

Dr. P.K. SHETTY

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Independent Director

Power Grid Corporation of India Limited (A Government of India
Enterprise), "SAUDAMINI, Plot No. 2, Sector-29, Gurgaon 122 001
(Haryana) URL: www.powergridindia.com

RESEARCH INTERESTS

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

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).

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 Board of Governors – National Design & Research Forum (BOG-NDRF). The Institution of Engineers (India), Kolkata-700020, India. 16 February 2010.

Appointed as Chairman of an Expert's Committee constituted by the Honorable High Court of Karnataka (In compliance of the order dated 28/01/2010 passed in W.P. No.28040/2009(LB-RES-PIL). 1 February 2010.

Appointed as a Member of the Scientific Advisory Board of a Journal of Springer on "Philosophy and Technology". 8 January 2010.

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).

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 the 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

PAPERS

P. K. Shetty, M. B. Hiremath, M. Murugan and K.G. Sreeja (2010). Research and higher education scenario in select Indian state universities: an analysis. *Indian Journal of Science and Technology*, 3(3): 355-361

M. Murugan, **P. K. Shetty**, A Anandhi, R. Ravi, S. Alappan, M. Vasudevan and K G Sreeja (2009) Rainfall changes over tropical montane cloud forests of southern Western Ghats, India. *Current Science*, **97(12)**: 1755-1760.

P K Shetty, Hiremath MB, Sabitha M., and Murugan M. (2009). Integrated Pest Management Strategies and Agricultural Sustainability in India. *International Journal of Agriculture and Rural Development*, **11(2)**: 45-51

Murugan, M., **Shetty, P.K.**, V. Mukund, B. Panigrahy and A. Josephraj Kumar (2009) Soil and surface air warming in Cardamom ecosystem in Southern Western Ghats, Kerala, India. *International Journal of Agriculture and Rural Development*, **11(2)**: 52-64

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.

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.

CHAPTERS IN BOOKS

P.K. Shetty and Mariam 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.

REVIEWS OF BOOKS OF Dr P K SHETTY

Biosecurity. *Indian Journal of Community Medicine*, Vol.35, No.1, Page: 201, 27 April 2010 (<http://www.ijcm.org.in/text.asp?2010/35/1/201/62557>) Accessed on 24 May 2010.

Grid Security and Management, *Current Science*, Vol. 97, No. 12, 25 December 2009, India (www.ias.ac.in/currensci/dec252009/1783.pdf). Accessed on 15 January 2010.

Biosecurity, *Indian Journal of Medical Microbiology* Vol. 27, Issue: 4, Page: 387, September 4, 2009, (<http://www.ijmm.org/text.asp?2009/27/4/387/55438>) (<http://www.ijmm.org/article.asp?issn=02550857;year=2009;volume=27;issue=4;spage=387;epage=387;aulast=Jayachandran>) Accessed on 15 January 2010.

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.

New science study findings have been reported by P K Shetty and co-researchers (VerticalNews India) 21 October 2008 <http://www.verticalnews.com/newsletters/Journal-of-India/2008-10-21/61166Jl.html>. Accessed on 17 January 2010.

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.

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.

MONOGRAPHS

Dr. P.K. 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 sevisuthhiruva 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.