

DR. P.K. SHETTY

PROFESSOR & DEAN

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Bangalore-560032, India. Cell: 9845892709

RESEARCH INTERESTS

Energy & Sustainability, Biosecurity & Agro-ecology, Environmental Stewardship,
and Science & Technology Policy Studies.

QUALIFICATIONS

M.Sc. (Ag.), Ph.D. (IARI, New Delhi)

CAREER

Dean, School of Natural Sciences and Engineering, National Institute of
Advanced Studies, Indian Institute of Science Campus, Bangalore-560 012,
March 2007 - till date.

Independent Director, Power Grid Corporation of India Limited (A Government of
India Enterprise), July 2007- till date.

Director, Advanced Research Institute, Bangalore, January 2007 -till date.

Professor, National Institute of Advanced Studies, Indian Institute of Science
Campus, Bangalore-560 012, January 2006 - till date.

Dean (Administration), National Institute of Advanced Studies, Indian Institute of
Science Campus, Bangalore-560 012, August 2004 - December 2004.

Associate Professor, National Institute of Advanced Studies, Indian Institute of
Science Campus, Bangalore-560 012, April 1999 - December 2005

Head, Environmental Studies Unit, National Institute of Advanced Studies, Indian Institute of Science Campus, Bangalore-560 012, April 1993 - September 2004.

Assistant Professor, National Institute of Advanced Studies, Indian Institute of Science Campus, Bangalore-560 012, April 1993 - April 1999.

Post doctoral Fellow, National Institute of Advanced Studies, Indian Institute of Science Campus, Bangalore-560 012, August 1992 - April 1993.

HONOURS, AWARDS AND APPOINTMENTS

Appointed as a Member of Governing Body of the State Compensatory Afforestation Green Management and Planning Authority (The Chief Minister of Karnataka is the Chairperson of the Governing Body), Government of Karnataka July 2009

Appointed as a Member of Advisory Board of Eminent Experts for assisting POWERGRID in the Research and Development, Power Grid Corporation of India Limited, Government of India February 2009 - till date

Appointed as a member of ESPP Review Committee of Eminent Experts, Power Grid Corporation of India Limited, Government of India, February 2009 - till date

Appointed as a Member of Technical Committee for the implementation of Solid Waste Management Programme in Karnataka, Directorate of Municipal Administration, Government of Karnataka, December 2008 – till date

Appointed as an Independent Director, Power Grid Corporation of India Limited (A Government of India Enterprise), July 2007- till date

Received Prestigious Karnataka State Rajyothsava Award for the year 2007.

Received Vocational Excellence Award by Rotary International District 3190 and Rotary Bangalore R. T. Nagar on 20 November 2007

Appointed as a Member of Steering Committee of a project on Biodiversity of MSSRF, Chennai. This project is supported by the Swiss Agency for Development and Cooperation.

Appointed as a Vice-President, Society of Pesticide Science (India), New Delhi, 1999 –2002.

Appointed as a member of an Expert Committee for the study of farmers' suicides in Karnataka, set up by the Government of Karnataka, August 2001 – April 2002.

Elected as a Fellow of the Environmental Research Academy, January 1998.

SELECTED PUBLICATIONS

BOOKS

P.K. Shetty and V K Agrawal (2009) Grid Security and Management. Published by Power Line Publishing, New Delhi

P.K. Shetty, Ajay Parida, M. S. Swaminathan (2008) Biosecurity. Published by National Institute of Advanced Studies, Bangalore and M. S. Swaminathan Research Foundation, Chennai

P.K. Shetty and D R Nataraj (1997) *Parisara: Mundenu?* Essays on Ecology. Published by *Parisara Vijnana Parishath* and Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore.

BOOK REVIEW

Practical Power System Protection, *PAC World (Protection, Automation & Control World)* magazine, **Spring 2009 Issue**, Houston, USA (review of book on Grid Security and Management) (<http://www.pacw.org/no-cache/issue/>). Accessed on July 5, 2009.

Biosecurity, *The ASA (Applied Science and Analysis) Newsletter*, **09-3**, June 30, 2009, Hawaii, USA (www.asanltr.com/newsletter.htm). Accessed on July 14, 2009

Biosecurity, *Journal on Chemical and Biological Weapons*. Vol.2, No.3, 44, April-June 2009, Institute for Defence Studies and Analyses, New Delhi, India. ([http://www.idsa.in/publications/cbw/CBW2\(3\).pdf](http://www.idsa.in/publications/cbw/CBW2(3).pdf)). Accessed on July 5, 2009.

Biosecurity, *Environmental Engineering and Management Journal*, May/June 2009, Vol.8, No.3, 629-630, Romania (http://omicron.ch.tuiasi.ro/EEMJ/book_rev.htm). Accessed on July 5, 2009.

Biosecurity, *Current Science*, Vol. **95**, No. **8**, 25 October 2008, India (<http://www.ias.ac.in/currsci/oct252008/1083a.pdf>). Accessed on July 5, 2009.

Biosecurity, *International Journal of Regulation and Governance*, **8(2)**: 179–181, 2008, The Energy and Resources Institute, New Delhi, India (http://bookstore.teriin.org/journal_inside.php?material_id=252). Accessed on July 5, 2009.

CHAPTERS IN BOOKS

P.K. Shetty and Marium Sabitha (2009). Economic and Ecological Externalities of Pesticide Use in India. In: **Integrated Pest Management: Innovation - Development Process**, Vol.1 (Ed: R. Peshin and A.K. Dhawan), 113-129 Published by Springer, Netherlands.

P.K. Shetty (2009). Energy Revolution for Sustainable Human Development: The Challenge. In: **Grid Security and Management**. (Edited by **P K Shetty** and V K Agrawal) Published by Power Line Publishing, New Delhi

P.K. Shetty (2008). Agroterrorism: Biosecurity threats and preparedness. In: **Biosecurity**. (Edited by **P K Shetty**, Ajay Parida, M. S. Swaminathan) Published by National Institute of Advanced Studies, Bangalore and M. S. Swaminathan Research Foundation, Chennai

P.K. Shetty, Murugan, M and Sreeja, K.G (2007). Pesticide stewardship and Agricultural Sustainability in Indian context-status and policies. In: **Challenges to Sustainable Agri-Food Systems** (eds. Chengappa, P G, Nagaraj, J and Ramesh Kanwar), I.K.International Publishing House Pvt.Ltd, New Delhi, pp 77-80

P.K. Shetty. (2005). Impact of agrochemicals on sustainability of agricultural development. In: **Sustainable agricultural development in India**. (Eds.). Ramesh R.S., Venkateshappa K.S., and Suryaprakash S. A Southern Economist Publication, Bangalore: 77-80.

P.K. Shetty (2004). Pesticides and questionable practices in Agro-ecosystems. In: **Pesticide: Environment and food security** (Eds.). Dureja, P., Saxena, D.B., Jitender Kumar, Madhuban Gopal, Shashi Bala Singh and Tanwar, R.S. published by Society of Pesticide Sciences (India), New Delhi: 97-101.

P.K. Shetty (2000). Sustainable agricultural practice and food security. In: **Environment, Management and Audit** (Eds.). P. S. B. Rao and P. Mohana Rao. Deep & Deep Publications Pvt. Ltd., New Delhi: 36-43.

P.K. Shetty and Magu, S.P. (1999). Influence of metalaxyl on carbon dioxide evolution, dehydrogenase and phosphatase activities in the rhizosphere of wheat

(*Triticum aestivum* (L.)). In: **Green Pesticides, Crop Protection and Safety Evaluation** (Eds.). Agnihotri, N.P., Walia, S and Gajbhiye, V.T., published by Society of Pesticide Science (India), New Delhi: 221-230

P.K. Shetty, Shivaprakash, M.K., Ramachandra Reddy, T.K. and Shivappa Shetty, K. (1993). Isolation and screening of cowpea *Rhizobium* from medium black soils of semi arid region of Karnataka. In: **Soil organisms and Sustainability**. (Eds.). D. Rajagopal, Radha. D. Kale and Kubra Bano, published by Indian Society for Soil Biology and Ecology: 11-14.

P.K. Shetty, Shivaprakash, M.K., Ramachandra Reddy, T.K. and Shivappa Shetty, K (1993). Variation among cowpea cultivars for nodulation and nitrogen fixation by *Rhizobium* strain BS-7 under black soil conditions. In: **Soil organisms and Sustainability**. (Eds. D. Rajagopal, Radha. D. Kale and Kubra Bano), published by Indian Society for Soil Biology and Ecology: 31-35.

PAPERS

Murugan, M., **Shetty, P.K.**, Ravi, R. and Subbiah, A (2009) The physiological ecology of cardamom (*Elettaria cardamomum*) in cardamom agroforestry system. *Int. J. Environ. Res.* **3 (1)**:35-44.

P. K. Shetty, M. Murugan and K G Sreeja (2008) Crop protection stewardship in India: Wanted or unwanted. *Current Science*, **95(4)**: 457-464.

P. K. Shetty and V K Agrawal (2008), Grid security and management. *Current Science*, **95(2)**: 154-156.

M. Murugan, V. Mukund, R. Ramesh, M.B. Hiremath, A. Josephraj Kumar and **P.K.Shetty** (2008). Centennial rainfall variation in semi arid and tropical humid environments in the cardamom hill slopes, southern Western Ghats, India. *Caspian Journal of Environmental Sciences*, **6(1)**: 31-39

P. K. Shetty, Hiremath MB, Sabitha M., and Murugan M. (2007). Relating the changes in cropping pattern and farming methods to the incidence of insect pests, diseases in India from the farmer's field study. *J. Asian Agri History* **11(4)**: 265-289.

M. Murugan, **P. K. Shetty** and M. B. Hiremath (2007) Atmospheric warming induced changes in future rainfall and implications on water and agriculture in India. *Caspian Journal of Environmental Sciences* **3(2)**: 132- 141

M. Murugan, S. Backiyarani, A. Josephraj Kumar, M.B. Hiremath and **P.K.Shetty** (2007) Yield of small cardamom (*Elettaria cardamomum* M) variety PV1 as

influenced by levels of nutrients and neem cake under rain fed condition in southern western ghats, India. *Caspian Journal of Environmental Sciences* **5**: 19-25

Murugan, M., Josephraj Kumar, A., Sainamolekurian, P., Ambikadevi, D., Vasanthkumar, K. and **Shetty, P.K.** (2006). Critiques on the critical issues of cardamom cultivation in Cardamom hill reserves, Kerala, India. *Indian Journal of Areca nut, Spices & Medicinal Plants*, **8 (4)** 132-149

P.K. Shetty (2006) Pesticide Stewardship: Challenges and Opportunity in Developing Countries. www.tpsalliance.org/2006_conf.html. Accessed on July 5, 2009.

P.K. Shetty (2005). Commercial farming and ecological disaster – lessons from Bidar syndrome. *Journal of ecotoxicology and environmental monitoring* **15 (1)**, pp 7-15.

P.K. Shetty (2004) Socio-ecological implications of pesticide use in India. *Economic and Political Weekly*, December 4, Vol. **39**, No **49**, pp 5261-5267.

P.K. Shetty. (2004) Integrated Pest Management - Strategies for Sustainability and Self Reliance. <http://www.npsalliance.org/Conf2004/2004PDFs/PKShettyIPM.pdf>. Accessed on July 5, 2009.

P.K. Shetty (2003). Pesticide stewardship and food security in India. <http://www.npsalliance.org/Conf2003/PDF2003/PKShetty.pdf>. Accessed on July 5, 2009.

P.K. Shetty (2002). Ecological implications of pesticide use in agro-ecosystems in India. <http://www.npsalliance.org/Conf2002/PDF2002/PKShetty.pdf>. Accessed on July 5, 2009.

P.K. Shetty and Magu, S.P. (2001). Metalaxyl effect on nitrogenase activity (acetylene reduction) and yield of mung bean (*Vigna radiata* (L.) wilzek). *Journal of Environmental Biology*, **22(2)**: 79-81.

P.K. Shetty and Magu, S.P. (2000). Effect of metalaxyl on soil microbial population. *Journal of Tropical Agriculture*, **38**: 63-65.

P.K. Shetty, Jharna Mitra., Murthy, N.B.K., Namitha, K.K., Savitha, K.N. and Raghu, K. (2000). Biodegradation of cyclodiene insecticide endosulfan by *Mucor thermo-hyalospora* MTCC 1384. *Current Science*, **79(9)**: 101-103.

P.K. Shetty and Magu, S.P. (1998). *In Vitro* effect of pesticides on carbon dioxide evolution and dehydrogenase activities in soil. *Journal of Environmental Biology*, **19(2)**: 141-144.

P.K. Shetty and Magu, S.P. (1997). Influence of metalaxyl on *Glomus fasciculatum* associated with wheat (*Triticum aestivum* L.). *Current Science*, **72(4)**: 275-277.

P.K. Shetty and Magu, S.P. (1997). Effect of pendimethalin on soil respiration and enzyme activities in the rhizosphere of wheat. *Indian Journal of Environment and Toxicology*, **7(1)**: 39-41.

P.K. Shetty and Magu, S.P. (1996). Effect of pendimethalin on mungbean (*Vigna radiata* (L) Walzek) - *Bradyrhizobium* symbiosis. *Journal of Soil Biology and Ecology*, **16(2)**: 97-102.

P.K. Shetty and Magu, S.P. (1996). Effect of pendimethalin on microbial activity and nitrification in a sandy loam soil. *Indian Journal of Plant Protection*, **24(1&2)**: 146-149.

P.K. Shetty and Magu, S.P. (1996). Influence of metalaxyl and pendimethalin on soil phosphatase activity in the rhizosphere of wheat. *Journal of Teaching and Research in Chemistry*, **3(1)**: 53-59.

P.K. Shetty (1995). Agriculture and the Environment. *Encology*, **9(9)**: 13-17.

CONFERENCE PROCEEDINGS

P.K. Shetty (2004) Plant protection and sustainable agriculture in India. In the proceedings of the 12th International Conference and Exhibition on Mechanization of Field Experiments, Saint-Petersburg (Russia). pp 247-250.

P.K. Shetty (2004) Socio-ecological Implications of Pesticide Use in India – Insights from a field study. In the proceedings of the 15th International Plant Protection Congress. Foreign Languages Press, Beijing, (China). pp. 635

P.K. Shetty (2001). Questionable practices in agro-ecosystems in India. Proceedings of the international conference on pesticides, environment and food security. Society of Pesticide Science, (India), New Delhi: 21.

P.K. Shetty (2001). Implications of agro-chemicals for sustainability of agricultural development — insights from a field study. Proceeding of the International Research Symposium on Sustainable Agricultural Development, University of Agricultural Sciences, Bangalore, India: 111-114.

Marium Sabitha and **Shetty, P.K.** (2001). Implications of environmental changes on human health – A study in *Malnad* region of Karnataka. Proceeding of the international conference on society, politics, the economy and the environment: implications for socio-economic progress in the 21st century. Race and Ethnic Studies Institute, Texas A&M University, USA and University of Agricultural Sciences, Bangalore:71.

P.K. Shetty (1996). Influence of cowpea (*Vigna unguiculata* (L.) walp) cultivars on nodulation and nitrogen fixation in different soil conditions. Proceedings of national symposium on horticultural biotechnology, published by Horticultural Society of India and Indian Institute of Horticultural Research, Bangalore: VII-156.

BOOKS AND MONOGRAPHS

Dr. Shetty co-edited *Parisara: Mundenu?* (Kannada), Essays on ecology, published by *Parisara Vijnana Parishath* and Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore in 1997. It was well received by the media and was recommended as part of the school curriculum. So far about 10,000 copies of the book have been sold.

Dr. Shetty took part in the translation of the *Joy of Learning* (originally published by the Centre for Environment Education, Ahmedabad) into Kannada (*Kalii yuvikeya Santosha*), published by the Young Men's Christian Association, Bangalore. This book has also been well received by students and teachers in various schools in Karnataka.

REPORTS

Socio-ecological Implications of Pesticide Use in India (NIAS Report RP1 – 2003)

This report is based on the field investigations carried out in a few pesticide-use predominant areas in India. The districts were selected based on types of crop grown and also pesticide consumption pattern. The study reveals many interesting facts from the field on input driven agriculture, the problem of pests and diseases and the unsustainable agricultural practices that it leads to, and the socio-economic and health externalities resulting in farmers distress in these areas.

Ecological Crisis and Agrarian Distress in Bidar (NIAS Report R6-99)

Several cases of suicide by farmers in North Karnataka during the year 1997-98 have caused considerable concern all over the country. This report examines the links between the reported agrarian distress and ecological crisis. In addition, the study looked into the problems faced by the farmers in North Karnataka in marketing their produce, failure of crops due to untimely rainfall, outbreak of pests and diseases, non-availability of standard agro inputs at the appropriate time and also suggested few remedial measures to overcome these problems.

Bioremediation of pesticide contaminated soils and effluents (NIAS Report R2-98)

The report is on Biodegradation of two of the commonly used pesticides in Indian agriculture that is Atrazine and Endosulfan. Dr. Shetty carried out collaborative work with Indian Institute of Science, Bangalore and Bhabha Atomic Research Centre, Mumbai.

ARTICLES

P.K. Shetty (2003). Crop protection practices: A socio-ecological perspective. Commentary, NIAS NEWS, January 2003.

P.K. Shetty (1999). Towards Sustainable Agriculture, *Deccan Herald*, 23 November 1999.

P.K. Shetty (1999). Bioremediation - a safe eco-technology, *Sneha Chinthana*, 1(3), pp 8, March 1999.

P.K. Shetty (1998). *Navu sevisuththiruva aaharadhalli vishavideye?* (Kannada) *Sneha Chintana*, 1(2), pp 3-4.

P.K. Shetty (1998). Save the environment, *Deccan Herald*, March 31, 1998.

P.K. Shetty (1997). Pesticide pollution: problems and approaches to remediation, *Deccan Herald*, November 30, 1997.

P.K. Shetty (1995). Pesticides - the dangers of their indiscriminate use. In: the proceedings of United Nations for better world brought out by Kengal

Hanumanthaiah Foundation, Bangalore on the occasion of Fiftieth Anniversary of United Nations.

P.K. Shetty (1994). *Krishi Mattu Parisara* (Kannada) published by Parisara Prajna Kendra, Doddaballapura.

Sundaram C.V. and **Shetty, P.K.** (1993). Our Energy Options, NIAS News, Vol. II: 6-7.

P.K. Shetty (1993). Chemical Pesticides and the Environment. NIAS News, Vol. I(I): 5.

INTERVIEWS

P.K. Shetty (2008). Environmental Stewardship. Published by Janaagraha Times, Volume X, Issue 2, February 2008

P.K. Shetty (2007). Pesticides and their impact on Environment. In: Environment a new buzz in the air. Published by Indo-Norwegian Environment Programme and Environmental Information Systems, Bangalore.

SELECTED RESEARCH PROJECTS

a) *An Analysis of Regional and Sectoral Imbalances in the Development of Science & Technology in India*, Sponsored by Department of Science and Technology, Government of India. April 2005 – April 2008. **Dr. P.K. Shetty, Principal Investigator.**

The project was initiated to address some of the following questions: How far has India progressed in science and technology? Is there a gap between parts of India in progress in science and technology, and in higher education and research? Any such gaps are unhealthy and are likely to impede the country's overall progress in S&T and thus the sustainability of its economic and social well-being. Based on its findings, the project suggested ways to alleviate the country's disparities in science and technology development, beginning with selected regions and in selected spheres. The final report was submitted to The Department of Science and Technology, Government of India in 2007.

b) *A National Survey on Use (and Misuse) of Pesticides*, sponsored by Department of Science and Technology, Government of India. December 2002 – May 2005. **Dr. P.K. Shetty, Principal Investigator.**

This project was initiated in December 2002 and the fieldwork was carried out in 290 villages in 28 districts covering 12 States. This project developed for the first time in India- software aided database on pesticides. b) And also submitted a comprehensive report to the Department of Science and Technology on Crop Protection Practices for India: Strategies for sustainability and self-reliance. The project reported several facts on the input driven agriculture, the problems of pests and diseases, and the unsustainable agricultural practices that it leads to, the socio-economic and health externalities resulting in farmers' distress. The final report of this project was submitted to The Department of Science and Technology, Government of India in 2005.

c) Causes and Remedies for Farmers' Distress in Karnataka

August 2001 – April 2002. The Commissionerate of Agriculture, Government of Karnataka awarded a research grant “to investigate causes and remedies for farmers distress in Karnataka’ to the Agricultural Development & Rural Transformation Unit, Institute for Social and Economic Change, Bangalore. Prof. R.S. Deshpande was the Principal Investigator and **Dr. P K Shetty was one of the Joint Investigators for this project.**

The project team conducted field studies in different parts of Karnataka and made in-depth analysis on causes of agrarian distress in the State. The report was submitted to Commissionerate of Agriculture, Government of Karnataka in April 2002.

d) A Pilot Study on Use (and Misuse) of Pesticides in a Few Pesticide-use Predominant Areas in India sponsored by Department of Science and Technology, Government of India. April 1999 – May 2001, **Dr. P.K. Shetty, Principal Investigator.**

The project surveyed the use and abuse of pesticides in agriculture and other related areas in selected hot spots of Karnataka, Andhra Pradesh, Maharashtra and Punjab. The study looked at issues of pest fauna change, pest resurgence, occupational and health hazards, and abuse of pesticides involving suicides/social implications. The final report of this research program was submitted to Department of Science and Technology, Government of India in December 2001.

e) Bioremediation of Contaminated Soils and Effluents

Sponsored by the Board of Research in Nuclear Sciences, Department of Atomic Energy, Government of India, June 1995 – June 1998. **Dr. P.K. Shetty, Principal Investigator.** Co-investigators Dr. K.M. Madhyastha, Indian Institute of Science, Bangalore and Dr. K. Raghu and Dr. N.B.K. Murthy, Bhabha Atomic Research Center, Mumbai. This was a collaborative research program between the National Institute of Advanced Studies, Bangalore, the Indian Institute of Science, Bangalore and the Bhabha Atomic Research Center, Mumbai.

The primary purpose of the research was to identify efficient microbial strains capable of degrading two of the most commonly used pesticides in Indian agriculture, *i.e.*, Atrazine and Endosulfan. A series of experiments identified some microbial species able to degrade these molecules. Among these, the fungus *Mucor thermo-hyalospora* was found to be efficient in transforming the toxic endosulfan molecule into a non-toxic endosulfan diol and an insignificant amount of endosulfan sulfate. This showed that the fungus metabolises endosulfan in both oxidative and hydrolytic pathways. The study also found that the organism efficiently degrades the endosulfan molecule up to a concentration

of $56\mu\text{l}/\text{ml}$. Experiments also studied the stability of atrazine and endosulfan molecules in different pH ranges and media, mixed culture fermentation, and the preference of fungal isolates for α and β isomers of endosulfan. The final report of this research program was submitted to the Board of Research in Nuclear Sciences, Department of Atomic Energy, Government of India in February 1999.

f) Environment Impact Assessment (EIA) for Hutti Gold Mine, Raichur (1994)

The Hutti Gold Mine authorities approached NIAS to conduct an Environment Impact Assessment of their mine. The Institute took the initiative in conducting soil and water analysis, with the help of scientists from the Bhabha Atomic Research Centre, Mumbai. A brief report was submitted to the Mine authorities in 1994 about the ground realities, suggested activities to improve the quality of life and management of tailing dumps for the Hutti Gold Mine. Prof. C.V. Sundaram and Dr. P.K. Shetty of NIAS participated in this program.

h) Survey on Pesticide Usage Pattern in Bangalore District, Karnataka (1994-95)

A survey of the pesticide usage pattern in and around Bangalore was conducted during 1994–95. The vegetables grown in Bangalore are in great demand in the local market as well as in other important cities of India. The study provided valuable information on use (and abuse) of pesticide both in urban and rural districts of Bangalore. Dr. P.K. Shetty participated in this program.

i) Evolving Appropriate Criteria for Effective Research Funding by Government Agencies in India, 1993 – 94: Dr. P K Shetty helped Prof. C.V. Sundaram to design the proposal and execute the project. Department of Science & Technology, Government of India sponsored this project.

j) Formulation of Criteria for Effective R & D Funding

August 1992 – December 1993. Dr. P.K. Shetty coordinated this project.

This project critically reviewed certain major R&D projects initiated during the seventh plan, evaluated progress and achievements, difficulties encountered and how far the objectives of the projects had been achieved. DST sought these inputs for providing guidelines to on-going projects, and to subsequent projects of the eighth plan. The project was completed on time and the report was submitted to DST.

CONTRIBUTION TO TEACHING

Dr. Shetty has given lectures to university and college teacher's courses conducted at NIAS, and also to the NIAS doctoral students. He has also thought a course on ecological preservation for the students of important colleges in Bangalore, delivered popular lectures on a variety of scientific subjects including environment and society in various Science Forums, Schools, Colleges and Universities as well as service organizations.

SELECTED CONSULTANCIES

Consulted for the Environment and Development book series project of Centre for Environment Education, Ahmedabad and Swiss Agency for Development and Co-operation, New Delhi (2001).

Consulted by the World Wide Fund for Nature (India), Bangalore Chapter and also by many Government and Non-Governmental Organizations.

CONTRIBUTION TO ADMINISTRATION

Dr. Shetty was Dean (Administration) of NIAS from August to December 2004. Apart from day-to-day administrative responsibilities, he ensured successful completion of some important NIAS courses. He paid special attention to the landscape of the campus, adding new lawns and new species of trees, with popularization of their technical names.

MEETINGS ORGANIZED

a) **Senior Executives Courses**

Dr. Shetty coordinated the 13th, 14th and 15th NIAS Courses for Senior Executives: '*Leadership and Society*' (4-23 January, 1999); '*Globalisation and Development*' (10-22 January 2000), and '*The New Economy*' (8-20 January 2001).

These annual residential courses are given in January for persons who hold senior positions in governments, industries, national science and technology agencies, and the private and corporate sectors. The faculty for each course is drawn from NIAS and from well-known outside speakers: eminent scientists and technologists, academics and experienced administrators.

b) Associates' Programs

NIAS organize regular associates meeting, which may include a lecture, a play, or a performing arts event. Dr. Shetty has been coordinating the monthly Associates' programmes since 1995. So far he has coordinated more than 130 associates' programmes. These include talks by Field Marshal Sam Manekshaw, MC; Mr. Gilles Bibeau, University of Montreal, Canada; Mr. Soli J Sorabjee, Former Attorney General of India; Prof Senake Bandaranayake, the Former Sri Lankan High Commissioner to India; New Delhi, Prof. E.C. George Sudarshan, University of Texas; USA, Sir David King, Chief Scientific Advisor to the UK Government; Gen. S. Roychowdhury, Former Chief of Army Staff; Dr. Kiran Bedi, IPS; Prof. Evandro Agazzi, University of Genoa, Italy; Ambassador Dennis Kux, USA, Dr. Hilary Putnam, Harvard University, USA; and others. And also some of the important performing arts/play includes, a violin recital by Dr. (Smt) N. Rajamma, a veena duet by Dr. V. Doreswamy Iyengar and Shri D. Balakrishna, a Hindustani classical music recital on the Rudra Veena by Ustad Bahauddin Dagar, a cello-sitar concert by Saskia de Hass (Dutch cellist) and Subhedra Rao (Indian Sitarist), a showing of the film *Gajagamini* followed by a talk by M. F. Hussain, and a play, *Copenhagen*, by Gerard Bayle and his team, etc.

c) Wednesday Discussion Meetings

Dr. Shetty coordinated the Wednesday discussion meetings from 1992 to 1995, a talk by a member of the NIAS faculty or a special lecture by a guest speaker.

RADIO TALKS

Krishi Mattu Parisara (Kannada) -1850hrs on January 7, 1998, All India Radio, Bangalore.

Navu sevisuthiruva aaharadhalli vishavideye? (Kannada) - 2116 hrs on October 6, 1997, All India Radio, Bangalore.

EVALUATION OF M.PHIL. AND Ph.D. DISSERTATIONS

Evaluated several M.Phil and Ph.D. dissertations of Bangalore University, Berhampur University and Utkal University.

INVITED AS GUEST SPEAKER FOR THE IMPORTANT CONFERENCES ABROAD

Guest speaker at the Pesticide Stewardship Conference organized by The Pesticide Stewardship Alliance (TPSA), USA, February 12 - 15, 2006, Austin, Texas, USA.

Guest speaker at the Pesticide Stewardship Conference organized by National Pesticide Stewardship Alliance, USA, 7–11 November 2004, Orlando, Florida, USA.

Guest speaker at the 12th International Conference and Exhibition on Mechanization of Field Experiments, held at Saint-Petersburg, Pushkin, Russia, 5–9 July 2004.

Guest speaker and chair of a session on “Health and Environmental Effects of Plant Protection Products” in the 15th International Plant Protection Congress Beijing, China, 11–16 May 2004.

Guest speaker at the Pesticide Stewardship Conference organized by National Pesticide Stewardship Alliance, USA, 19–22 October 2003, Tucson, Arizona, USA.

Guest speaker at the *Pesticide Stewardship Conference* organized by National Pesticide Stewardship Alliance, USA, 25–28 August 2002, Seattle, USA.

RESEARCH MENTOR

M.Sc.

Chanam Bino Devi (2003). *Agricultural practices in Manipur – A case study in Thoubal and Imphal districts of Manipur*. M.Sc. dissertation submitted to Department of Environmental Science, Bangalore University (India).

Anil Kumar, M.G. (2000). *Pesticide induced problems on a few biotic factors of paddy ecosystem: a case study in Raichur, Bellary and Mandya districts of Karnataka*. M.Sc. dissertation submitted to Department of Environmental Science, Bangalore University (India).

Anitha, J (1999). *Comparative analysis of the issues associated with Cotton cultivation in Andhra Pradesh*. M.Sc. dissertation submitted to Department of Environmental Science, Bangalore University (India).

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