204: ENVIRONMENTAL ECONOMICS

Course Objective: This course aims to provide exposure to the students about the basic concepts and importance of natural resource management. The students would be able to appreciate the urgency for protection, nurturing and management of Natural Resources.

Syllabus

1. The Economy and the Environment: Neo Classical perspective, Ecological perspective.
2. Sustainable Development: Concepts, Theories and Principles of Sustainable Development.
3. Externalities: Public Goods, Market Failure, Property rights.
4. Economic incentives for Environmental Protection: Market Based Instruments, Command and Control, Marketable permits, Alternative approaches.
5. Environment Impact Assessment Valuation Techniques: Stated Preference approaches, Surrogate Market approaches, Conventional market approach, Household production function approach.
6. Climate Change &Ecosystem services:Ecosystem function, Kyoto Protocol and other International Agreements
7. Environment Policy of India: Objectives and Implementation
8. Environment Management in Business Firm: Life Cycle assessment, measuring environmental performance, Strategic Environmental Management as Competitive Strategy.

Reading list

1. Brady, John (2006). *Environmental Management in organizations*, Earthscan Pub.
2. Bromely, Daniel E *The Handbook of Environmental Economics*
3. Connor, Robin and Stephen, Dovers (2004). *Edward Institutional Change for Sustainable Development*, Edward Elgar Publishing.
4. Folmer, Henk, Hlandis Gabel and Hans Opschoor (1997). *Principles of Environmental and Resource Economics*, Edward Elgar Pub
5. Hanley, Nick, Jason F Shogren& Ben White, (2008). *Environmental Economics*, Macmillan.
6. Hart, Staurt L (1997). *Strategies for Sustainable World*, Harvard Business Review.
7. Hussan, Ahmed M (2004). *Principles of Environmental Economics*, Routledge Publication.
8. James, David. *Application of Economic Techniques in Impact Assessment*.
9. Kerr John, M, Marothia, Dinesh K, Singh, Katar, Ramaswamy, C and Bentaly, William R (1997). *Natural Resource Economics*, Oxford & IBH Publication.
10. Pearce, David, Giles Atkinson and Susana Mourato (2006). *Cost –Benefit Analysis and Environment*, Earthscan Pub.
11. Roger, Perman (1995). *Natural Resources and Environmental Economics*, Longman Publication.
12. Richard, Welford *The Context of Corporate Environment Management.*
13. Therivel, Riki (2004). *Strategic Environmental Assessment in Action*, Earthscan Publication.

GR IV.2: ENERGY ECONOMICS

Course Objective: The objective of the course is to develop an understanding about the energy sector of the economy. The students are to find out about the sources of energy, their pricing and the linkages with environment.

Syllabus

1. Introduction, Energy demand: short run and long run price and income elasticities
2. Energy supply and the economics of depletable resources
3. World oil markets and energy security
4. Natural gas price and regulation, deregulation and markets
5. Current Electricity Policies, and programmes
6. Risk management, futures markets and derivatives
7. Energy and climate change
8. Internalizing environmental externalities with a focus on Co2 emissions cap and trade mechanisms
9. Analysis of energy sources: Coal , nuclear power
10. Energy efficiency policies and programme
11. Renewable energy policies and programme
12. Trading in energy markets

Readings:

Barsky, R., and L. Killian,. (2004):Oil and the macroeconomy since the 1970 journal of economic perspectives 18, no. 4: 115-134.

Borenstein, S. (2005): The long run efficiency of real-time electricity pricing, the energy journal 26, no. 3: 93-116.

Considine, T. (2006): Is the strategic petroleum reserve our ace in the hole?" the energy journal 27, no. 3: 91-112.

Cuddington, J., and Z. Wang. (2006): Assessing the degree of spot market integration for u.s. natural gas, evidence from daily price data.,journal of regulatory economics 29: 195-210

Deffeyes, K. ,Hubbert's Peak, (2001):: The impending world of oil shortage. Princeton, NJ, Princeton University Press, chapter 1.

Energy Information Administration. (2002):Derivatives in risk management for petroleum, gas and electricity).

Flynn, E. (2000):Impact of technological change and productivity on the coal market, energy information administration, issues in midterm analysis and forecasting.

Hassett, K. and G. Metcal , (1993):Energy conservation investment, do consumers discount the future correctly? Energy policy (June): 710-716.

Heal, G. (1993):The optimal use of exhaustible resources, ch 18 in handbook of natural resource and energy economics.Vol. 3.Edited by A. Kneese and J. Sweeney. San Diego, CA: Elsevier Science Publishers.

Herce, M., J. Parsons, and R. Ready. (2006): Using futures prices to filter short-term volatility and recover a latent, long-term price series for oil, MIT center for energy and environmental policy research working paper 06-005 (April).

Hughes, J., C. Knittel, and D. Sperling. (2006): Evidence of a shift in the short-run price elasticity of gasoline demand, center for the study of energy markets, working paper 159.

Intergovernmental Panel on climate change (IPCC. ,Climate change (2007): The physical science basis, summary for policymakers .
KrautkraemerJ., and M. Toman. (2003):Fundamental economics of depletable energy supply, resources for the future, discussion Paper 03-01.
Leitzinger, J., and M. Collette. (2002): A retrospective look at wholesale gas, industry restructuring, journal of regulatory economics 21, no. 1: 79-101.
Massachusetts institute of technology, (2003):The future of nuclear power,an interdisciplinary MIT study
McDonlad, S., S. Robinson, and K. Thierfelder.(2006:)Impact of switching production to bioenergy crops, the switchgrass example, energy economics 28: 243-265.
McGowan, J., and S. Conners. (2000:)Windpower, A turn of the century review ,annual review of energy and the environment 25: 147-197.
Nordhaus, W. (2006): After Kyoto alternative mechanisms to control global warming American economics association papers and proceedings 96, no. 2: 31-34.
Nordhaus, W. D. (2006): The stern review on the economics of climate change mimeo.
Palmer, K., and D. Bullaw., (2005):Cost-effectiveness of renewable electricity policies, energy economics 27: 873-894.
Pizer, M. (2006): The evolution of a global climate change agreement, American economics association papers and proceedings 96, no. 2: 26-30.
Portney, P., and I. Parry, (2003): Policy watch, the economics of fuel economy standards, journal of economic perspectives 17, no. 4: 203-217.
Slade, M., C. Kolstad, and R. Weiner.(1993): Buying energy and nonfuel minerals ch 20 in handbook of natural resource and energy economics.Vol. 3.edited by A. Kneese and J. Sweeney. San Diego, CA, Elsevier Science Publishers
Smil, V. (2000): Energy in the twentieth century, resources conversions, costs, uses and consequences annual review of energy and the Environment 25: 21-51.
Smith, J. (2005): Inscrutable OPEC? behavioral tests of the cartel hypothesis, The energy journal 25, no. 1: 51-82.

Gr IV.3: INFRASTRUCTURE ECONOMICS

Course Objective: The paper provides a theoretical background about the need for regulation in the sector. It would expose students to different infrastructure related policies and the role of these in its growth.

Syllabus

1. Introduction: Theory of natural monopoly, financing of public services, private vs. public sector financing, debate about the fixation of prices of social services, development of social services in the successive Indian plans, regulation, competition and privatization, the role and effectiveness of the regulator in controlling monopoly behaviour
2. Rail transport**:** Analysis of the market, legal requirements and policy, railway characteristics and ownership, containerization, regional rail cooperation, international railway trends, railway pricing, pipelines.
3. Air transport **:**Development of the Indian air transport industry, overview of current air transport policies, the roles and responsibilities of national and international control bodies, cost and pricing air transport services, airline management and control .Airport planning and management.
4. Water supply: Water utilities, urban and rural water supply
5. Telecommunication:Telecom reforms in India with a critique of national telecom policy 1994 and 1999, the Relationship between TRAI, Department of telecom, and public and private operators, Role of telecom infrastructure in meeting needs of the economy and the IT sector.

Readings:

Anandalingam G. (1996) :Technological progress, industry dynamics and telecommunications policy: the need for further reforms in India, working paper No.83, IIM, Bangalore,.

Athreya M.B. (1996): India's telecommunication policy, telecommunication policy, 20(1): 11-22

Chaudhuri M.D. (1990): Market failure and government failure, Journal of Economic Perspectives, 4(3), 25-39

Crew M.A. and Kleindorfer P.R. (1979) : Public utility economics, London, Macmillan

Goodman J.B. and Loveman G.W. (1991): Does privatization serve the public interest, Harvard business review, 69(6): 26-38

Mody A.(1997): Infrastructure strategies in east Asia**,** the untold story, Washington, D.C: economic development institute, world bank

National Council of Applied Economic Research (1996): India infrastructure report: policy implications for growth and welfare, New Delhi , NCAER

Navarro, P. (1996): Electric utilities, the argument for radical deregulation**,**Harvard business review, 73(1): 112-25

Parikh, K.S. (Ed.) (1999): India development report - 1999-2000, New Delhi: Oxford

Sherman R. (1983): Is public utility regulation beyond hope? inA.L.Danielsen and D.R.Kamarschen (ed.), current issues in public utility economics, Lexington, MA.

Sinha N. (1996): The political economy of India's telecom reforms, telecommunication policy, 20(1) : 23-38

Smith P.L. and Staple G (1994): Telecommunication sector reforms in Asia: towards a new paradigm, World Bank discussion paper 232, World Bank,Washington D.C.

The economist (1996): The Hidden cost of red tape, 27th July 1996

Relevant websites of different ministries of the Government of India, summary of consultants reports in UP, Haryana, and Karnataka electricity board restructuring

Gr IV.4: AGRICULTURAL ECONOMICS

Course Objective: The focus of this course is to introduce students to the importance of agricultural sector and to the issues associated with agricultural transformation, agricultural production, and demand of and supply for agricultural commodities. The objective is to equip students to analyze and critically assess issues,policiesand programmes in these areas with particular emphasis on Indian agriculture.

Syllabus

1. **Nature and scope:** Nature and Scope of economics of agriculture,inter -sectoral linkages of agriculture (backward and forward linkages and feedback effect).
2. **Role of agriculture in economic Development:**The contribution of agriculture to economic development. Historic perspective (experience of developed and developing countries);Declining role of agriculture and dilemmas of development.
3. **Agricultural Production Function:**Agricultural production function; uniqueness and types of agricultural production function; Cobb-Douglas and CES production function
4. **Theories of agricultural transformation:**Schultz theory of transformation of traditional agriculture, Mellors theory of agricultural development, Hayami- Ruttan innovation model of economic development.Nature and types of Risk and uncertainty in agriculture.
5. **Growth pattern of indianagiculture:** Growth Pattern of Indian Agriculture since 1950.Deceleration in the 1990s – Extent and Causes.Regional Imbalances in Indian Agriculture.The issue of productivity in Indian agriculture, Food Security - Problem and Policy Options.WTO and Indian agriculture.

Readings :

Besley, Timothy(1994), *How Do Market Failures Justify Interventions in Rural Credit Markets?,* The World Bank Research Observer, Vol. 9, No.1

Bruce L. Gardener and Gordon C. Rausser (2002), *Handbook of Agricultural Economics Vol.1 A : Agricultural Production*, Amersterdam, Elsevier Science B.V.

Bruce L. Gardener and Gordon C. Rausser (2002), *Handbook of Agricultural Economics Vol.1 B : Marketing, Distribution and Consumption*, Amersterdam, Elsevier Science B.V.

Bruce L. Gardener and Gordon C. Rausser (2002) ,*Handbook of Agricultural Economics Vol.2 A : Agricultural and Its External Linkages*, Amersterdam, Elsevier Science B.V.

Bruce L. Gardener and Gordon C. Rausser (2002), *Handbook of Agricultural Economics Vol. 2 B : Agricultural and Policy*, Amersterdam, Elsevier Science B.V., 2002

GhatakSubrata and Ken Ingersent (1984) *Agriculture and Economic Development*, Harvestor Press Ltd., London.

Government of India : National Agricultural Policy, Ministry of Agriculture, Government of India, New Delhi. (Latest).

Hoff Karla and Joseph E. Stiglitz(1990), *Introduction : Imperfect Information and Rural Credit Markets – Puzzles and Policy Perspective*, The World BankEconomic Review, Vol.4, No.3

World Bank(2006), *Rejuvenating Indian Agriculture*, Washington, World Bank.

Various issues of Economic and Political Weekly of India(EPW), and Indian Journal of Agricultural Economics(IJAE)

Kapila, Uma (2007) ,*Indian Economy Since Independence*, Academic Foundations, New Delhi.

Kapila, Uma (2007), *Indian Economy – Performance and Policies*,AcademicFoundation, New Delhi.

Balla,G.S.(1997). Indian agriculture since independence.

Gr IV.5: ECONOMICS OF HEALTH AND EDUCATION

Course Objective: The course is designed to expose students to two key social and economic issues being faced by the Indian Economy today.

Syllabus

1. Health: Economic dimensions of health care - demand and supply of health care, Grossman's model of health care services, determinants of health - poverty, malnutrition, illiteracy and lack of information, Micro effects of health, health dimensions of macroeconomics development; health policy, financing of health care and resource constraints, inequalities in health - class and gender perspectives, institutional issues in health care delivery, economics of health insurance, community based health insurance.

2. Economics of education: Micro theories of education , Becker's theory, Mincerian equation, over education, measuring micro effects of education, signaling theory of education, new growth theories and macro-economic effects of education, human resources and human capital development empirical evidence government policies, government funding and issues, PPP in education. the case for universal, free, primary education, structure of higher education and problems of its financing in India , other issues in education policy

Readings

Government of India (2005): Report on the CABE committee on autonomy of higher education institutions, ministry of human resource development.

Becker, G.S. (1962): Investment in human capital, a theoretical analysis, Journal of political economy, 70(5) : 9-49

Spence, M. (1973): Job Market signaling, Quarterly journal of economics, 87(3), 355-374

Christian B. (2006): The return to schooling in structural dynamic models:,a survey of the literature, working paper, Institute for the study of labor

Duraisamy (2000): Changes in return to education in India, 1983-94y Gender, Age-cohort and Location, Center discussion paper no. 815, economic growth center, YaleUniversity

Devadasn N. ,Rasnon K. (2004): Community health insurance in India , an overview,Economic and political weekly

Tompa, E (2002): The impact of health on productivity: macro and microeconomic evidence and policy implications, the review of economic performance and social progress, in: Andrew Sharpe, & Keith Banting, Di (ed.), the review of economic performance and social progress volume 2

Grossman, M. (1972): On the concept of health capital and the demand for health,The Journal of political economy, 80 (2) 223-255

GuptaI. (2003): Inequities in health and health care in India, Can the poor hope for a respite? discussion paper Institute of economic growth, institute of economic ,New Delhi

Ahuja, R. (2004): Health insurance for the poor in India, working paper, New Delhi, ICRIER

Grossman (1999) : The human capital model of the demand for health, working paper 7078USA, NBER,

India infrastructure report (2008): Business models of the future, India,India OUP

GR IV.6: ECONOMICS OF CLIMATE CHANGE

Course Objective: The objective of this course is to give students an insight into the link between microeconomic theory and climate change and make them aware of international co-operation and climate policy.

Syllabus

1. Introduction to Climate Change: Greenhouse Effect, The Carbon Cycle, Basic Facts on Emissions, Climate Change Observation, Climate Change Predictions, Climate Change Impacts
2. Efficiency, Public Goods, Externalities: A brief review (preferences, utility, rates of substitution, efficiency, equilibrium, welfare theorems), Market Failure Public Goods and Externalities
3. Environmental Policy Instruments: Introduction on Instrument Choice, Bargaining, Standards and Taxes, Cap and Trade, Cap and Trade vs Taxes, Cap and Trade in application—EU ETS, US
4. Discounting: cost benefit analysis, market vs social discount rate, determinants, normative vs descriptive, hyperbolic discounting
5. Risk and Uncertainty: Risk, Expected Value, Risk Aversion, Classification of Uncertainty, Willingness to Pay for risk reduction, learning option value, optimal mitigation levels under anticipated learning, precautionary principle, Uncertainty and discounting
6. Integrated Assessment: Integrated Assessment of Climate Change, Building an Integrated Assessment Model
7. International Co-operation and Climate Policy: International Environmental Agreements, Co-operative and non-co-operative abatement, Free-riding, Cartel formation, Multiple coalitions, International Climate Policy

Readings:

Hahn, Robert W. and Alastair Ulph (Eds.) (2012) Climate Change and Common Sense, Essays in Honor of Tom Schelling. OUP

Hansjürgens**,** Bernd**,** andAntes, Ralf (Eds.) (2008) Economics and Management of Climate Change: Risks, Mitigation and Adaptation. Springer

Tol, Richard, S.J. (2014). Climate Economics: Economic Analysis of Climate, Climate Change and Climate Policy. Edward Elgar

Journal Articles where required

Gr IV.7: LABOUR ECONOMICS

Course Objective: To help students understand the role of labour force in economic development, In a country like India where the bulk of the labour force is in the unorganized sector and the organized sector is witnessing "jobless" growth, the importance of issues such as employment and unemployment as well as livelihood and social security for the growing millions continues to assume significance. This Paper exposes students to theoretical as well as empirical issues relating to the labour market with special reference to India, female employment and discrimination, and development of human resources

Syllabus

1. The labor factor in the development of economic thought topics: Labor in Classical and Neoclassical Economics. Labor and Wages in Keynesian economic analysis.

2. Theories of Individual Labor Supply and Labor Demand:

   Aggregate labor supply analysis: Labor Force Participate trends, determinants, and analyses. Hours of work and contingent labor market trends. Problems in aggregating labor demand.

   Labour theory of value: neoclassical, classical and Marxian approach. Theories of wage determination, competitive and institutional.The evolving wage structure and wage differentials. Issues of Executive pay and trends in alternative pay structures. Short and long run trends in productivity. Productivity-Wage relationships in postwar period.

3. Issues in labour economics from the perspective of developing economies: Theories of wage formation, migration, Lewisian transformation, discrimination and segmented labour markets. Analysis of agrarian labour markets.

4. Conceptual and measurement problems of labour force and workforce: Data sources on labour and workforce and their limitations; sectoral, gendered and locational distribution of workforce; unemployment, underemployment and disguised unemployment; recent trends and patterns.

5. Discrimination in labour market with focus on gender, caste and skills. Regional pattern of employment structure.

6. Contemporary issues and emerging perspectives through recent employment reports and plan documents.

Readings:

Hajela, P.D. (1998), *Labour Restructuring in India: A Critique of the New Economic Policies*, Commonwealth Publisher, New Delhi. ·

Lester, R.A. (1964), *Economics of Labour*, 2nd Edition,Macmillan, New York.

McConnell, Brue & MacPherson (2009), *Contemporary Labor Economics*, 8th edition, McGraw-Hill,.

Papola, T.S., P.P. Ghosh and A.N. Sharma (Eds.) (1993) *Labour, employment and industrial Relations in India*, B.R. Publishing Corporation, New Delhi. ·

Various issues of Employment and Political Weekly (EPW) and Indian journal of labour economics(IJLE)

VenkataRatnam, C.S. (2001), *Globalization and Labour-Management Relations: Dynamics of Change*, Sage Publications/Response Books, New Delhi. .

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