

CURRICULAM VITAE

Name: **K. R. Shanmugam**

Designation: *Professor*

Institute Affiliation Madras School of Economics (MSE),
Gandhi Mandapam Road,
Chennai 600 025 (INDIA).
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Date of Birth (Nationality): July 15, 1960 (Indian)

Ph. D. Dissertation: "Economics of Human Resources: An Econometric Study on the Compensating Differentials for Job Risks"

M. Phil. (Dissertation): "Economics of Population: Socioeconomic Determinants of Fertility, Infant Mortality and Child Schooling in Rural Indian Households"

Area of Interest: Public Finance, Macroeconomic models, Applied Econometrics, Finance, Economics of Human Resources, Production Economics.

Qualification:

Degree	Institution	Year of Passing	Class	Subject
Ph. D.,	University of Madras, Madras	Jan'1995	-	Econometrics
M. Phil.,	University of Madras, Madras	1988	I	Econometrics
M. A.,	Bharathiar University, Coimbatore	1986	I	Economics
B. A.,	University of Madras, Madras	1984	I	Economics

Fellowship: UGC fellowship (SAP) for Ph. D Program.

Professional Experience:

Institution	Designation	Period
Madras School of Economics	Director and Professor	1 st July 2012 onwards
Madras School of Economics	Professor	July 2007 to June 2012
Madras School of Economics	Associate Professor	Jan 2001 to July 2007
Madras School of Economics	Assistant Professor	Aug' 1997 to Dec' 2000
Madras School of Economics	Research Associate	Sep' 95 to Aug' 1997
Madras Institute of Development Studies (MIDS), Chennai 20.	Project Associate	June 1994 to August 1995

Teaching Experience: Courses Taught at master level

Public Economics, Indian Public Finance, Financial Economics, Economics of Insurance, Microeconomics, Statistical Methods, Optimization Techniques, Econometric Methods, Applied Econometrics, and Cost Benefit Analysis and Financial Mathematics.

Project Works:

1. Economic Modeling for Agro - forestry in Tamil Nadu, the study conducted by CRESD with Dr. R. N. Poduval, Former Senior Development Economist, U. N., F.A.O., and Former Economist and Statistical Adviser for Ministry of Food and Agriculture, Government of India. 1994.
2. Financing of Irrigation Sector: An Integrated View, a Ford Foundation Project, conducted by Prof. Nirmal Sengupta, MIDS.
3. Local Government Finances in Tamil Nadu (Worked with Dr. Raja J. Chelliah to the First State Finance Commission of Tamil Nadu, 1996).
4. Financing of Water Sector in Tamil Nadu , Submitted to Prof. O. P. Mathur, National Institute of Public Finance and Policy, New Delhi, (a World Bank Study),1997.
5. Accelerating Growth through Globalization of Indian Agriculture (Funded by Australian Centre for International Agricultural Research (ACIAR) along with Dr. U. Sankar, and Dr. G. Mythili, MSE and Dr. K. P. Kalirajan, Australian National University),1997-99.
6. Pondicherry: Vision 2020 (Submitted a chapter along with Dr. Raja J. Chelliah on Finances of Pondicherry Government), 2000.
7. Tamil Nadu State Development Report, Funded by Planning Commission, Delhi. (Submitted a chapter along with Dr. Raja J. Chelliah on Finances of Tamil Nadu Government), 2001.
8. Working as Economist in the "Tax Reform and Revenue Augmentation Commission" headed by Dr. Raja J. Chelliah (Government of Tamil Nadu), 2002.
9. Efficiency of Thermal Power Stations in Uttar Pradesh (with Dr. Praveen Kulshrestha), submitted to UP Electricity Regulatory Commission, 2003.
10. Southern State Finances (Prepared a paper titled "Evolution of Fiscal Distress in Tamil Nadu" along with Dr. Raja J. Chelliah), sponsored by Ministry of Finance, Government of India, 2004.
11. "Introduction of VAT in Tamil Nadu: The Major Steps to be Taken and Revenue Implications" along with Dr. Raja J. Chelliah, sponsored by The Commercial Tax Department, Government of Tamil Nadu, 2005

12. “Water Resources Livelihood Security and Stake Holders Initiatives in a River Basin Context-Environmental Aspects” (Principal Investigator: Dr Paul P. Appasamy)- prepared a paper titled Fertilizer use efficiency of Agricultural Farms in Bhavani River Basin” with Mr. Sachchidananda Mukherjee, 2005.
13. ““Job-Led Growth in Tamil Nadu: A Panacea for the State” (along with Dr.D.K.Srivastava, Director MSE)-sponsored by State Planning Commission, Government of Tamil Nadu, 2006.
14. “Relevance of WPI as a Measure of Inflation in India” (along with Dr. D.K. Srivastava, Director, MSE) sponsored by Promoting Healthy and Active Life (PHAL), New Delhi (2007).
15. MDGs-Based Poverty Reduction Strategy for Tamil Nadu, UNDP sponsored project (with Dr. D.K. Srivastava and Dr. Bhujanga Rao), 2008
16. “Medium Term Fiscal Framework”-working as Economic Modeling and Forecasting Specialist on the Madhya Pradesh Long-term Consultancy Assignment “Strengthening Performance Management in Government” for PricewaterhouseCoopers Private Limited., 2008
17. “Memorandum to the Thirteenth Finance Commission” a project sponsored by the Finance Department, Government of Tamil Nadu (submitted jointly with Dr. Srivastava and Dr. Bhujanga Rao), 2009.
18. “A Macro-fiscal Modeling Framework for Forecasting and Policy Simulations” a Project sponsored by Finance Commission of India (submitted jointly with Dr. Srivastava and Dr. Bhujanga Rao), 2009.
19. “Monitorable Indicators and Performance: Tamil Nadu”, (it is a study on the MTA of 11th Plan of Tamil Nadu), sponsored by Union Planning Commission; submitted in 2010.
20. “Performance of Flagship Programmes in Tamil Nadu” the report submitted to the Union Planning Commission along with Dr. Swarna Vepa and Dr. Savita Bhat (submitted in 2010)
21. “Binding Growth Constraints: Madhya Pradesh”, sponsored by DFID through PricewaterhouseCoopers Private Limited (with Dr. D.K. Srivastava). Completed in 2010.
22. “State Finances of Tamil Nadu: Review and Projections”, A Study for the Fourth State Finance Commission of Tamil Nadu (Final Report Submitted), 2011, with Dr. D.K. Srivastava.
23. “RBI-MSE Macro-econometric Modeling Project” (working with Dr. Srivastava, Dr. Bhujanga Roa, and Dr. Saumitra Bhaduri from 2009).
24. “Fiscal Instruments for Climate-friendly Industrial Development in Tamil Nadu” (working with Dr. D.K.Srivastava, Dr. Kavi Kumar, Dr.Madhuri Saripalle), funded under UK FCO’s Prosperity Fund.

25. Consultancy to Tamil Nadu State Planning Commission in preparing Twelfth Five Year Plan Report (few chapters).

Publications:

A. Books (Edited)

1. "Finance Commission: Issues of the Southern States", (along with Dr. Srivastava and Dr. Bhujanga Rao), published by Madras School of Economics, 2009
2. Theory, Measurement and Policy: Evolving Themes in Quantitative Economics (along with V.Pandit), Academic Foundation in association with Indian Econometric Society, 2008.
3. Econometric Models; theory and Applications (along with D.M.Nachane, Romer Correa and G. Ananthapadmanabhan), Allied Publishers, 2004.
4. Data, Models and Policies, (along with V Pandit, A. Sarma, T.C.A. Anant and G.Ananathapadmanabhan), Published by Indian Econometric Society, 2003.

B Articles in International Journals:

- (1) "Discount Rate for Health Benefits and the Value of Life in India", *Economics Research International*, vol 2011, Article ID 191425.
- (2) "Sources of Output Growth in Indian Agriculture during the Post-Reform Period", submitted to *Journal of South Asian Development*.
- (3) "Health, Technical Efficiency and Agricultural Production in Indian Districts", (with Jeniffer Ruger and Atheendar Venkataramani), *Journal of Economic Development*, vol.34, No. 4, 2010, pp.1-23.
- (4) "Stock Returns – Inflation Relation in India: 1980-2004" (with Dr. Biswa Swarup Misra), *Applied Econometrics and International Development*, Vol.9, No.1, 2009, pp187-198.
- (5) "Ownership and Performance of the Indian Banking "Industry: Revisited" (with Dr. Saumitra Bhaduri), *Journal of South Asian Development*, Vol 3, No.2, 2008, pp.237-52.
- (6) "Rate of Time Preference and the Quantity Adjusted Value of Life in India", *Environment and Development Economics*, 11, 2006, pp. 569-583.
- (7) "Efficiency analysis of Coal Based Thermal Power Generation in India During the Post Reform Era" (co-author: Dr. Praveen Kulshreshtha), *International Journal of Global Energy Issues*, Vol. 23, No. 1, 2005, pp. 15-28.
- (8) "Efficiency of Indian Commercial Banks During the Reform Period" (co-author: Dr. Abhiman Das), *Applied Financial Economics*, Vol. 14, No. 9, 2004, pp.681-86.
- (9) "The Impact of Trade Unions on Compensation for Job Risks" (co-author: Dr. S. Madheswaran), *International Review of Economics and Business*, Vol. 10, No. 1, March 2004.

- (10) "Earnings Frontiers and Labor Market Efficiency: Evidence From India" (co-author: Dr. S. Madheswaran), *International Journal of Applied Business and Economic Research*, Vol.1, No.1,2003, pp35-46.
- (11)"Size, Age and Firm Growth in the Indian Manufacturing Sector". (Co author: Dr. Saumitra N. Bhaduri), *Applied Economics Letters*, 9, 2002, pp. 607-613.
- (12) "Self Selection Bias in the Estimates of Compensating differentials for Job Risks in India" *Journal of Risk and Uncertainty*, Vol. 22 No. 3, May 2001, pp. 263-275.
- (13) "Valuations of Life and Injury Risks: Empirical Evidence from India", *Environmental and Resource Economics* Vol. 16, No. 4, August 2000, pp379-389.

C. Articles in National Journals:

- (1) "Efficiency of Raising Health Outcome in the Indian States" (with Ms. Prachitha), *International Journal of Applied Economics and Econometrics* (forthcoming).
- (2) The Multi-Fibre Agreement Phase-Out: Efficiency Implications of Textile Firms in India, (with Mr. Sasidaran), *Trade and Development Review*, Vol. 3, No. 1, 2010, pp59-75.
- (3) "Strategy for Poverty Reduction and Narrowing Regional disparities" with Dr. Raja J.Chelliah, *Economic and Political Weekly*, August 25, 2007, pp.3475-81.
- (4) "Technical Efficiency in Agriculture Production and its Determinants: An Exploratory Study at the District level" with Mr Atheendar Venkataramani, *Indian Journal of Agriculture Economics*, Vol. 61, No. 2, April-June, 2006, pp. 169-184..
- (5) "Sales Tax Policy Interaction Among the State Governments in India" (with Mr. R. Sthanumoorthy), *Journal of Quantitative Economics*, Vo; 2, No.1, 2004, pp. 147-163 (Earlier version appeared in *Econometric Models: Theory and Application* (ed.) D.M. Nachane et al. (2004), Allied Publishers Pvt. Ltd. Pp. 169-188).
- (6) "Technical Efficiency of Rice, Groundnut and Cotton Farms in Tamil Nadu", *Indian Journal of Agricultural Economics*, Vol 58, No. 1, Jan-March 2003.
- (7) "Technical Efficiency of Growing Rice Crop in Karnataka: A Panel Data Study", *Artha Vijnana*, Vol. XLIV, No.3&4, 2002, pp. 213-224.
- (8) "Efficiency of Thermal Power Plants in India" (co author: Dr. Praveen Kulshreshtha), *Vikalpa: The Journal for Decision Makers*, 27, No.4, 2002, pp.57-68.
- (9) "Production Frontiers and Efficiency Measures: An Analysis of the Banking Sector in India" (co-author: Dr. T. Lakshmanasamy), *Asia Africa Journal of Economics and Econometrics* Vol. 1, No. 2,2002, pp211-228.
- (10) "Composite Indices of Basic Human Needs and Income in India" (Co-author: Dr. Saumitra N. Bhaduri), *Artha Vijnana*, Vol. XLII, No. 2, June 2000, pp. 115-126.
- (11) "Technical Efficiency of Rice Growers in Bihar", *Indian Journal of Applied Economics*, Vol. 8, Part IV, Oct-Dec, 2000, pp. 377-389.
- (12) "Labour Use Efficiency of Banking Sector in India" (with T. Lakshmanasamy), *The Indian Journal of Labour Economics*, Vol. 43, No. 4, 2000, pp. 989-999.

- (13) "Technical Efficiency of Rice Growers in Tamilnadu: A Study Based on Panel Data" (co-author: Dr. G. Mythili), *Indian Journal of Agricultural Economics*, Vol. 55, No. 1, Jan-Mar 2000, pp 15-25.
- (14) "Insurance Benefits, Wage Premiums and the Value of Injury Risks", *Manpower Journal*, vol. XXXV, No. 1, April-June 1999, pp. 1-11.
- (15) "The Impact of Unions on the Compensation for Job Risks", *Artha Vijnana*, Vol. XL, No. 3, Sep' 1998, pp. 271-284.
- (16) "Methodologies for Optimal Agroforestry Systems", *Productivity*, Vol. 39, No. 2, July-Sep' 1998, pp. 337-342.
- (17) "Returns to Higher Education: Estimating Using Flexible Functional Form", *Productivity*, Vol. 39, No. 1, April-June 1998 (with Dr. S. Madheswaran), pp. 97-101.
- (18) "Socially Optimal Insurance for Industrial Injury Accidents", *Productivity*, Vol. 38, No. 4, Jan – March 1998, pp. 630-634.
- (19) "Value of Life and Injury: Estimates Using Flexible Functional Form", *The Indian Journal of Applied Economics*, Vol. 6, No. 3, July-Sep' 1997, pp. 125-136.
- (20) "Compensating Wage Differential for Work Related Fatal and Injury Accidents", *The Indian Journal of Labor Economics*, Vol.40, No.2, April-June 1997, pp. 251-262.
- (21) "The Value of Life: Estimates from Indian Labor Market", *Indian Economic Journal*, Vol.44, No. 4, April - June 1997, pp. 105-112.

D. Working Papers

1. "Some Aspects of Inter District Disparities in Tamil Nadu", MSE Working paper no. 1 with Dr. Raja J. Chelliah.
2. Technical Efficiency in Agricultural Production and Its Determinants: An Exploratory Study at the District Level (with Atheendar Venkataramani), MSE Working Paper No. 10
3. "Health, technical Efficiency and agricultural Production in Indian Districts", (with Jeniffer Ruger and Atheendar Venkataramani), Working Paper No. 11.
4. "Strategy of Growth for Substantial Reduction of Poverty and Reversal of Trend Towards Increasing Regional Divide"(with Dr. Raja J.Chelliah), MSE working paper no. 21.
5. "Sources of Output Growth in Indian Agriculture during Post-Reform Period" (with Vidhya Soundararajan), MSE-Working Paper No.26, 2007.
6. "Ownership and Performance of the Indian Banking Industry: Revisited" (with Dr. Saumitra Bhaduri), MSE-Working Paper No.33, 2008.
7. "Stock Returns-Inflation Relation in India", (with Dr. Biswa Swarup Misra), MSE Working paper No. 38., 2008.
8. "Impact of Trade Liberalization on the Efficiency of Textile Firms in India" (with Mr. Sasidaran), ISAS Working paper No. 52, 2008.
9. "Designing Fiscal Transfers: a Normative Approach" (with Dr. D.K. Srivastava, Director, MSE), MSE-Working Paper No.39, 2009.

10. “Discount Rate for Health Benefits and the Value of Life in India”, MSE Working Paper Number 60, 2011.

E. Monographs

1. State Finances of Tamil Nadu: Review and Projections A Study for the Fourth State Finance Commission of Tamil Nadu (with Dr. D.K.Srivastava), MSE-Monograph No.19.
2. Performance of Flagship Programmes in Tamil Nadu, (with Dr. Swarna S Vepa and Dr. Savita Bhat), MSE-Monograph No.18.
3. Monitorable Indicators and Performance: Tamil Nadu, MSE-Monograph No. 17.
4. MDGS-based Poverty Reduction Strategy for Tamil Nadu (with Dr.D.K. Srivastava and Dr. Bhujanga Rao), MSE-Monograph No.6.

E. Articles in Edited Volumes:

1. “Compensating Wage Differences in the Indian Labor Market” in *Economics of Human Behavior: Essays in Honour of Prof. A.M. Nalla Gounden* (ed.) by T. Lakshmana samy and T. M. Srinivasan, Allied Publishers, 1997, pp. 237-252.
2. “Consumption of Domestic Fuels in Rural Households of Tamilnadu” (with Dr. S. C. Bhattacharyya) in *Towards Commercialization of Clean Energy* (ed.) by A. N. Rao, R. Sethumadhavan and G. Karthikeyan, 1997, pp. 450-55.
3. "A Comparative Study of Technical Efficiency of Farms in Bihar, Karnataka, Punjab and Tamilnadu: The Random Coefficients Approach" in *Globalization of Indian Agriculture*, edited by K. P. Kalirajan *et al.*, Macmillan India Ltd. 2001, pp 288-323.
4. “Some Aspects of Inter district Disparities in Tamil Nadu (co-author: Dr. R.J. Chelliah), in *Data, Models and Policies*, edited by V. Pandit et al. Indian Econometric Society, 2002, pp120-139.
5. “Technical Efficiency Measures for Single and Multiple Output Technologies” (co-author: Dr. T. Lakshmanasamy, in *Algorithms and Artificial Systems*, edited by P. Thangavel, Allied Publishers Private Limited, Jan 2003, pp. 277-295.
6. “The Value of Statistical Life” (co-author: Dr. S.Madheswaran), in *Valuing the Invaluable: Environmental Valuation in South Asia*, edited by A.K. Enamul Haque, M.N. Murty and Priya Shyamsundar, Cambridge University Press, 2011.
7. “Population Growth and Regional Disparities in India” (co-author: Mr. Sathya Moorthy), in *Population Dynamics and Human Development: Opportunities and Challenges*, edited by T. Lakshmanasamy, Bookwell, Delhi 2010, pp289-303.
8. “Regional Growth Convergence in Indian States: A Panel Data Approach” in *Development and Public Finance: Essays in Honour of Dr. Raja J. Chelliah*, edited by Dr. D.K. Srivastava and Dr. U.Sankar, Sage Publications (2012).

More than 50 Papers Presented in National/International Conferences and about 50 lectures delivered at various workshops/training programs organized by national and international agencies.

Conferences, Seminars, Workshops Organized

1. Joint Coordinator: "Training Program on Statistical Tools" sponsored by Tamil Nadu State Planning Commission, June 19-23, 2000 at MSE.
2. Organizing Committee Member: National Conference on Local Body Finance" organized by State Finance Commission, March 14-15 1996
3. Treasurer: Various Annual Conferences of The Indian Econometric Society held at Chennai, Baroda, Bangalore, Kolkatta and Amritsar (2001 to 2006).
4. Coordinator: 9- day Workshop on Applied Econometrics sponsored by the Indian Econometric Society held at MSE Chennai, December 2004.
5. Convener (Program Committee): 42nd Annual Conference of the Indian Econometric Society held at Amritsar, Jan 4-6, 2006.
6. Coordinator: Training Program on Planning, Development and Cost Benefit Analysis for the Officials of State Planning Commission, Statistics Department and Applied Evaluation Department, Jan 2006.
7. Coordinator: Training Program on Statistical Methods and Computer Applications for the Officials of State Planning Commission, March 2006.
8. Coordinator: 21-day UGC Refresher Course in Economics (theme: Contemporary Economic Policy Issues in India), November 28 – December 18, 2007.
9. Joint coordinator: Seminar on Finance Commission: Issues of the Southern States, December 8-9, 2008 at MSE.
10. Coordinator: Training Program and Certification for Advanced Decision and CRM Analytics, during March 29-31, 2010 at HDFC Bank, Mumbai - 400 011.

Supervision of Thesis:

P. G. Diploma Dissertation (awarded)

Efficiency of thermal power plants in India.

M. Sc. Economics Dissertations (completed):

1. Technical Efficiency of Private and Public Banks in India.
2. Ownership Performance in the Indian Banking Sector.
3. The Effect of Grants on the State Expenditures in India
4. Managerial Equity and Performance in the Indian Non-Banking Financial Companies
5. Capital Formation and Growth in Agriculture.
6. Interstate Disparities in India.
7. Technical Efficiency of Chemical Manufacturing Firms in India,
8. Size, Age and Firm Growth in the Chemical Manufacturing Industry in India.

9. Efficiency of Commercial Banks in India: The Ray Frontier Function Approach
10. Relationship between inflation and stock Return
11. Stock Return Volatility
12. Expenditure Competition among State Governments in India.
13. Efficiency of Commercial Banks in India: A Semi-parametric Approach
14. Efficiency Implications of Textile Trade Liberalization in India.
15. Effects of State Taxes and Expenditure on the Growth of State Economy.
16. Relationship between Ownership and Performance of in Indian NBFCs.
17. Output Performance of Indian States: A Stochastic Frontier Approach
18. Investment and Output in Agriculture and Allied Activities in India – A Macro Study
19. Interest Rate Competition among Housing Loan Lending Institutions in India.
20. Socially Optimal Insurance for Industrial Injury Accidents
21. Empirical Study on the Choices of Investors Portfolios
22. Efficiency of Life Insurance Companies in India
23. Performance of Agriculture in Tamil Nadu Districts
24. Monetary Policy Transmission in India: A Structural VAR Approach
25. A Study on Customers Retention in Motor Insurance in India
26. An Empirical Study on Customer Lapse in the Health Insurance
27. Interaction Amongst Selective Stock Markets

Ph. D Dissertation:

1. Sales Tax Competition among the Southern States in India (Awarded)
2. Public Expenditure Policy Interactions among the States in India (Progress)

Professional Activities [others]

1. Council Member: The Indian Econometric Society (from 1997 to 2000, 2007, 2010).
2. Treasurer: the Indian Econometric Society (From April 2001 to March 2006)
3. Participant: Winter School on Quantitative Economics, Indian Statistical Institute, New Delhi, December 3-10, 1999.
4. Participant: Winter School on Quantitative Economics, Indian Institute of Management, Calcutta, January 1-7, 2001
5. Participants: A Regional Course in Environmental and Natural Resource Economics at the AIT Centre, Bangkok, Thailand (organized by SANDEE with World Bank Institute, Washington D.C. and UNEP RRC.AP), during October 30-November 16, 2003.
6. Participant: Research Training Program on CGE modeling and Data Analysis, organized by UNCTAD-JUECON, Jadavpur University, October 2008.
7. “Computing GEM in Eviews” delivered at UNCTAD-JUECON Programme, Jadavpur University, May 15, 2009. Also attending the Research Training Program on CGE Modeling at Jadavpur University, May 11- 16, 2009.

8. Member of Computer committee, MSE (1998, 1999, 2005 onwards), and Library Committee, MSE (2003) and Faculty Adviser for M.Sc students (2000-02), Actuarial Economics students (2007-09).
9. MSE Hostel Warden (2000, and 2002-2010)
10. In-charge, Actuarial Economics course (2007-09)
11. Member, Board of Studies: Dept. of Humanities & Social Sciences, Anna University, 2006.
12. Member of Board Studies: PSG college of Arts and Science, 2008.
13. Member, Board of Studies, Social Sciences, Goa University, 2008.
14. Member of Board of Studies, Social Sciences, VIT, 2009 onwards.
15. Member of Board of Studies in Economics (PG), University of Madras. 2011-13
16. Member, Board of Studies, Economics Department, IGNOU, New Delhi, 2011
17. In-charge of MSE Working Papers and Monograph Series from 2010.
18. Life Member, Knowledge Forum.
19. Member, Committee on Fixation of Fee in Self Financing Professional Colleges, Government of Tamil Nadu (2011-12)
20. Member, Working Group on Macroeconomic Issues and Financial Resources, State Planning Commission, Tamil Nadu (2011-12).
21. Non Official Member, Central Direct Taxes Advisory Committee, Ministry of Finance, Government of India and Ex-Officio Member of the Regional Direct Taxes Advisory Committee, Chennai for the year 2012-2014.
22. Resource Person for (i) Applied Econometrics Training Program organized by Reserve Bank Staff College (2003 onwards), (ii) Mathematical Finance for Indian Bank officials and for Canara Bank Officials, (organized by MSE in various years); (iii) Decision Science and Advanced Analytics course for HP officials conducted by MSE (2007), (iv) FDP on Econometrics for Management Research at IIM Kozhikode (2007), (v) Applied Econometric workshop organized by SANDEE at Colombo (2005), (vi) applied Econometrics Training organized by Goa University (2006), (vii) Applied Econometric workshop organized by ISEC, Bangalore for IES officer (2009), (viii) Applied Econometric workshop organized by Hyderabad University for IES officers, 2011, (ix) Applied Econometric workshop organized by Christ University, Bangalore, (x) Applied Econometric workshop organized by ISEC, Bangalore for ISS officers, 2011 etc.