2015. Fuelwood assessment at micro-watershed level: A case study in Garhwal Himalaya, India. *Chinese Journal of Population Resources and Environment*, 13: 177-186.
19. Raina, N., Khuman, Y.S.C., **Rao, K.S.** & Sreekesh, S. 2014. Comparative analysis of species distribution modeling of *Daphne papyracea* in Dabka watershed, Nainital District, Uttarakhand. *Journal of Environment and Earth Science*, 4 (17): 19-29.
20. Pardha Saradhi, P., Yamal, G., Peddisetty, T., Sharmila, P., Nagar, S., Singh, J., Nagarajan, R. & **Rao, K.S.** 2014. Reducing strength prevailing at root surface of plants promotes reduction Ag⁺ and generation of AgO/Ag₂O nanoparticles exogenously in aqueous phase, *PLOS ONE*, 9(9): e106715, doi:10.1371/journal.pone.0106715.
21. Khuman, Y.S., Raina, N. & **Rao, K.S.** 2014. Fuelwood assessment at micro-watershed level in northeast Himalaya: A case study in Manipur, India. *Chinese Journal of Population Resources*

- and Environment*, 12: 137-145.
22. Dinakaran, J., Hanif, M., Meena, A. & **Rao, K.S.** 2014. The chronological advancement of soil organic carbon sequestration research: A review. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*, 84: 487-504.
 23. Payal, K., Maikhuri, R.K., **Rao, K.S.** & Kandari, L.S. 2014. Effect of gibberellic acid and water based presoaking treatments under different temperature and photoperiod on seed germination of *Allium stracheyi* Baker: An endangered alpine species of central Himalaya, India. *Plant Biosystems*, 148: 1075-1084. <http://dx.doi.org/10.1080/11263504.2013.823131>.
 24. Pardha Saradhi, P., Yamal, G., Peddisetty, T., Sharmila, P., Singh, J., Nagarajan, R. & **Rao, K.S.** 2014. Plants fabricate Fe-nanocomplexes at root surface to counter and phytostabilize excess ionic Fe. *BioMetals*, 27: 97-114. <http://dx.doi.org/10.1007/s10534-013-9690-7>.
 25. Pardha Saradhi, P., Yamal, G., Peddisetty, T., Sharmila, P., Singh, J., Nagarajan, R. & **Rao, K.S.** 2014. Root system of live plants is powerful resource for green synthesis of Au-nanoparticles. *RCS Advances*, 4: 7361. <http://dx.doi.org/10.1039/C3RA45370G>.
 26. Raina, N., **Rao, K.S.** & Sreekesh, S. 2013. Species distribution modeling of *Berberis aristata* in Dabka watershed, Uttarakhand. *Vegetos*, 26: 30-38.
 27. Shimrah, T., **Rao, K.S.** & Saxena, K.G. 2013. Composition, diversity and regeneration potential of plant species in shifting agricultural landscape in north east India: A case study in and around Dihang-Dibang Biosphere Reserve, Arunachal Pradesh, India. *Environment & We: An International Journal of Science and Technology*, 8: 1-17.
 28. Semwal, R.L., Nautiyal, S., Maikhuri, R.K., **Rao, K.S.** & 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.
 29. Yamal, G., Sharmila, P., **Rao, K.S.** & Pardha Saradhi, P. 2013. Inbuilt potential of YEM medium and its constituents to generate Ag/Ag₂O nanoparticles. *PLOS ONE*, 8(4): e61750.
 30. Yamal, G., Sharmila, P., **Rao, K.S.** & Parcha Saradhi, P. 2013. Yeast extract mannitol medium and its constituents promote synthesis of Au nanoparticles. *Process Biochemistry*, 48: 532-538.
 31. Chandra, A., Kandari, L.S., Negi, V.S., Maikhuri, R.K. & **Rao, K.S.** 2013. Role of intercropping on production and land use efficiency in the central Himalaya, India. *We, International Journal of Science and Technology*, 8: 105-113.
 32. Dinakaran, J. & **Rao, K.S.** 2012. Carbon sequestration in terrestrial vegetation and soils: A review. *Phytomorphology*, 62(3-4): 177-188.
 33. Laishram, J., Saxena, K.G., Maikhuri, R.K. & **Rao, K.S.** 2012. Soil quality and soil health: A review. *International Journal of Ecology and Environmental Sciences*, 38(1): 19-37.
 34. Khuman, S.C., Pandey, R. & **Rao, K.S.** 2012. Micro-watershed level population based fuelwood consumption dynamics: Implications of seasonal vs. annual models for sustainable energy. *Renewable and Sustainable Energy Reviews*, 16: 6142-6148.
 35. Kandari, L.S., **Rao, K.S.**, Maikhuri, R.K. & Payal, K. 2012. Effect of mixed-cropping and water stress on macro nutrients and biochemical constituents of rhizomatous medicinal plants in central Himalaya, India. *Journal of Forestry Research*, 23(4): 615-621.
 36. Kandari, L.S., Phondani, P.C., Payal, K.C., **Rao, K.S.** & Maikhuri, R.K. 2012. Ethnobotanical study towards conservation of medicinal and aromatic plants in upper catchments of Dhaulti Ganga in the Central Himalaya. *Journal of Mountain Science*, 9 (2): 286-296.
 37. Kandari, L.S., **Rao, K.S.**, Payal, K.C., Maikhuri, R.K., Chandra, A. & van Staden, J. 2012. Conservation of aromatic medicinal plant *Rheum emodi* Wall. Ex Meissn through improved seed germination. *Seed Science & Technology*, 40: 95-101.
 38. Bhadauria, T., Kumar, P., Kumar, R., Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2012. Earthworm populations in a traditional village landscape in central Himalaya, India. *Applied Soil Ecology*, 53: 83-93.
 39. Kandari, L.S., **Rao, K.S.**, Maikhuri, R.K. & Payal, K.C. 2011. Effects of plant growth regulators on rooting of four rhizomatous medicinal plants of central Himalaya. *National Academy Science Letters*, 34 (11 & 12): 401-406.
 40. Maikhuri, R.K., Rawat, L.S., Negi, V.S., Farooquee, N.A., **Rao, K.S.**, Purohit, V.K., Agarwal, S.K., Chamoli, K.P., Negi, C.S. & Saxena, K.G. 2011. Empowering rural women in agro-

- ecotechnologies for livelihood improvement and natural resource management. *Outlook on Agriculture*, 40 (3): 229-236.
41. Chandra, A., Kandari, L.S., **Rao, K.S.** & Saxena, K.G. 2011. Assessment of socio-economic status and its impact on land use management in central Himalaya. *Asian Journal of Agricultural Research*, 5 (4): 234-242.
 42. Kuman, Y.S., Pandey, R. & **Rao, K.S.** 2011. Fuelwood consumption patterns in Fakot watershed, Garhwal Himalaya, Uttarakhand. *Energy*, 37: 4769-4776.
 43. Maikhuri, R.K., Rawat, L.S., Negi, V.S., Purohit, V.K., **Rao, K.S.** & Saxena, K.G. 2011. Managing natural resources through simple and appropriate technological interventions for sustainable mountain development. *Current Science*, 100 (7): 992-997.
 44. Chandra, A., Saradhi, P.P., **Rao, K.S.**, Saxena, K.G. & 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 (5): 2044-2052.
 45. Chandra, A., Saradhi, P.P., Maikhuri, R.K., Saxena, K.G. & **Rao, K.S.** 2011. Traditional agrodiversity management: A case study of central Himalayan village ecosystem. *Journal of Mountain Science*, 8: 62-74.
 46. Kandari, L.S., **Rao, K.S.**, Maikhuri, R.K., Kharkwal, G., Chauhan, K. & Kala, C.P. 2011. Distribution pattern and conservation of threatened medicinal and aromatic plants of Central Himalaya, India. *Journal of Forestry Research*, 22(3): 403-408.
 47. Chandra, A., Saradhi, P.P., **Rao, K.S.**, Saxena, K.G. & Maikhuri, R.K. 2010. Assessment of monetary budget in traditional agrodiversity management: A case study of central Himalayan village ecosystem. *Phytomorphology*, 60 (3&4): 137-149.
 48. Nautiyal, S., **Rao, K.S.**, Kaechele, H. & Zander, P. 2010. Conceptual model developmet for landscape management in the mountains of the Indian Himalayan region: an approach for sustainable soci-ecological development. *Landscape Online*: 18: 1-19.
 49. Rawat, L.S., Maikhuri, R.K., Negi, V.S., Bahuguna, A., **Rao, K.S.**, Agarwal, S.K. & 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 (5): 423-430.
 50. Phondani, P.C., Maikhuri, R.K., Rawat, L.S., Farooquee, N.A., Kala, C.P., Vishvakarma, S.C.R., **Rao, K.S.** & Saxena, K.G. 2010. Ethnobotanical uses of plants among the Bhotiya tribal communities of niti valley in central Himalaya, India. *Ethnobotany Research and Applications*, 8: 233-244.
 51. Dhyani, D., Maikhuri, R.K., Misra, S. & **Rao, K.S.** 2010. Endorsing the declining indigenous ethnobotanical knowledge of seabuckthorn in central Himalaya, India. *Journal of Ethnopharmacology*, 127: 329-334.
 52. Chandra, A., Kandari, L.S., Payal, K.C., Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2010. Conservation and sustainable management of traditional ecosystems in Garhwal Himalaya, India. *New York Science Journal*, 3 (2): 71-77.
 53. Misra, S., Maikhuri, R.K., Dhyani, D. & **Rao, K.S.** 2009. Assessment of traditional rights, local interference and natural resource management in Kedarnath Wildlife Sanctuary. *International Journal of Sustainable Development and World Ecology*, 16(6): 404-416.
 54. Laishram, J., Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2009. Land use intensification in Indian Himalaya: Meaning, measurement and implications. *International Journal of Ecology and Environmental Sciences*, 35 (1): 35-52
 55. Maikhuri, R.K., Rawat, L.S., Farooquee, N.A. & **Rao, K.S.** 2009. Science motivational training programme. *Current Science*, 96 (8): 1040-1043
 56. Rajasekaran, C., Maikhuri, R.K., Kusum, C., Kandari, L.S., Kalaivani, T. and **Rao, K.S.** 2009. Multiplication and conservation of *Dactylorhiza hatagirea* – an endangered medicinal orchid of the higher Himalaya. *McAllen International Orchid Society Journal*, 10(1): 7-16.
 57. Singh, K., Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2008. Characterizing land-use diversity in village landscapes for sustainable mountain development: a case study from Indian Himalaya. *The Environmentalist*, 28: 429-445.
 58. Misra, S., Maikhuri, R.K., Kala, C.P., **Rao, K.S.** & Saxena, K.G. 2008. Wild leafy vegetables: A study of their subsistence dietetic support to the inhabitants of Nanda Devi Biosphere Reserve,

- India. *Journal of Ethnobiology and Ethnomedicine*, 4: 15.
59. Nautiyal, S., Bisht, V., **Rao, K.S.** & Maikhuri, R.K. 2008. The role of cultural values in agrobiodiversity conservation: A case study from Uttarakhand Himalaya. *Journal of Human Ecology*, 23 (1): 1-6.
 60. Kandari, L.S., **Rao, K.S.**, Maikhuri, R.K. & Chauhan, K. 2008. Effect of presowing treatments on the seed germination of *Arnebia benthamii* (Wall. ex G. Don): An endangered medicinal plant of central Himalaya, India. *African Journal of Plant Science*, 2 (1): 5-11.
 61. Bisht, V., Singh, B., **Rao, K.S.**, Maikhuri, R.K. & Nautiyal, S. 2007. Genetic divergence of paddy landraces in Nanakosi micro-watershed of Uttarakhand Himalaya. *Journal of Tropical Agriculture*, 45 (1-2): 48-50.
 62. Nautiyal, S., Kaechele, H., **Rao, K.S.**, Maikhuri, R.K. & 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 (12): 2321-2335.
 63. Kandari, L.S., **Rao, K.S.**, Chauhan, K., Maikhuri, R.K., Purohit, V.K., Phondani, P.C. & 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.
 64. Dhyani, D., Maikhuri, R.K., **Rao, K.S.**, Kumar, L., Purohit, V.K., Sundryal, M. & Saxena, K.G. 2007. Basic nutritional attributes of *Hippophae rhamnoides* (seabuckthorn) populations from Uttarakhand Himalaya, India. *Current Science*, 92 (8): 1148-1152.
 65. Chandrasekhar, K., **Rao, K.S.**, Maikhuri, R.K. & 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 (3): 299-314.
 66. Chandra, A. & **Rao, K.S.** 2007. In-situ conservation of local landraces of *Oryza sativa* L. and *Triticum aestivum* L. in Garhwal: A case study from Central Himalaya, India. *Environment and We: An International Journal of Science and Technology*, 2: 1-9.
 67. Bisht, I.S., **Rao, K.S.**, Bhandari, D.C., Nautiyal, S., Maikhuri, R.K. & Dhillon, B.S. 2006. A suitable site for *in-situ* (on-farm) management of plant diversity in traditional agroecosystems of western Himalaya in Uttaranchal State: a case study. *Genetic Resources and Crop Evolution*, 53: 1333-1350.
 68. **Rao, K.S.**, Nautiyal, S., Maikhuri, R.K. & Saxena, K.G. 2005. Material and energy flows in village ecosystems with contrasting lifestyles in Nanda Devi Biosphere Reserve, Central Himalaya, India. *Journal of Mountain Science*, 2 (4): 271-293.
 69. Nautiyal, S., Shibasaki, R., Rajan, K.S., Maikhuri, R.K. & **Rao, K.S.** 2005. Impacts of land use change on subsidiary occupation: a case study from Himalayas of India. *Environmental Informatics Archives*, 3: 14-23.
 70. Singh, R.D., **Rao, K.S.** & Subhash Chandra. 2005. Water absorption, leaching loss and decomposition of some leaf litters used for manures in central Himalaya, India. *Indian Journal of Forestry*, 28 (2): 170-175.
 71. Maikhuri, R.K., **Rao, K.S.**, Kandari, L.S., Chauhan, K., Nautiyal, S., Purohit, A., Semwal, R.L. & Saxena, K.G. 2005. Conservation policy and social conflicts in protected areas of the Indian Himalaya and options for conflicts resolution: A case study from Nanada Devi Biosphere Reserve. *International Journal of Ecology and Environmental Sciences*, 31 (1): 21-28.
 72. Wakeel, A., **Rao, K.S.**, Maikhuri, R.K. & 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 (1-3): 229-242.
 73. Saxena, K.G., Maikhuri, R.K. & **Rao, K.S.** 2005. Changes in agricultural biodiversity: implications for sustainable livelihood in the Himalaya. *Journal of Mountain Science*, 2(1): 23-31.
 74. Maikhuri, R.K., **Rao, K.S.**, Kandari, L.S., Joshi, R. & Dhyani, D. 2005. Does the outreach programme make an impact? A case study of medicinal and aromatic plant cultivation in Uttaranchal. *Current Science*, 88(9): 1480-1486.
 75. Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2004. Bioprospecting of wild edibles for rural development in central Himalaya. *Mountain Research and Development*, 24 (2): 110-113.
 76. Semwal, R.L., Nautiyal, S, Sen, K.K., Rana, U., Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G.

2004. Patterns and ecological implications of agricultural land-use changes: a case study from central Himalaya, India. *Agriculture, Ecosystems & Environment*, 102 (1): 81-92.
77. Kimothi, M.M., Murthy, T.V.R., Singh, T.S., Joshi, V., Negi, G.C.S., Maikhuri, R.K., **Rao, K.S.**, Bhatt, O.P. & Garg, J.K. 2003. Spatial distribution of bioresources and assessment of impact of ban on human activities in Nanda Devi Biosphere Reserve (NDBR) using remote sensing data. *International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences*, 34 (7/B): 1043-1048.
 78. Maikhuri, R.K., **Rao, K.S.**, Nautiyal, S., Negi, C.S., Purohit, A. & Saxena, K.G. 2003. Ecotourism an option for protected area management: a case study of Nanda Devi Biosphere Reserve, Uttaranchal. *Journal of Tourism*, 5(2): 127-137.
 79. Kala, C.P., **Rao, K.S.**, Maikhuri, R.K. & Negi, K.S. 2003. Comparative assessment of the valley of flowers national park and its adjacent areas in Chamoli district of Uttaranchal. *Indian Forester*, 129 (9): 1085-1089.
 80. **Rao, K.S.**, Semwal, R.L., Maikhuri, R.K., Nautiyal, S., Sen, K.K., Singh, K., Chandrasekhar, K. & Saxena, K.G. 2003. Indigenous ecological knowledge, biodiversity and sustainable development in the central Himalayas. *Tropical Ecology*, 44 (1): 93-111.
 81. Nautiyal, S., Maikhuri, R.K., **Rao, K.S.**, & Saxena, K.G. 2003. Ethnobotany of the Tolchha bhotiya tribe of the buffer zone villages in Nanda Devi Biosphere Reserve, India. *Journal of Economic and Taxonomic Botany*, 27 (1): 119-141.
 82. Nautiyal, S., **Rao, K.S.**, Maikhuri, R.K. & Saxena, K.G. 2003. Transhumant pastoralism in the Nanda Devi Biosphere Reserve, India: A case study in the buffer zone. *Mountain Research and Development*, 23 (3): 255-262.
 83. Maikhuri, R.K., **Rao, K.S.**, Chauhan, K., Kandari, L.S., Prasad, P. & Rajasekaran, C. 2003. Development of marketing of medicinal plants and other forest products - can it be a pathway for effective management and conservation? *The Indian Forester*, 129 (2): 169-178.
 84. **Rao, K.S.**, Maikhuri, R.K., Nautiyal, S. & Saxena, K.G. 2003. Local peoples' knowledge, aptitude and perceptions of planning and management issues in Nanda Devi Biosphere Reserve, India. *Environmental Management*, 31 (2): 168-181.
 85. Semwal, R.L., Maikhuri, R.K., **Rao, K.S.**, Sen, K.K. & Saxena, K.G. 2003. Leaf litter decomposition and nutrient release patterns of six multipurpose tree species of central Himalaya, India. *Biomass and Bioenergy*, 24 (1): 3-11.
 86. Nautiyal, S., Maikhuri, R.K., **Rao, K.S.**, Semwal, R.L. & Saxena, K.G. 2003. Agroecosystem function around a Himalayan Biosphere Reserve. *Journal of Environmental Systems*, 29 (1): 71-100.
 87. Nautiyal, S., **Rao, K.S.**, Maikhuri, R.K., Negi, K.S. & Kala, C.P. 2002. Status of medicinal plants on way to Vasukital in Mandakini valley, Garhwal Himalaya, Uttaranchal. *Journal of Non-Timber Forest Products*, 9 (3/4): 124-131.
 88. Negi, C.S., Maikhuri, R.K., **Rao, K.S.** & Nautiyal, S. 2002. Nanda Raj Jat - Mahakumbha of Uttaranchal: A socio-ecological and religious perspective. *Man in India*, 82 (3 & 4): 341-357.
 89. Purohit, A., Maikhuri, R.K., **Rao, K.S.** & Nautiyal, S. 2002. Revitalizing drink: An assessment of traditional knowledge system in Bhotiya community of central Himalayas, India. *Indian Journal of Traditional Knowledge*, 1 (1): 72-80.
 90. Negi, C.S., Nautiyal, S., Dasila, L., **Rao, K.S.** & Maikhuri, R.K. 2002. Ethnomedicinal plant uses in a small tribal community in a part of central Himalaya, India. *Journal of Human Ecology* 14 (1): 23-31.
 91. Semwal, R.L., Maikhuri, R.K., **Rao, K.S.**, Singh, K. & Saxena, K.G. 2002. Crop productivity under differentially lopped canopies of multipurpose trees in central Himalaya, India. *Agroforestry Systems*, 56 (1): 57-63.
 92. **Rao, K.S.**, Maikhuri, R.K., Nautiyal, S. & Saxena, K.G. 2002. Crop damage and livestock depredation by wildlife: a case study from Nanda Devi Biosphere Reserve, India. *Journal of Environmental Management*, 66 (3): 317-327.
 93. Prasad, P., Chauhan, K., Kandari, L.S., Maikhuri, R.K., Purohit, A., Bhatt, R.P. & **Rao, K.S.** 2002. *Morchella esculenta* (Guchhi): Need for scientific intervention for its cultivation in central Himalaya. *Current Science*, 82: 1098-1100.
 94. Sen, K.K., Semwal, R.L., Rana, U., Nautiyal, S., Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G.

2002. Patterns and implications of land-use/cover change: a case study in Pranmati watershed (Garhwal Himalaya, India). *Mountain Research and Development*, 22 (1): 56-62.
95. Nautiyal, S., Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2001. Medicinal plant resources in Nanda Devi Biosphere Reserve in the central Himalaya. *Journal of Herbs, Spices and Medicinal Plants*, 8 (4): 47-64.
 96. Saxena, K.G., **Rao, K.S.**, Sen, K.K., Maikhuri, R.K. & Semwal, R.L. 2001. Integrated Natural Resource Management: Approaches and Lessons from the Himalaya. *Conservation Ecology*, 5 (2): 14 [URL: <http://www.consecol.org/vol15/iss2/art14>].
 97. Farooquee, N.A. & **Rao, K.S.** 2001. Changing values among Mon Pa pastoralists and their ecological implications for rangelands in the Eastern Himalayas. *Nomadic Peoples*, 5 (1): 168-175.
 98. Purohit, A., Maikhuri, R.K., **Rao, K.S.**, & Nautiyal, S. 2001. Impact of bark removal on survival of *Taxus baccata* L. (Himalayan Yew) in Nanda Devi Biosphere Reserve, Garhwal Himalaya, India. *Current Science*, 81 (5): 586-590.
 99. Maikhuri, R.K., Semwal, R.L., **Rao, K.S.**, Saxena, K.G. & Das, A.K. 2001. Indigenous techniques of agricultural soil fertility maintenance in the central Himalaya. *Ecology, Environment and Conservation*, 7 (1): 15-20.
 100. Maikhuri, R.K., Nautiyal, S., **Rao, K.S.** & 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 (2/3): 357-367.
 101. **Rao, K.S.** & Pant, Rekha. 2001. Land use dynamics and landscape change pattern in a typical micro watershed in the mid elevation zone of central Himalaya, India. *Agriculture, Ecosystems and Environment*, 86 (2): 113-124.
 102. Maikhuri, R.K., **Rao, K.S.** & Semwal, R.L. 2001. Changing scenario of Himalayan agroecosystems: loss of agrobiodiversity as an indicator of global environmental change impacts monitoring in central Himalaya, India. *The Environmentalist*, 21 (1): 23-39.
 103. Nautiyal, S., **Rao, K.S.**, Maikhuri, R.K., Semwal, R.L. & Saxena, K.G. 2000/2001. 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 and 23/1A: 528-541.
 104. **Rao, K.S.**, Maikhuri, R.K., Semwal, R.L. & Saxena, K.G. 2000. Canopy development studies in an ecoregeneration site in Garhwal Himalaya. *Sylbyana*, 21 (1/2): 105-111.
 105. Maikhuri, R.K., Rana, U., **Rao, K.S.**, Nautiyal, S. & Saxena, K.G. 2000. Promoting eco-tourism 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.
 106. **Rao, K.S.**, Nautiyal, S., Maikhuri, R.K. & Saxena, K.G. 2000. Management conflicts in the Nanda Devi Biosphere Reserve, India. *Mountain Research and Development*, 20 (4): 320-323.
 107. Maikhuri, R.K., Nautiyal, S., **Rao, K.S.** & Semwal, R.L. 2000. Indigenous knowledge of medicinal plants and wild edibles among three tribal subcommunities of the central Himalayas, India. *Indigenous Knowledge and Development Monitor*, 8 (2): 7-13.
 108. Maikhuri, R.K., Semwal, R.L., **Rao, K.S.**, Nautiyal, S. & Saxena, K.G. 2000. *Cleome Viscosa* Capparidaceae: a weed or a cash crop? *Economic Botany*, 54 (2): 150-154.
 109. Maikhuri, R.K., Nautiyal, S., **Rao, K.S.**, Chandrasekhar, K., Gavali, R. & Saxena, K.G. 2000. Analysis and resolution of protected area - people conflicts in Nanda Devi Biosphere Reserve, India. *Environmental Conservation*, 27 (1): 43-53.
 110. Maikhuri, R.K., Semwal, R.L., **Rao, K.S.**, Singh, K. & Saxena, K.G. 2000. Growth and ecological impacts of traditional agroforestry tree species in central Himalaya, India. *Agroforestry Systems*, 48: 257-272.
 111. Farooquee, N.A. & **Rao, K.S.** 1999. Conservation and utilization of indigenous cattle and livestock among the transhumant pastoralists of Kumaon Himalaya (India). *Journal of Environmental Systems*, 27 (4): 311-323.
 112. Maikhuri, R.K., **Rao, K.S.**, Saxena, K.G. & Semwal, R.L. 1999. Traditional crop-diversity based nutrition and the prospects for sustainable rural development in the Central Himalaya. *Himalayan Paryavaran*, 6: 36-42.
 113. **Rao, K.S.**, Maikhuri, R.K. & Saxena, K.G. 1999. Participatory approach to rehabilitation of degraded forestlands: a case study in high altitude village of Indian Himalaya. *International Tree*

Crops Journal, 10: 1-17.

114. Nautiyal, S. Maikhuri, R.K., Semwal, R.L., **Rao, K.S.** & Saxena, K.G. 1998. Agroforestry systems in the rural landscape - a case study in Garhwal Himalaya, India. *Agroforestry Systems*, 41: 151-165.
115. Maikhuri, R.K., Nautiyal, S., **Rao, K.S.** & Saxena, K.G. 1998. Role of medicinal plants in traditional health care system: a case study from Nanda Devi Biosphere Reserve. *Current Science*, 75 (2): 152-157.
116. Maikhuri, R.K., Nautiyal, S., **Rao, K.S.** & Saxena, K.G. 1998. Medicinal plant cultivation and biosphere reserve management: a case study from the Nanda Devi Biosphere Reserve, Himalaya. *Current Science*, 74 (2): 157-163.
117. Maikhuri, R.K., Semwal, R.L., **Rao, K.S.** & 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.
118. Maikhuri, R.K., Semwal, R.L., **Rao, K.S.**, Nautiyal, S. & Saxena, K.G. 1997. Eroding traditional crop diversity imperils the sustainability of agricultural systems in Central Himalaya. *Current Science*, 73 (9): 777-782.
119. Dobriyal, R.M., Singh, G.S., **Rao, K.S.** & Saxena, K.G. 1997. Medicinal plant resources in Chhakinal watershed in the north-western Himalaya: Traditional knowledge, economy and conservation. *Journal of Herbs, Spices & Medicinal Plants*, 5 (1): 15-27.
120. Rana, U. & **Rao, K.S.** 1997. Germination studies on a few multipurpose nitrogen fixing tree species used in afforestation programmes in Central Himalaya. *The Indian Forester*, 123 (4): 338-340.
121. Sen, K.K., **Rao, K.S.** & Saxena, K.G. 1997. Soil erosion due to settled upland farming in Himalaya: a case study in Pranmati. *International Journal of Sustainable Development and World Ecology*, 4: 65-74.
122. Maikhuri, R.K., Semwal, R.L., **Rao, K.S.** & Saxena, K.G. 1997. Agroforestry for rehabilitation of degraded community lands: a case study in the Garhwal Himalaya, India. *International Tree Crop Journal*, 9: 91-101.
123. Singh, G.S., **Rao, K.S.** & Saxena, K.G. 1997. Energy and economic efficiency of the mountain farming system: a case study in the north-western Himalaya. *Journal of Sustainable Agriculture*, 9 (2/3): 25-49.
124. Maikhuri, R.K., **Rao, K.S.** & 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.
125. Ghosh, S., Sen, K.K., Rana, U., **Rao, K.S.** & Saxena, K.G. 1996. Applications of GIS for land use planning. *Photonirvachak - Journal of the Indian society of Remote Sensing*, 24(3): 190-202 + Colour Plate.
126. Singh, G.S., Saxena, K.G., **Rao, K.S.** & Ram, S.C. 1996. Traditional knowledge and threat of its extinction in Chhakinal watershed in north-western Himalaya. *Man in India*, 76 (1): 1-18.
127. **Rao, K.S.** & 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.
128. Maikhuri, R.K., Saxena, K.G. & **Rao, K.S.** 1995. Experiences in developing a village agroforestry project in Garhwal Himalaya, India. *International Tree Crops Journal*, 8: 213-221.
129. **Rao, K.S.** & Saxena, K.G. 1995. Effect of landuse on *Dendrocalamus hamiltonii* Nees & Arn. ex. Munro regeneration during early secondary successional stages in north east India. *Journal of Tropical Forest Science*, 7 (3): 347-354.
130. Saxena, K.G., **Rao, K.S.** & Purohit, A.N. 1993. Sustainable forestry - prospects in India. *Journal of Sustainable Forestry*, 1: 69-96.
131. **Rao, K.S.** & Saxena, K.G. 1992. An ecological assessment of man made forests. *Malayan Nature Journal*, 45 (1-4): 474-487.
132. Saxena, K.G. & **Rao, K.S.** 1991. Plant invasions in the Indian sub-continent. *Indian Review of Lifesciences*, 11: 233-260.
133. **Rao, K.S.**, Ramakrishnan, P.S. & Saxena, K.G. 1990. Architectural plasticity of bamboos and its significance in the succession. *Bamboo Journal*, 8: 92-99.
134. Saxena, K.G., **Rao, K.S.** & Kothiyari, B.P. 1990. Social forestry in a broad perspective of integrated resource management and sustained production. *International Journal of Ecology and*

Environmental Sciences, 16: 14-26.

135. **Rao, K.S.** & Ramakrishnan, P.S. 1989. Role of bamboos in nutrient conservation during secondary succession following slash and burn agriculture (jhum) in north-east India. *Journal of Applied Ecology*, 26: 625-633.
136. **Rao, K.S.** & Ramakrishnan, P.S. 1988. Architectural plasticity of two bamboo species (*Neohouzeaua dulloa* A. Camus and *Dendrocalamus hamiltonii* Nees & Arn.) in successional environments in north-east India. *Proceedings of the Indian Academy of Sciences (Plant Sciences)*, 98: 121-133.
137. **Rao, K.S.** & Ramakrishnan, P.S. 1988. Leaf dynamics of two bamboo species (*Neohouzeaua dulloa* A. Camus and *Dendrocalamus hamiltonii* Nees & Arn.) in successional environments in north-east India. *Proceedings of Indian National Science Academy*, B54: 63-69.
138. **Rao, K.S.** & Ramakrishnan, P.S. 1987. Comparative analysis of the population dynamics of two bamboo species, *Dendrocalamus hamiltonii* and *Neohouzeaua dulloa*, in a successional environment. *Forest Ecology & Management*, 21: 177-189.
139. **Rao, K.S.** & Ramakrishnan, P.S. 1987. Socio-economic analysis of bamboo resources in east KhasiHills district of Meghalaya. *Man in India*, 67: 221-231.

3.

a) Research papers published in Academic Journals other than Refereed/Peer Reviewed Journals

1. Yamal, G., Singh, R. & **Rao, K.S.** 2016. Nanoparticles Synthesis and its Applications. *The Botanica*, 66: 19-26.
2. Maikhuri, R.K., Rawat, L.S., Purohit, V.K. Purohit, Negi, V.S., Farooque, N.A., Rao, K.S. & Saxena, K.G. 2007. Experiences in developing eco-tourism for Nanda Devi Biosphere Reserve: Conceptual framework based actions. *Samaj Vigyan Shodh Patrika*, Special Issue (Uttarakhand-I), : 89-99.
3. Nautiyal, S., Nautiyal, A., **Rao, K.S.** & Maikhuri, R.K. 2006. [Madhya Himalaya Ke Parasparik Krushi Tantr Meain Audhnik Phasalon Ka Krushikaran: Ek Vaigyanic Adhyayan]. *ENVIS Bulletin – Himalaya Ecology* 14 (2): 85-87.
4. Nautiyal, S., Maikhuri, R.K. & Rao, K.S. 2005. [Paramparik Sanskrutik Mulyon Ka Paryavaran Sanrakshan Mein Yogdan]. *ENVIS Bulletin – Himalayan Ecology*, 13 (1): 97-100. (in Hindi)
5. Maikhuri, R.K., **Rao, K.S.**, Patnaik, S., Saxena, K.G. & Ramakrishnan, P.S. 2003. Assessment of vulnerability of forests, meadows and mountain ecosystems due to climate change. *ENVIS Bulletin - Himalayan Ecology*, 11 (2): 1-9.
6. Yadava, R.S., **Rao, K.S.** and Talukdar, U. 2003. Landuse/landcover change in and around Namdapha national park in northeast India using remote sensing and GIS. *Arunachal University Research Journal* 6: 9-24.
7. Negi, K.S., **Rao, K.S.**, Negi, B.S., Nautiyal, S., Singh, B., Joshi, P.K. & Bhandari, D.C. 2002/2003. Ethnobotanical notes on the exploration of germplasm in OmParvat and Adi-Kailash Mountains in Uttaranchal. *Hima-Paryavaran*, 14(1&2) & 15(1): 8-10.
8. Nautiyal, S., Negi, K.S., **Rao, K.S.**, Singh, B.M., Maikhuri, R.K., Dhariwal, O.P. & Pilania, D. 2002/2003. Mandakini valley: Religious, cultural and botanical significance. *Hima-Paryavaran*, 14(1&2) & 15(1): 14-16.
9. Nautiyal, S., **Rao, K.S.** & Maikhuri, R.K. 2002/2003. [Oushadhiya Evam Sagandh Paadapon Ka Utpadan: Karyashalayan Krushikaran Ke Protsahan Hetu Vyavaharik Vikalp]. *Hima-Paryavaran*, 14(1&2) & 15(1): 27-30. (in Hindi).
10. Nautiyal, S., **Rao, K.S.** & Maikhuri, R.K. 2002. [Kyon Udaseen Hai Viswa Dharohar Sthal “Nanda Devi Jaivmandal Aarakshit Kshetr” Ke Nivasi?]. *ENVIS Bulletin - Himalayan Ecology and Development*, 10 (1): 74-75. (in Hindi).
11. Singh, G.S. & **Rao, K.S.** 2002. Altering indigenous farming practices in north western Himalayas. *ENVIS Bulletin - Himalayan Ecology and Development*, 10 (2): 1-3.
12. Negi, K.S., Bhandari, D.C., Sharma, A., **Rao, K.S.** & Nautiyal, S. 2002. [Uttaranchal Main Videshi Sugandhit Van Hajri - Abhishap Ya Vardan]. *ENVIS Bulletin - Himalayan Ecology and Development*, 10 (2): 71-73. (in Hindi).
13. Maikhuri, R.K. & **Rao, K.S.** 2002. Rehabilitation of degraded land: Land-use and land-cover change

- impacts and strategies in the Indian Himalaya Mountains. *IHDP Newsletter* 01/2002, 18.
14. Nandy, S.N. & **Rao, K.S.** 2001. Census 2001: Population dynamics of Indian Himalaya. *ENVIS Bulletin - Himalayan Ecology and Development*, 9 (2): 1-6.
 15. **Rao, K.S.** & Nandy, S.N. 2001. Landuse pattern and populstion pressure in Uttaranchal. *ENVIS Bulletin - Himalayan Ecology and Development*, 9 (1): 17-23.
 16. Nautiyal, S., **Rao, K.S.**, Maikhuri, R.K. & Purohit, A. 2001. [Itihasik Nanda Rajjata Yatra - Sanskrutik Evam Prakruti Ka Parasparik Sambandh: Vigat Evam Vartman Swaroop]. *ENVIS Bulletin - Himalayan Ecology and Development*, 9 (2): 75-91. (in Hindi).
 17. Nautiyal, S., **Rao, K.S.**, Maikhuri, R.K., Nautiyal, M. & Negi, K.S. 2000. [Apne He Gharh Mein Kho Gayie Mukhmar] *ENVIS Bulletin - Himalayan Ecology and Development*, 8 (2): 82-83. (in Hindi).
 18. Nautiyal, S., **Rao, K.S.**, & Maikhuri, R.K. 2000. [Uttaranchal Pradesh Ke Garhwal Himalaya Main Bhi Hoti Hi Jhum Ki Tarj Par Kheti]. *Hima-Paryavaran*, 12 (2): 15-16. (in Hindi).
 19. Ghosh,S., Rana, U., **Rao, K.S.** & Sen, K.K. 2000. GIS application for mountainous terrains: some considerations and options. *ENVIS Bulletin - Himalayan Environment and Development*, 8 (1): 1-8.
 20. Semwal, R.L., Nautiyal, S., **Rao, K.S.**, Maikhuri, R.K. & Bhandari, B.S. 1999. Structure of forests under community conservation: a preliminary study of Jardhar village initiative in Garhwal Himalaya. *ENVIS Bulletin Himalayan Ecology & Development*, 7(2): 16-27.
 21. Maikhuri, R.K., **Rao, K.S.**, Saxena, K.G. & Semwal, R.L. 1999. Traditional crops in the central Himalayas. *Plant Genetic Resources Newsletter*. 120: 1-7.
 22. Maikhuri, R.K., **Rao, K.S.**, Nautiyal, S. & Saxena, K.G. 1999. Management planning for the Nanda Devi Biosphere Reserve. *Himalayan Biosphere Reserves*, 1(1 & 2): 73-83.
 23. Maikhuri, R.K., Semwal, R.L. & **Rao, K.S.** 1999. [Garhwal Himalaya Ke Paramparik Krishi Paristhiti Tantra Mein Jaivik Vividhata, Sankat Aur Punarudhar: Ek Vagyanik Vivechana] Proceedings of Seminar on Uttarakhan Vikas. Uttarakhand Seva Samiti, New Delhi (held at Ahmedabad on 6-7th March, 1999) pp 22-28. (in Hindi).
 24. Maikhuri, R.K., Semwal, R.L. & **Rao, K.S.** 1999. [Garhwal Himalaya Ke Paramparik Krishi: Samasyae evam nerakaran] *Shayad Sambhavana* (August), 25-30. (in Hindi).
 25. Nautiyal, S., Negi, K.S., Maikhuri, R.K., Manral, H. & **Rao, K.S.** 1999. [Roop Kund - Sanskrutik va Vanaspatik Vishleshan] *Hima-Paryavaran*, 11(2): 24-28. (in Hindi).
 26. Maikhuri, R.K. & **Rao, K.S.** 1998. A ban on common sense. *Down to Earth*, Jan 1998. 56.
 27. Nautiyal, S., Maikhuri, R.K. & **Rao, K.S.** 1998. [Paramparagat Chikitsha Paddati Main Jari-butiya Ka Yogdan: Ek Vishisht Adhayayn] Role of Medicinal Plants in Traditional Healing Systems: A study. *Hima-Paryavaran*, 10(2): 20-21 (in Hindi).
 28. Maikhuri, R.K., Semwal, R.L., Nautiyal, S. & **Rao, K.S.** 1996. Neglected mountain crop diversity needs conservation. *Hima-Paryavaran*, 8: 12-13.
 29. Singh, G.S. & **Rao, K.S.** 1995. Traditional Knowledge in Chhakinal Watershed. *ENVIS Bulletin - Himalayan Ecology and Development*, 3 (1&2): 6-11.
 30. Samal, P.K., **Rao, K.S.** & Rawat, D.S. 1994. Sex ratio in Central Himalaya: An analysis. *ENVIS Bulletin - Himalayan Ecology and Development*, 2(2): 5-14.

b) Research papers published in Refereed/Peer Reviewed Conferences

c) Research papers Published in Conferences/Seminar other than Refereed/Peer Reviewed Conferences

1. Nautiyal, S., Kaechele, H., Zander, P. & **Rao, K.S.** 2016. Socioeconomic and ecological modeling for sustainable landscape management in Indian Himalayan perspective. In: Nautiyal, S. Schaldach, R., Raju, K., Kaechele, H., Pritchard, B. & **Rao, K.S.** Eds.. *Climate Change Challenge (3C) and Social-Economic-Ecological Interface-Building*. Springer-Verlag, Berlin. Pp.
2. Nautiyal, S. Schaldach, R., Raju, K., Kaechele, H., Pritchard, B. & **Rao, K.S.** 2016. Climate Change Challenge (3C) and Social-Economic-Ecological Interface-Building—Exploring Potential Adaptation Strategies for Bio-resource Conservation and Livelihood Development: Epilogue. In: Nautiyal, S. Schaldach, R., Raju, K., Kaechele, H., Pritchard, B. & **Rao, K.S.** Eds.. *Climate Change Challenge (3C) and Social-Economic-Ecological Interface-Building*. Springer-Verlag, Berlin. Pp.

3. Nautiyal, S. Schaldach, R., Raju, K., Kaechele, H., Pritchard, B. & **Rao, K.S.** 2016. Climate Change Challenge (3C) and Social-Economic-Ecological Interface-Building—Exploring Potential Adaptation Strategies for Bio-resource Conservation and Livelihood Development: Prologue. In: Nautiyal, S. Schaldach, R., Raju, K., Kaechele, H., Pritchard, B. & **Rao, K.S.** Eds.. *Climate Change Challenge (3C) and Social-Economic-Ecological Interface-Building*. Springer-Verlag, Berlin. Pp.
4. **Rao, K.S.**, Chandrashekara, U.M. & Saxena, K.G. 2016. Inventory, functions and management of soil biodiversity: an overview. In: Saxena, K.G. & Rao, K.S. (Eds.) *Soil Biodiversity: Inventory, Functions and Management*. Bishen Singh Mahendra Pal Singh, Dehradun, pp. 403--442.
5. **Rao, K.S.**, Maikhuri, R.K. & Saxena, K.G. 2016. Indigenous pest management in the Himalaya. In: Saxena, K.G. & Rao, K.S. (Eds.) *Soil Biodiversity: Inventory, Functions and Management*. Bishen Singh Mahendra Pal Singh, Dehradun, pp. 383-400.
6. Singh, K., Maikhuri, R.K. & **Rao, K.S.** 2016. Mycorrhiza. In: Saxena, K.G. & Rao, K.S. (Eds.) *Soil Biodiversity: Inventory, Functions and Management*. Bishen Singh Mahendra Pal Singh, Dehradun, pp. 85-108.
7. Saxena, K.G., Rao, K.S. & Maikhuri, R.K. 2014. Soil as living body. In: Prasad, R., Kumar, D., Rana, D.S., Shivay, Y.S. & Tewatia, R.K. (Eds.). *Textbook of Plant Nutrient Management*, Indian Society of Agronomy, IARI, New Delhi. Pp 23-47.
8. Nautiyal, S., **Rao, K.S.**, Kaechele, H., Raju, K.V. & Schaldach, R. 2013. Knowledge systems of societies for adaptation and mitigation of impacts of climate change: Prologue. In: Nautiyal, S., Rao, K.S., Kaechele, H., Raju, K.V. & Schaldach, R. (Eds.) *Knowledge Systems of Societies for Adaptation and Mitigation of Impacts of Climate Change*. Springer-Verlag, Berlin. pp. 1-6.
9. Nautiyal, S., **Rao, K.S.**, Kaechele, H., Raju, K.V. & Schaldach, R. 2013. Knowledge systems of societies for adaptation and mitigation of impacts of climate change: Epilogue. In: Nautiyal, S., Rao, K.S., Kaechele, H., Raju, K.V. & Schaldach, R. (Eds.) *Knowledge Systems of Societies for Adaptation and Mitigation of Impacts of Climate Change*. Springer-Verlag, Berlin. pp. 717-720.
10. Saxena, K.G., **Rao, K.S.** & Maikhuri, R.K. 2013. Linking climate change with biodiversity and livelihoods in Indian Himalaya. In: Chopra, V.L. (Ed.) *Climate Change and its Ecological Implications for the Western Himalaya*. Scintific Publishers (India), pp109-127.
11. Shimrah, T., Bharali, S., **Rao, K.S.** & Saxena, K.G. 2012. Cultural landscapes: The basis for linking biodiversity conservation with the sustainable development in west Kameng, Arunachal Pradesh. In: Ramakrishnan, P.S., Saxena, K.G., Rao, K.S. & Sharma, G. (Eds.) *Cultural Landscapes: The basis for linking biodiversity conservation with the Sustainable Development*, UNESCO, New Delhi, pp. 105-148.
12. Shimrah, T., Rao, K.S., Maikhuri, R.K. & Saxena, K.G. 2012. Land use and local livelihoods in the face of global change: An analysis from Arunachal Pradesh, India. In: Saxena, K.G., Liang, L., Tanaka, K. & Takahashi, S. (Eds.) *Land Management in Marginal Mountain Regions: Adaptation and Vulnerability to Global Change*. Bishen Singh Mahendra Pal Singh, Dehradun, India, pp. 159-177.
13. Rao, K.S., Maikhuri, R.K., Semwal, R.L., Rawat, L.S., & Saxena, K.G. 2012. Climate change adaptation and mitigation: Insights from Nanda Devi Biosphere Reserve in Indian Himalaya. In: Saxena, K.G., Liang, L., Tanaka, K. & Takahashi, S. (Eds.) *Land Management in Marginal Mountain Regions: Adaptation and Vulnerability to Global Change*. Bishen Singh Mahendra Pal Singh, Dehradun, India, pp. 305-324.
14. Ramakrishnan, P.S., **Rao, K.S.**, Chandrashekara, U.M., Chhetri, N., Gupta, H.K., Patnaik, S., Saxena, K.G. & Sharma, E. 2012. South Asia. In: Parrotta, J. & Trosper, R.L. (eds.) *Traditional Forest Related Knowledge: Sustaining Communities, Ecosystems and Biocultural Diversity*, World Forests. Springer Inc., Netherlands. Pp 315-356.
15. Saxena, K.G., Maikhuri, R.K. & Rao, K.S. 2011. Ecotourism in Nanda Devi Biosphere Reserve: A win-win option for environmental conservation and sustainable livelihoods. In: Austriasn MAB Committee (Eds.). *Biosphere Reserves in the Mountains of the World: Excellence in the Clouds?* Austrian Academy of Sciences & UNESCO, pp 77-80.

16. Maikhuri, R.K., **Rao, K.S.**, Nautiyal, S., Negi, V.S., Rawat, L.S. & Saxena, K.G. 2011. Pastoral issues in the light of change and development in the buffer zone of Nanda Devi Biosphere Reserve. In: Farooquee, N.A., Gooch, P., Maikhuri, R.K. & Agrawal, D.K. (eds.) *Sustainable Pastoralism in the Himalayas*. Indus Publishing company, New Delhi, pp. 89-101.
17. Kandari, L.S., **Rao, K.S.**, Maikhuri, R.K. & Chandra, A. 2011. Conservation and cultivation of medicinal plants for sustainable development in Nanda Devi Biosphere Reserve, Uttarakhand, India. In: Kala, C.P. (Ed.). *Medicinal Plant and Sustainable Development*, Nova Science Publishers, Inc., Hauppauge, NY, USA. Pp. 255-266.
18. Chandrasekhar, K., **Rao, K.S.** & Saxena, K.G. 2011. Structure and function of agroecosystems in cold desert of Spiti catchment. In: Saxena, K.G., Liang, L. & Xue, X. (Eds.). *Global Change, Biodiversity and Livelihoods in Cold Desert Region of Asia*. Bishen Singh Mahendra Pal Singh, Dehradun. Pp. 91-106.
19. Gawali, R., Saxena, K.G., **Rao, K.S.** & Maikhuri, R.K. 2011. Management of grazinglands in Indian cold desert: A village level study in Spiti valley, India. In: Saxena, K.G., Liang, L. & Xue, X. (Eds.). *Global Change, Biodiversity and Livelihoods in Cold Desert Region of Asia*. Bishen Singh Mahendra Pal Singh, Dehradun. Pp. 147-160.
20. Nautiyal, S., Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2011. Livelihood and natural resources in Asian cold desert: A case study from selected villages in central Himalaya, India. In: Saxena, K.G., Liang, L. & Xue, X. (Eds.). *Global Change, Biodiversity and Livelihoods in Cold Desert Region of Asia*. Bishen Singh Mahendra Pal Singh, Dehradun. Pp. 161-176.
21. Maikhuri, R.K., Phondani, P.C., **Rao, K.S.**, Semwal, R.L., Kandari, L.S., Chauhan, K., Rawat, L.S., Dhyani, D. & Saxena, K.G. 2010. Ethnobiology and traditional knowledge of medicinal plants in health care system. In: Uniyal, P.L., Chamola, B.P. & Semwal, D.P. (Eds.) *The Plant Wealth of Uttarakhand*. Jagdamba Publishing Co., Delhi. Pp. 369-379.
22. Chandra, A., Sharmila, P., Saradhi, P.P., Saxena, K.G. & **Rao, K.S.** 2009. Sustainability of selected traditional pulses with native Rhizobial strains: A case study of Nanda Devi Biosphere Reserve, Uttarakhand. In: Kumar, D., Rastogi, N. & Singaravel, M. (Eds.) *Functional Biodiversity & Ecophysiology of Animals*. Department of Zoology, CAS, Banaras Hindu University, Varanasi, India. pp. 135-146.
23. Saxena, K.G. & **Rao, K.S.** 2009. Climate change, biodiversity and livelihoods in Indian Himalaya: The elements of uncertainty and diverse perceptions. In: Nautiyal, S. & Nayak, B.P. (Eds.) *Proceeding of National Seminar on Climate Change: Data Requirements and Availability*, Institute for Social and Economic Change, Bangalore, pp. 78-88.
24. **Rao, K.S.** 2009. Long term ecological research (LTER) – Data requirements for climate change research. In: Nautiyal, S. & Nayak, B.P. (Eds.) *Proceeding of National Seminar on Climate Change: Data Requirements and Availability*, Institute for Social and Economic Change, Bangalore, pp. 58-60.
25. Chandra, A., Sharmila, P., Saradhi, P.P., **Rao, K.S.**, Saxena, K.G., Kandari, L.S., Payal, K.C. and Maikhuri, R.K. 2009. Assessment of biological yield of some selected *Vigna* sps with native rhizobial strain in traditional agroecosystem of central Himalaya. In: *National conference on Changing Environmental Trends and Sustainable Development*, Haryana Agricultural University, Hissar. pp 217-221.
26. Kandari, L.S., Maikhuri, R.K., **Rao, K.S.**, Chauhan, K., Kala, C.P., Chandra, A. 2009. Cultivation, commercialization and conservation of medicinal and aromatic plants in the upper Dhaulti Ganga catchment of Nanda Devi Biosphere Reserve, Uttarakhand. In: Pati, R.N. and Tewari, D.N. (Eds.) *Conservation of Medicinal Plants*, A.P.H. Publishing Corporation, New Delhi, pp.225-234.
27. **Rao, K.S.**, Rana, J.C., Sharma, R.M. & Singh, A. 2008. Biological codes. In: Mendiratta, N., SivaKumar, S. & Rao, K.S. (Eds.) *Standards for Bio-geo Database, Version 1*. TERI, New Delhi, pp.113-164.
28. Shimrah, T., Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2007. Shifting agriculture around Dehang-

- Debang Biosphere Reserve in Arunachal Pradesh: A landscape ecology perspective. In: Saxena, K.G., Liang, L. and Rerkasem, K. (Eds.) *Shifting Agriculture in Asia: Implications for Environmental Conservation and Sustainable Livelihood*, Bishen Singh Mahendra Pal Singh, Dehradun pp 151-175.
29. Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2007. Shifting cultivation in north-east India: a village ecosystem approach. In: Saxena, K.G., Liang, L. and Rerkasem, K. (Eds.) *Shifting Agriculture in Asia: Implications for Environmental Conservation and Sustainable Livelihood*, Bishen Singh Mahendra Pal Singh, Dehradun pp 189-203.
 30. **Rao, K.S.**, Maikhuri, R.K. & Saxena, K.G. 2007. Restoration of degraded forest lands in north-east India. In: Saxena, K.G., Liang, L. and Rerkasem, K. (Eds.) *Shifting Agriculture in Asia: Implications for Environmental Conservation and Sustainable Livelihood*, Bishen Singh Mahendra Pal Singh, Dehradun pp 375-396.
 31. Saxena, K.G., Liang, L., **Rao, K.S.**, Rerkasem, K. & Upadhyaya, N. 2007. Analyzing shifting agriculture in relation to environmental conservation and livelihoods of local communities in marginal mountain areas of Asia. In: Saxena, K.G., Liang, L. and Rerkasem, K. (Eds.) *Shifting Agriculture in Asia: Implications for Environmental Conservation and Sustainable Livelihood*, Bishen Singh Mahendra Pal Singh, Dehradun pp 439-457.
 32. Saxena, K.G., **Rao, K.S.** & Maikhuri, R.K. 2006. Opportunities and constraints in ecological restoration strategies build around agro-forestry. In: Fischer, A., Rui, L., Saxena, K.G. & Jayakumar, R. (Eds.) *The Loess Plateau in Central China: Ecological Restoration and Management*. ERSEC Ecological Book Series 3, Tsinghua University Press/Springer, Beijing. Pp. 232-249.
 33. Saxena, K.G., **Rao, K.S.** & Maikhuri, R.K. 2006. Changes in agricultural biodiversity: Implications for sustainable livelihoods in the Himalaya. In: Saxena, K.G., Liang, L., Kono, Y. & Miyata, S. (Eds.) *Small –Scale Livelihoods and Natural Resource Management in Marginal Areas of Monsoon Asia*. Bishen Singh Mahendra Pal Singh, Dehra Dun. Pp 21-36.
 34. Yadava, R.S., Talukdar, U. & **Rao, K.S.** 2006. Land use and land cover changes in Namdapha National Park, Arunachal Pradesh. In: Ramakrishnan, P.S., Saxena, K.G. & Rao, K.S. (Eds.) *Shifting Agriculture and Sustainable Development of North-Eastern India: Tradition in Transition*. Oxford & IBH, New Delhi. Pp. 157-170.
 35. Shimra, T., Singh, K., Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2006. Shifting agriculture in Central and Eastern Himalayas: A landscape ecology perspective. In: Ramakrishnan, P.S., Saxena, K.G. & Rao, K.S. (Eds.) *Shifting Agriculture and Sustainable Development of North-Eastern India: Tradition in Transition*. Oxford & IBH, New Delhi. Pp. 373-398.
 36. Saxena, K.G., **Rao, K.S.** & Maikhuri, R.K. 2006. Building on traditional technologies for sustainable mountain development. In: Joshi, A.P., Agarwal, S.K. & Kumar, R. (Eds.) *Mountain Technology Agenda: Status, Gaps & Possibilities*. Bishen Singh Mahendra Pal Singh, Dehradun. Pp. 129-139.
 37. Maikhuri, R.K. & **Rao, K.S.** 2006. Water resource management in the central Himalaya: A case study. In: Joshi, A.P., Agarwal, S.K. & Kumar, R. (Eds.) *Mountain Technology Agenda: Status, Gaps & Possibilities*. Bishen Singh Mahendra Pal Singh, Dehradun. Pp.185-193.
 38. Saxena, K.G., **Rao, K.S.** & Maikhuri, R.K. 2005. Ecological restoration strategies for socio-economic upliftment in the Himalayan region. In: Sharada, V.N., Dadhwal, K.S., Dhyani, S.K., Juyal, G.P., Dogra, P., Raizada, A. & Khola, O.P.S. (Eds.) *Resource Conserving Technologies for Social Upliftment*. Indian Association of Soil and Water Conservationists, Central Soil & Water Conservation Research & Training Institute Dehradun. pp. 735-744
 39. Nautiyal, S., Rajan, K.S., Shibasaki, R., Rao, K.S., Maikhuri, R.K. & Bisht, I.S. 2005. Land use intensification and its ecological impacts in Himalayas of India – Lessons for scenario development in mountainous regions. In: *Proceedings of 31st International Symposium on Remote Sensing of Environment*, June 20-24, 2005, St. Petersburg, Russia. <http://www.isprs.org/publications/related/isrse/html/papers/928.pdf>.

40. **Rao, K.S.**, Maikhuri, R.K., Sen, K.K., Semwal, R.L., Singh, K., Das, A.K. & Saxena, K.G. 2005. Soil fertility management in settled farming systems of Himalaya. In: Ramakrishnan, P.S., Saxena, K.G., Swift, M.J., Rao, K.S. & Maikhuri, R.K. (Eds.) *Soil Biodiversity, Ecological Processes and Landscape Management*. Oxford & IBH, New Delhi. pp. 243-276.
41. Saxena, K.G., Maikhuri, R.K., **Rao, K.S.** & Ramakrishnan, P.S. 2005. Soil biodiversity, ecological processes and sustainable management of natural resources: Where do we stand? In: Ramakrishnan, P.S., Saxena, K.G., Swift, M.J., Rao, K.S. & Maikhuri, R.K. (Eds.) *Soil Biodiversity, Ecological Processes and Landscape Management*. Oxford & IBH, New Delhi. pp. 285-297.
42. Maikhuri, R.K., **Rao, K.S.**, Chauhan, K., Kandari, L., Prasad, P., Negi, G.S., Nautiyal, S., Purohit, A., Rajasekaran, C. & Saxena, K.G. 2005. Cultivation and conservation of higher Himalayan medicinal plants through participatory and action research: A case study from the Central Himalaya (Uttaranchal), India. In: Thomas, Y., Karki, M., Gurung, K. & Parajuli, D. (Eds.) *Himalayan Medicinal and Aromatic Plants, Balancing Use and Conservation (Proceedings of the Regional Workshop on Wise Practices and Experiential Learning in Conservation and Management of Himalayan Medicinal Plants, December 15-10, 2002, Kathmandu, Nepal)*, WWF/IDRC, Canada. Pp. 281-301.
43. Bhatt, R.M., **Rao, K.S.**, Raturi, G.D., & Nandy, S.N. 2004. RS and GIS integrated systems for the Garhwal region. In: 1st Water and Environment Specialty Conference of the Canadian Society for Civil Engineering, Saskatoon, Saskatchewan, Canada, June 2-5, 2004. pp. WE 1-5.
44. **Rao, K.S.**, Maikhuri, R.K. & Saxena, K.G. 2004. Ecological perspective of plant form and function. In: Srivastava, P.C. (ed.). *Vistas in Palaeobotany and Plant Morphology: Evolutionary and Environmental Perspectives*. U.P. Offset, Lucknow. 447-457.
45. Saxena, K.G., Maikhuri, R.K. & **Rao, K.S.** 2004. Changes in agricultural biodiversity: implications for sustainable livelihood in the Himalaya. Chapter 5. In: Saxena, K.G., Liang, L, Kono, Y. & Miyata, S. (Eds.) *Small-scale Livelihoods and Natural Resources Management in Marginal Areas: Case Studies in Monsoon Asia (Proceedings of UNU conference on Sustainable Natural Resource Management for Mountain Development)*. UNU Press, Tokyo. pp. 49-65.
46. Saxena, K.G., Ramakrishnan, P.S., Maikhuri, R.K., **Rao, K.S.** & Patnaik, S. 2004. Assessment of vulnerability of forests, meadows and mountain ecosystems due to climate change. Chapter 14. In: Ravindranath, H.N., Sharma, S.K., Garg, A., Bhattacharya, S. & Murthy, I.K. (Eds.). *Proceedings of the Workshop on Vulnerability Assessment and Adaptation Due to Climate Change on Indian Agriculture, Forestry and Natural Ecosystems*. Ministry of Environment and Forests, New Delhi. pp. 170-176.
47. Maikhuri, R.K., **Rao, K.S.** & Palni, L.M.S. 2004. Agro-biodiversity conservation and management in the Indian Himalayan region in the wake of changing patterns of biodiversity. Chapter 7. In: Dhillon, B.S., Tyagi, R.K., Lal, A. & Saxena, S. (Eds.). *Plant Genetic Resource Management*. Narosa Publishing House, Delhi. pp. 91-102.
48. Palni, L.M.S., Maikhuri, R.K. & **Rao, K.S.** 2004. Conservation of the Himalayan agroecosystems: Issues and priorities. In: Pandey, P.C., Pande, D.C., Bisht, P.S. & Pande, R. (Eds.). *Economy of Uttaranchal: Profile and Dynamics of Change*. Anamica Publishers & Distributors, New Delhi. pp. 135-176 [Reprinted with permission of UNDP, New York]
49. Maikhuri, R.K., **Rao, K.S.**, & Nautiyal, S. 2003. Land use land cover change impacts and strategies for rehabilitation of degraded land: A case study from the Central (lesser) Himalaya (Uttaranchal). In: Rawat, M.S.S. (ed.). *Central Himalaya: Environment and Development: Potential, Actions and Challenges*. Transmedia Publication, Srinagar, Garhwal. pp. 230-240.
50. Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2003. Integrated natural resource management: The concept and its application for sustainable development in the Himalaya. In: Ramakrishnan, P.S., Saxena, K.G., Patnaik, S. & Singh, S. (eds.). *Methodologies for Mountain Research: A Socio-Ecological System Approach*. Oxford & IBH, New Delhi. Pp. 177-198.
51. **Rao, K.S.** & Maikhuri, R.K. 2003. Natural resource management. In: Sharma, R., Pande, R.K., Shah, D. & Kumar, A. (Eds.). *Sustainable Mountain Agriculture*. Centre for Development Studies, Uttaranchal Academy of Administration, Nainital. pp. 143-160.

52. Chandrasekhar, K., Gavali, R., **Rao, K.S.**, Maikhuri, R.K. & Saxena, K.G. 2003. Traditional management of biodiversity in India's cold desert. In: Lemons, J., Victor, R. & Schaffer, D. (eds.) *Promoting Best Practices for Conservation and Sustainable Use of Biodiversity of Global Significance in Arid and Semiarid Zones*. Kluwer Academic Publishers, Norwell, MA, USA. Pp. 217-230.
53. Saxena, K.G., **Rao, K.S.**, Sena, K.K., Maikhuri, R.K. & Semwal, R.L. 2003. Integrated Natural Resource Management: Approaches and lessons learnt from the Himalaya. Chapter 11. In: Campbell, B.M. & Sayer, J.A. (eds.). *Integrated Natural Resources Management: Linking Productivity, the Environment and Development*. CAB International, London, UK. Pp. 211-225.
54. **Rao, K.S.**, Semwal, R.L., Maikhuri, R.K., Nautiyal, S., Sen, K.K., Singh, K., Chandrasekhar, K. & Saxena, K.G. 2002. Indigenous ecological knowledge, biodiversity and sustainable development in the central Himalayas. In: Depommier, D. & Ramakrishnan, P.S. (eds.) *Proceedings of the Indo-French colloquium on Traditional Ecological Knowledge, Conservation of Biodiversity and Sustainable Development*. Publication of the Department of Ecology, IFP, Pondichery. pp. 100-140.
55. Maikhuri, R.K., Nautiyal, S., **Rao, K.S.** & Saxena, K.G. 2002. Medicinal plant cultivation in Nanda Devi Biosphere Reserve Buffer Zone villages. In: Singh, V.K., Govil, J.N. & Singh, Gurdip (Eds.) *Recent Progress in Medicinal Plants. Vol. I. Ethnomedicine and Pharmacognosy*. Sci Tech Publishing Llc, Houston, USA. pp. 345-362.
56. **Rao, K.S.**, Maikhuri, R.K., Nautiyal, S. & Saxena, K.G. 2002. Ethnobotany of Tolchha sect of Bhotiya community of Garhwal Himalaya. In: Singh, V.K., Govil, J.N. & Singh, Gurdip (Eds.) *Recent Progress in Medicinal Plants. Vol. I. Ethnomedicine and Pharmacognosy*. Sci Tech Publishing Llc, Houston, USA. pp. 9-32.
57. Maikhuri, R.K., **Rao, K.S.**, Nautiyal, S., Purohit, A. & Tiwari, S.D. 2002. Agroecosystem management of Nanda Devi Biosphere Reserve. In: Sharma, J.K., Easa, P.S., Mohanan, C., Sasidharan, N. & Rai, R.K. (Eds.) *Biosphere Reserve in India and Their Management*. Proceeding of the Review Meeting: Biosphere and their Management, 8-11 September 2000, Peechi, Kerala. Ministry of Environment and Forests, Government of India, New Delhi. pp. 122-126.
58. Maikhuri, R.K. & **Rao, K.S.** 2002. Inventory, commercial utilisation and conservation of agro-biodiversity for sustainable development of the buffer zone villages of Nanda Devi Biosphere Reserve. In: Sharma, J.K., Easa, P.S., Mohanan, C., Sasidharan, N. & Rai, R.K. (Eds.) *Biosphere Reserve in India and Their Management*. Proceeding of the Review Meeting: Biosphere and their Management, 8-11 September 2000, Peechi, Kerala. Ministry of Environment and Forests, Government of India, New Delhi. pp. 128-130.
59. **Rao, K.S.** 2002. Management information system (MIS) for landuse/land covers change analysis in relation to conservation oriented landuse priorities in Nanda Devi Biosphere Reserve Buffer Zone. In: Sharma, J.K., Easa, P.S., Mohanan, C., Sasidharan, N. & Rai, R.K. (Eds.) *Biosphere Reserve in India and Their Management*. Proceeding of the Review Meeting: Biosphere and their Management, 8-11 September 2000, Peechi, Kerala. Ministry of Environment and Forests, Government of India, New Delhi. pp. 132.
60. Sen, K.K., Semwal, R.L., Maikhuri, R.K., **Rao, K.S.** & Saxena, K.G. 2002. Land use - land cover change in Himalaya: Processes, patterns and implications. In: Abrol, Y.P., Sangwan, S. & Tiwari, M.K. (Eds.) *Land use: Historical Perspective Focus on Indo-Gangetic Plains*. Allied Publishers Pvt., Limited, New Delhi. pp 457-474.
61. Maikhuri, R.K., **Rao, K.S.**, Nautiyal, S., Purohit, A., Semwal, R.L. & Saxena, K.G. 2002. Management options for Nanda Devi Biosphere Reserve. In: Ramakrishnan, P.S., Rai, R.K., Katwal, R.P.S. & Mehndiratta, S. (Eds.) *Traditional Ecological Knowledge for Managing Biosphere Reserves in South and Central Asia*. Oxford & IBH, New Delhi. pp. 49-70.
62. **Rao, K.S.**, Semwal, R.L., Maikhuri, R.K., Nautiyal, S., Sen, K.K. & Saxena, K.G. 2002. Traditional natural resource management in central Himalaya and its relevance to Biosphere Management. In: Ramakrishnan, P.S., Rai, R.K., Katwal, R.P.S. & Mehndiratta, S. (Eds.)

Traditional Ecological Knowledge for Manging Biosphere Reserves in South and Central Asia. Oxford & IBH, New Delhi. pp. 71-96.

63. Semwal, R.L., Maikhuri, R.K. & **Rao, K.S.** 2001. Agriculture: Ecology, practices & productivity. In: Kandari, O.P. & Gusain, O.P. (Ed.) *Garhwal Himalaya: Nature, Culture & Society*. Transmedia, Srinagar (Garhwal). pp 259-276.
64. Singh, R.D., **Rao, K.S.** & Bisht, K.K.S. 2001. Indigenous nutrient management technology in Central Himalaya. Chapter 11, In: Acharya, C.L., Ghosh, P.K. & Rao, A.S. (Eds.) *Indigenous Nutrient Management Practices - Wisdom Alive in India*. Indian Institute of Soil Science, Bhopal. pp. 165-176.
65. Maikhuri, R.K., **Rao, K.S.** & Semwal, R.L. 2001. Rehabilitation of degraded lands through participatory approach and action research: A case study from the central Himalaya. *Association Annual Journal - ARPAN (Kurukshetra)*, 1(2): 36-49.
66. Nautiyal, S., Maikhuri, R.K. & **Rao, K.S.** 2001. Medicinal plant cultivation practices of Bhotiyas in Nanda Devi Biosphere Reserve villages of Garhwal Himalaya. In: Samant, S.S., Dhar, U. & Palni, L.M.S. (Eds.) *Himalayan Medicinal Plants: Potential and Prospects*. HIMVIKAS Occasional Publication no. 14. G.B. Pant Institute of Himalayan Environment and Development, Almora. pp. 317-328 .
67. Maikhuri, R.K., Nautiyal, S., Rana, U., Tiwari, S., **Rao, K.S.** & Saxena, K.G. 2000. Socio-ecological profile. Chapter 9. In: Ramakrishnan, P.S., Chandrasekhara, U.M., Elouard, C., Guilмото, C., Maikhuri, R.K., Rao, K.S., Shankar, S. & Saxena, K.G. (Editors). *Mountain Biodiversity, Land Use Dynamics, and Traditional Ecological Knowledge*. Oxford & IBH Publications Ltd., New Delhi. pp.219-226.
68. Maikhuri, R.K., Nautiyal, S., Rana, U., Tiwari, S., **Rao, K.S.** & Saxena, K.G. 2000. Traditional agroecosystems. Chapter 10. In: Ramakrishnan, P.S., Chandrasekhara, U.M., Elouard, C., Guilмото, C., Maikhuri, R.K., Rao, K.S., Shankar, S. & Saxena, K.G. (Editors). *Mountain Biodiversity, Land Use Dynamics, and Traditional Ecological Knowledge*. Oxford & IBH Publications Ltd., New Delhi. pp. 227-239.
69. Maikhuri, R.K., Nautiyal, S., Rana, U., Tiwari, S., **Rao, K.S.** & Saxena, K.G. 2000. Animal husbandry. Chapter 11. In: Ramakrishnan, P.S., Chandrasekhara, U.M., Elouard, C., Guilмото, C., Maikhuri, R.K., Rao, K.S., Shankar, S. & Saxena, K.G. (Editors). *Mountain Biodiversity, Land Use Dynamics, and Traditional Ecological Knowledge*. Oxford & IBH Publications Ltd., New Delhi. pp. 240-252.
70. Maikhuri, R.K., Nautiyal, S., Rana, U., Tiwari, S., **Rao, K.S.** & Saxena, K.G. 2000. Forest ecosystems. Chapter 12. In: Ramakrishnan, P.S., Chandrasekhara, U.M., Elouard, C., Guilмото, C., Maikhuri, R.K., Rao, K.S., Shankar, S. & Saxena, K.G. (Editors). *Mountain Biodiversity, Land Use Dynamics, and Traditional Ecological Knowledge*. Oxford & IBH Publications Ltd., New Delhi. pp. 253-264.
71. Maikhuri, R.K., Nautiyal, S., Rana, U., Tiwari, S., **Rao, K.S.** & Saxena, K.G. 2000. Village ecosystem. Chapter 13. In: Ramakrishnan, P.S., Chandrasekhara, U.M., Elouard, C., Guilмото, C., Maikhuri, R.K., Rao, K.S., Shankar, S. & Saxena, K.G. (Editors). *Mountain Biodiversity, Land Use Dynamics, and Traditional Ecological Knowledge*. Oxford & IBH Publications Ltd., New Delhi. pp. 265-298.
72. Maikhuri, R.K., Nautiyal, S., Rana, U., Tiwari, S., **Rao, K.S.** & Saxena, K.G. 2000. Reserve-people conflicts. Chapter 14. In: Ramakrishnan, P.S., Chandrasekhara, U.M., Elouard, C., Guilмото, C., Maikhuri, R.K., Rao, K.S., Shankar, S. & Saxena, K.G. (Editors). *Mountain Biodiversity, Land Use Dynamics, and Traditional Ecological Knowledge*. Oxford & IBH Publications Ltd., New Delhi. pp. 299-309.
73. Maikhuri, R.K., Nautiyal, S., Rana, U., Tiwari, S., **Rao, K.S.** & Saxena, K.G. 2000. Ecosystem rehabilitation and conflict resolution. Chapter 15. In: Ramakrishnan, P.S., Chandrasekhara, U.M., Elouard, C., Guilмото, C., Maikhuri, R.K., Rao, K.S., Shankar, S. & Saxena, K.G. (Editors). *Mountain Biodiversity, Land Use Dynamics, and Traditional Ecological Knowledge*. Oxford & IBH Publications

- Ltd., New Delhi. pp. 310-324.
74. Ramprasad, B.K., Miral, M.S., Pant, R. & **Rao, K.S.** 2000. Identification of potential water harvesting sites using GIS & remote sensing technologies: a case study of Sadiyagad watershed, central Himalaya, India. In: Mehrotra, R., Soni, B. & Bhatia, K.K.S. (Eds.) *Integrated Water Resources Management for Sustainable Development*. National Institute of Hydrology, Roorkee. pp1224-1233.
 75. Maikhuri, R.K., Rana, U., Semwal, R.L. & **Rao, K.S.** 2000. Agriculture of Uttarakhand: Issues and management prospects for economic development. Chapter 8. In: Sati, M.C. & Sati, S.P. *Uttaranchal Statehood: Demensions of development*. Indus Publishing Company, New Delhi. pp151-167.
 76. Saxena, K.G., **Rao, K.S.**, Sen, K.K., Maikhuri, R.K. & Semwal, R.L. 2000. Integrated natural resource management: Approaches and lessons from the Himalaya. In: *Integrated Natural Resource Management in the CGIAR: Approaches and Lessons: Workshop 2000. Chapter 35 of Online Proceedings*. www.inrm.cgiar.org/workshop2000/abstract/abstract.htm.
 77. Maikhuri, R.K., **Rao, K.S.**, Semwal, R.L. & Saxena, K.G. 2000. Ecology of degraded land rehabilitation: experiences form central Himalaya. In: Arunachalam, A. & Khan, M.L. (Eds.) *Sustainable Management of Forests - India*. International Book Distributors, Dehra Dun. pp. 297-324.
 78. **Rao, K.S.**, Maikhuri, R.K., Das, A.K. & Saxena, K.G. 1999. Soil management by traditional societies in Himalaya - an overview. In: Bagyaraj, D.J., Verma, A., Khanna, K.K. & Kehri, H.K. (Eds.) *Modern Approaches and Innovations in Soil Management*. Rastogi Publications, Meerut, pp. 117-123.
 79. Saxena, K.G., **Rao, K.S.** & Ramakrishnan, P.S. 1999. Ecological context of biodiversity. In: Shantharam, S. & Montgomery, J.F. (Eds.). *Biotechnology, Biosafety, and Biodiversity: Scientific and Ethical Issues for Sustainable Development*. Science Publishers, Enfield, NH. pp. 129-156.
 80. Ramakrishnan, P.S., Saxena, K.G., **Rao, K.S.**, Maikhuri, R.K. & Das, A.K. 1998. Contributions of ethnic diversity to the evolution of diverse coexisting mountain agroecosystems: A study of the north-east Indian Himalayan region. In: Partap, T. & Sthapit, B. (Eds.) *Managing Agrobiodiversity: Farmers' Changing Perspectives and Institutional Responses in the Hindu Kush-Himalayan Retion*. ICIMOD, Kathmandu, Nepal. pp. 33-40.
 81. Maikhuri, R.K., **Rao, K.S.**, Semwal, R.L. & Saxena, K.G. 1998. State of under exploited mountain crops in the Indian Himalayas and erosion concerns. In: Partap, T. & Sthapit, B. (Eds.) *Managing Agrobiodiversity: Farmers' Changing Perspectives and Institutional Responses in the Hindu Kush-Himalayan Retion*. ICIMOD, Kathmandu, Nepal. pp. 241-253.
 82. Saxena, K.G., **Rao, K.S.**, Maikhuri, R.K. & Sen, K.K. 1998. Biodiversity: Ecology and Sustainable Development. In: Gopal, B., Pathak, P.S. & Saxena, K.G. (Eds.) *Ecology Today: An Anthology of Contemporary Ecological Research*. International Scientific Publications, New Delhi. pp. 97-121.
 83. Saxena, K.G., **Rao, K.S.** & Maikhuri, R.K. 1998. Religious and cultural perspective of biodiversity conservation in India: a review. In: Ramakrishnan, P.S., Saxena, K.G. & Chandrashakhara, U.M. (Eds.). *Conserving the Sacred for Biodiversity Management*. Oxford & IBH, New Delhi. pp 151-161.
 84. Singh, G.S., **Rao, K.S.** & Saxena, K.G. 1998. Eco-cultural analysis of sacred species and ecosystems in Chakinal watershed, Himachal Pradesh. In: Ramakrishnan, P.S., Saxena, K.G. & Chandrashakhara, U.M. (Eds.). *Conserving the Sacred for Biodiversity Management*. Oxford & IBH, New Delhi. pp. 301-314.
 85. Maikhuri, R.K., Rana, U. & **Rao, K.S.** 1998. Indigenous knowledge system on edible oil resources in Central Himalayas : A case study. In: Bashin, M.K. & Malik, S.L. (Eds.). *Contemporary Studies in Human Ecology*, Kamal-Raj Publications, New Delhi. pp 123-127.
 86. Maikhuri, R.K., Nautiyal, S., **Rao, K.S.**, Saxena, K.G. & Semwal, R.L. 1998. Traditional community conservation in the Himalayas: Nanda Devi Biosphere Reserve. In: Kothari, A., Pathak, N., Anuradha, R.V. & Taneja, B. (Eds.) *Communities and Conservation*, Sage Publications, New Delhi, pp. 403-423.
 87. Nehal A. Farooquee & **Rao, K.S.** 1998. Changing values in traditional societies and ecological

- implications. In: Sundriyal, R.C., UmaSankar & Upreti, T.C. (Eds.) *Perspectives for Planning and Development in North-East India*. Himavikas Occasional Publication No. 11. Bishen Singh and Mahendrapal Singh, Dehara Dun. pp. 233-238.
88. Maikhuri, R.K., Semwal, R.L., Viswakarma, S.C.R. & **Rao, K.S.** 1998. Low cost water harvesting technology for life saving irrigation for crops and afforestation programmes in Himalaya. In: *Research for Mountain Development: Some Initiatives and Accomplishments*. Himavikas Publication No. 12. Gyanodaya Prakashan, Nainital. pp. 49-64.
 89. Jamir, S., Changkija, S., **Rao, K.S.** & Sundriyal, R.C. 1998. Improving jhum system performance with multipurpose hedgerow introduction in north east India. In: *Research for Mountain Development: Some Initiatives and Accomplishments*. Himavikas Publication No. 12. Gyanodaya Prakashan, Nainital. pp. 83-98.
 90. Farooquee, N.A. & **Rao, K.S.** 1998. Transhumance: An adaptation for survival and strategy for conservation of natural resources. In: *Research for Mountain Development: Some Initiatives and Accomplishments*. Himavikas Publication No. 12. Gyanodaya Prakashan, Nainital. pp. 145-164.
 91. Maikhuri, R.K., **Rao, K.S.** & Semwal, R.L. 1998. Bioprospecting for economic development in the rural Himalaya - a case study. In: *Research for Mountain Development: Some Initiatives and Accomplishments*. Himavikas Publication No. 12. Gyanodaya Prakashan, Nainital. pp. 235-252.
 92. Nautiyal, S., Maikhuri, R.K., Semwal, R.L. & **Rao, K.S.** 1998. Conservation through cultivation: A case study of medicinal plants in buffer zone villages of NDBR. In: *Research for Mountain Development: Some Initiatives and Accomplishments*. Himavikas Publication No. 12. Gyanodaya Prakashan, Nainital. pp. 357-374.
 93. Maikhuri, R.K., **Rao, K.S.**, Palni, L.M.S. & Rai, R.K. 1998. Biosphere reserve programme in India. In: Maikhuri, R.K., Rao, K.S. & Rai, R.K. (Eds.) *Biosphere Reserves and Management in India*. Himavikas Occasional Publication No. 12. G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora 263 643, India. pp. 1-8.
 94. Maikhuri, R.K. & **Rao, K.S.** 1998. Traditional crop diversity in the buffer zone villages of Nanda Devi Biosphere Reserve. In: Maikhuri, R.K., Rao, K.S. & Rai, R.K. (Eds.) *Biosphere Reserves and Management in India*. Himavikas Occasional Publication No. 12. G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora 263 643, India. pp. 129-136.
 95. Palni, L.M.S., Maikhuri, R.K. & **Rao, K.S.** 1998. Conservation of the Himalayan agroecosystems: issues and priorities. In: *Eco-regional Cooperation for Biodiversity Conservation in the Himalaya*. UNDP, New York. pp 253-290.
 96. **Rao, K.S.** & Saxena, K.G. 1997. Hydropower for sustainable development of remote villages in Himalaya - a case study on problems and prospects. In: Verma, C.V.J. & Rao, A.R.G. (Eds.) *Proceedings of First International Conference on "Renewable Energy - Small Hydro" Vol 2*. Oxford & IBH, New Delhi. pp. 129-136.
 97. Ramakrishnan, P.S., Saxena, K.G., Das, A.K. & **Rao, K.S.** 1997. Fire. In: Prasad, M.N.V. (Ed.) *Physiological Ecology of Plants*. John Wiley & Sons, Inc., USA. pp 493-517.
 98. **Rao, K.S.**, Maikhuri, R.K. & Saxena, K.G. 1996. Land redevelopment strategies and their implications in biosphere reserve management - case studies in Indian Himalaya. In: Ramakrishnan, P.S., Purohit, A.N., Saxena, K.G., Rao, K.S. & Maikhuri, R.K. (Eds.) *Conservation and Management of Biological Resources in Himalaya*. Oxford & IBH Publication Ltd., New Delhi. pp. 555-568.
 99. Maikhuri, R.K., Saxena, K.G. & **Rao, K.S.** 1996. Agricultural crop diversity in Central Himalaya: conservation problems and prospects. In: Ramakrishnan, P.S., Purohit, A.N., Saxena, K.G., Rao, K.S. & Maikhuri, R.K. (Eds.) *Conservation and Management of Biological Resources in Himalaya*. Oxford & IBH Publication Ltd., New Delhi. pp. 441-454.
 100. Ramakrishnan, P.S., Purohit, A.N., Saxena, K.G., **Rao, K.S.** & Maikhuri, R.K. 1996. Conservation and management of biological resources in the Himalaya - Issues and priorities for cross sectoral and cooperative actions. In: Ramakrishnan, P.S., Purohit, A.N., Saxena, K.G., Rao, K.S. & Maikhuri, R.K. (Eds.) *Conservation and Management of Biological Resources in Himalaya*. Oxford & IBH

- Publication Ltd., New Delhi. pp. 585-593.
101. **Rao, K.S.** & Maikhuri, R.K. 1996. Agroforestry for sustainable development of rural ecosystems in Central Himalaya. In: Kohli, R.K., Arya, K.S. & Atul. (Eds.) *Proceedings of IUFRO - DNAES International Meet Resource Inventory Techniques to Support Agroforestry and Environment Activities*. HKT Publications, Chandigarh. pp. 301-305.
 102. **Rao, K.S.** & Ghosh, S. 1996. Geographic information system: A reliable tool for landuse planning/management. In: Kumar, K., Dhyani, P.P. & Palni, L.M.S. (Eds.) *Land Utilization in the Central Himalaya: Problems and Management Options*. Indus Publishers, New Delhi. pp. 187-196 + colour plates.
 103. Kothiyari, B.P., **Rao, K.S.** & Palni, L.M.S. 1996. Salt or Sweet for the rehabilitation of degraded lands in the Himalaya. In: Kumar, K., Dhyani, P.P. & Palni, L.M.S. (Eds.) *Land Utilization in the Central Himalaya: Problems and Management Options*. Indus Publishers, New Delhi. pp. 323-334 + colour plates.
 104. Saxena, K.G., **Rao, K.S.** & Maikhuri, R.K. 1996. Biodiversity concerns in the high altitude Himalayas. In: Ramakrishnan, P.S., Das, A.K. & Saxena, K.G. (Eds.), *Conserving Biodiversity for Sustainable Development*. Indian National Science Academy, New Delhi. pp. 171-188.
 105. Saxena, K.G. & **Rao, K.S.** 1995. Sustainable development in the Himalaya - a nebulous goal? In: Mishra, P.C., Behra, N., Senapati, B.K. & Guru, B.C. (Eds.). *Advances in Ecology and Environmental Sciences*. Ashish Publications, New Delhi. pp. 439-445.
 106. Ramakrishnan, P.S., Saxena, K.G. & **Rao, K.S.** 1995. Ecological evaluation of land use systems for development planning in the Himalayas. In: Warikoo, K. (Ed.) *Society and Culture in the Himalayas*. Haranand Publications, New Delhi, pp. 17-43.
 107. **Rao, K.S.** & Saxena, K.G. 1993. Pastoral systems of Central Himalaya: How long will they survive? In: *Proceedings of XVII International Grassland Congress, NZ*.
 108. **Rao, K.S.** & Saxena, K.G. 1993. Silvipastoral system: will it able to meet the people's needs? In: *Proceedings of XVII International Grassland Congress, NZ*.
 109. Ramakrishnan, P.S., Saxena, K.G. & **Rao, K.S.** 1993. Agro-ecological approaches for soil fertility management. In: Ramakrishnan, P.S., Saxena, K.G., Swift, M.J. & Seward, P. (Eds.). *Tropical Soil Biology and Fertility Research, South East Asia Context*. Himavikas Publication no. 4. Oriental Enterprises, Dehradun, pp. 77-125.
 110. **Rao, K.S.** & Saxena, K.G. 1992. An ecological assessment of man made forests. In: Kheong, Y.S. & Win, L.S. (Eds.). *Conservation of Tropical Biodiversity*. Malayan Nature Society, Kaula Lumpur, Malaysia. pp. 474-487.
 111. Ramakrishnan, P.S., **Rao, K.S.**, Maikhuri, R.K., Kothiyari, B.P. & Saxena, K.G. 1992. Deforestation in Himalaya: causes, consequences and restoration. In: Singh, J.S. (Ed.) *Restoration of Degraded Land: Concepts and Strategies*. Rastogi Publications, Meerut. pp. 271-289.
 112. Saxena, K.G., **Rao, K.S.**, Maikhuri, R.K., Rawat, D.S. & Kothiyari, B.P. 1992. Applications of remote sensing technology-opportunities and constraints for the Himalayan ecosystem. In: Muralikrishna, I. V. (Ed.). *Remote Sensing Applications and Geographic Information Systems: Recent Trends (ICORG92)*. Tata McGraw Hill Publishing Company Limited, New Delhi, pp 210-215.
 113. **Rao, K.S.** & Sharma, E. 1992. Prospects of SALT - II in Himalaya. In: Tolia, R.S., Tripathi, T.R. & Srivastava, S.K. (Eds.) *Proceedings of the Conference and Presentation of Papers of First All India Seminar on Dairy Development in Hill Regions*. Uttar Pradesh Rajya Dugdh Parishad, Lucknow, pp. 108-109.
 114. Ramakrishnan, P.S., Saxena, K.G. & **Rao, K.S.** 1991. Land use problems. *Seminar*. 378: 32-35.
 115. Kothiyari, B.P., **Rao, K.S.**, Saxena, K.G., Kumar, T. & Ramakrishnan, P.S. 1991. Institutional approaches in development and transfer of water harvest technology in the Himalayas. In: Tsakiris, G. (Ed.) *Advances in Water Resources Technology*. A.A. Balkema Publishers, Rotterdam, Netherlands. pp. 673-678.
 116. Saxena, K.G., Kothiyari, B.P. & **Rao, K.S.** 1991. Remote sensing for management of biological resources: a rational outlook for the Himalayas. In: Gupta, P.N. & Roy, A.K. (Eds.). *Mountain*

<p><i>Resources Management and Remote Sensing</i>. Surya Publications, Dehra Dun. pp. 185-194.</p> <p>117. Saxena, K.G., Rao, K.S., Kothyari, B.P., Rawat, D.S. & Sharma, S. 1991. Management considerations for sustained production in agro-silvo-pastoral systems of the Indian Montane region. In: <i>Proceedings of IVth International Rangeland Congress</i>. Montpellier, France. Vol 2. pp. 829-830.</p> <p>118. Rao, K.S. & Ramakrishnan, P.S. 1990. Role of bamboos in secondary succession after slash and burn agriculture at lower elevations in north-east India. In: Rao, I.V.R., Sastry, C. & Gnanaharan, D. (Eds.). <i>Bamboos: Current Research</i>. Kerala Forest Research Institute & IDRC, Singapore. pp. 59-65.</p> <p>119. Ahmed, A., Ramakrishnan, P.S. & Rao, K.S. 1989. Management and conservation of wildlife: environmentalists' view points. In: Singh, P.R., Sharma, O.P. & Boojh, Ram (Eds.). <i>Environmental Conservation and Development</i>. Directorate of Environment, Lucknow, U.P. pp. 81-90.</p> <p>120. Ahmed, A., Ramakrishnan, P.S. & Rao, K.S. 1989. Environmental impact assessment of water resources projects in Himalayas: an urgent need for sustainable development. In: Singh, P.R., Sharma, O.P. & Boojh, Ram (Eds.). <i>Environmental Conservation and Development</i>. Directorate of Environment, Lucknow, U.P. pp. 91-102.</p> <p>4. Other publications (Edited works, Book reviews, Festschrift volumes, etc.)</p>
Publications in the Last one year
Books/Monographs (Authored/Edited)
Nil
Research papers published in Refereed/Peer Reviewed Journals
<ol style="list-style-type: none"> 1. Meena, A., Hanief, M., Dinakaran, J. & Rao, K.S. 2020. Soil moisture controls the spatio-temporal pattern of soil respiration under different land use systems in a semi-arid ecosystem of Delhi, India. <i>Ecological Processes</i>, 9 (1): 15. 2. Laishram, J., Saxena, K.G. & Rao, K.S. 2020. Rice cultivar diversity, associated indigenous knowledge and management practices in a lowland village landscape from north-eastern India. <i>Vegetos</i>, 33 (1): 172-186. 3. Divya, S., Sharmila, P., Dinakaran, J., Yamal, G., Rao, K.S. & Pardha-Saradhi, P. 2020. Specific H⁺ level is crucial for accurate phosphate quantification using ascorbate as a reductant. <i>Protoplasma</i>, 257 (1): 319-330. 4. Dinakaran, J., Chandra, A., Vikram, K., Chamoli, K., Tambat, S. & Rao, K.S. 2019. Responses of soil carbon, nitrogen, microbial activity, bacterial community composition and grain yield to farmyard manure amendments in a rainfed agriculture (Paddy) system of Himalaya. <i>Vegetos</i>, 32 (4): 620-634. 5. Dinakaran, J., Vikram, K., Hanief, M., Bidalia, A., Tambat, S. & Rao, K.S. 2019. Changes in vegetation cover and soil intrinsic properties influence the soil bacterial community composition and diversity across different climatic regions of India. <i>Vegetos</i>, 32 (3): 288-302. 6. Meena, A., Bidalia, A., Hanief, M., Dinakaran, J. & Rao, K.S. 2019. Assessment of above- and belowground carbon pools in a semi-arid forest ecosystem of Delhi, India. <i>Ecological Processes</i>, 8(1): 8.
Research papers Published in Conferences/Seminar other than Refereed/PeerReviewed Conferences/books
1.
Conference Organization/ Presentations (in the last three years)
List against each head(If applicable)
<ol style="list-style-type: none"> 1. Organization of a Conference 2. Participation as Paper/Poster Presenter
Research Projects (Major Grants/Research Collaboration)
Awards and Distinctions

Vishisht Vaigyanik Puraskar on 16th September 2005 by Ministry of Environment and Forests, Government of India

UGC National Swami Pranavananda Saraswati award for Ecology and Environmental Sciences

Fellow, Aandra Pradesh Academi of Sciences, Amarawati

Fellow, Linnean Society of London, UK

Fellow, Indian Botanical Society, Meerut

Fellow, International Society of Plant Morphologists, Delhi

Fellow, National Institute of Ecology, Jaipur

Association With Professional Bodies

1. *Editing*
2. *Reviewing*
Elsevier/Springer/Academic journals
3. *Advisory Committees and Boards*
 1. Expert committee on Development of Database on Climate Change Statistics, Ministry of Statistics and Progrmme Implementation, New Delhi
4. *Memberships*
 1. National Institute of Ecology, New Delhi
 2. Indian Botanical Society, Jaipur
 3. The National Academy of Sciences, Allahabad
 4. Indian Society of Tree Scientists, Solan
 5. Indian Society of Soil Biology and Ecology, Bangalore
 6. Himalayan Research Group, Nainital
 7. Society of Tropical Forestry Scientists, Jabalpur
 8. Bioved Research Society, Allahabad
 9. Bamboo Society of India, Bangalore
 10. The Indian Society for Ecological Economics, Delhi
 11. Indian Science Congress Association, Calcutta
 12. Society of Ethnobotanists, Lucknow
 13. U.P. Association for S & T Advancement, Lucknow
 14. Central Himalayan Environment Association, Nainital
 15. Indian Society for Agricultural Development & Policy, Ludhiana
 16. Indian Society of Remote Sensing, Dehradun
 17. Soil Conservation Society of India, New Delhi
 18. Delhi University Botanical Society, Delhi
 19. Indian Association of Soil and Water Conservationists, Dehradun
 20. International Society for Tropical Ecology, Varanasi
 21. International Society of Plant Morphologists, Delhi
 22. Society for Conservation and Resource Development of Medicinal Plants, Delhi.
5. *Office Bearer*
Secretary General, National Institute of Ecology 2008-2010; 2011-2014; 2015-2017

Other Activities

Signature of Faculty Member