

CIFE/FEESD

Fisheries Extension

PhD Syllabi 2014

Board of Studies in Fisheries Extension
Fisheries Economics, Extension and Statistics
Division Central Institute of Fisheries Education
(ICAR) Versova, Mumbai

PH.D - FISHERIES EXTENSION

Course Structure

Course No.	Course Title	Credit Hours	Minimum Credit Requirements
A	A1 MAJOR - CORE COURSES		9 Credits
1	FEX 601 Advances in Fisheries Extension Management	2+1	
2	FEX 602 Monitoring and Evaluation of Development Programs	2+1	
3	FEX 603 Advances in Information and Communication Technology	2+1	
	A2 MAJOR - OPTIONAL COURSES		6 Credits
4	FEX 604 Participatory Approaches in Fisheries extension	1+2	
5	FEX 605 Indigenous Knowledge Systems in Fisheries	2+1	
6	FEX 606 Policy and Regulatory Environment in Fisheries Sector	2+1	
7	FEX 607 Advanced Course on Intellectual Property Rights	1+1	
B	MINOR COURSES (Courses outside major discipline / from other relevant disciplines)		8 Credits
C	SUPPORTING COURSES		5 Credits
Total Course Work Credits			28 Credits
D	DOCTORAL SEMINAR		2 Credits
1	FEX 691 Credit Seminar I	0+1	
2	FEX 692 Credit Seminar II	0+1	
E	DOCTORAL RESEARCH		45 Credits
	FEX 699 Doctoral Research (Semester III)	0+11	
	FEX 699 Doctoral Research (Semester IV)	0+11	
	FEX 699 Doctoral Research (Semester V)	0+11	
	FEX 699 Doctoral Research (Semester VI)	0+12	
Total Minimum PhD Program Credit Hours			75 Credits

PhD - FISHERIES EXTENSION

Course Contents

FEX 601	ADVANCES IN FISHERIES EXTENSION MANAGEMENT	2+1
Objective	The participants will be able to describe emerging concepts in fisheries extension in Indian and global context	
Theory	Innovations in fisheries extension; alternative methods of financing fisheries and aquaculture extension; privatization of fisheries and aquaculture extension - scope, limitations and experiences and cases; Implications of globalization and WTO agreements for extension services; future of public funded extension.	
Unit I		
Unit II	Extension and contemporary issues related to rural poverty, sustainable development, food and nutritional security; Understanding fisheries extension systems in South Asian countries and South East Asian countries; Fishing communities in these countries.	
Unit IV	Analysing mission, approaches and achievements of fisheries development organizations: Regional fisheries bodies, World Fish Centre, NACA, ICSF, Asian Fisheries Society (AFS), Fisheries Division of FAO, Asia-Pacific Fisheries Commission (APFIC), Indian Ocean Tuna Commission (IOTC), Other regional and world fisheries development organisations.	
Practical	Critical study of extension / development programs namely ATMA, MGNREGA, NRLM, NULM, and other emerging programmes of GOI; Review of research studies in fisheries and aquaculture extension in ICAR/SAUs, traditional universities, in NGOs; fisheries extension research in other countries.	
Suggested Readings	<ol style="list-style-type: none">1. Rivera, W.M., <i>Agricultural Extension: Worldwide Institutional Evolution and Forces for Change</i>, Elsevier Science Ltd.2. Malhotra, S.P. and Sinha, V.R.P. 2007. <i>Indian Fisheries and Aquaculture in a Globalizing Economy Part II</i>, Narendra Publishing House (RS)3. Kumar, S., Report of the Working Group on Agricultural Extension for Agriculture and Allied Sectors for the Twelfth Five Year Plan (2012-17), Government of India, Planning Commission	

- Objective:**
1. To learn about the concept and types of impact studies
 2. To apply important impact assessment methods

Theory

Unit I
Monitoring and Evaluation: concept, difference, purpose, designing; effectiveness and efficiency; Development: concept, HDR, HDI, GDI, GEM; MDG; Ways of evaluation: self, participatory, external, interactive; Evaluation types: formative, summative, confirmative, meta, goal based, process based, outcomes based; Frameworks: concept, purpose, characteristics, theoretical, conceptual, strategic/results, Logical Framework Analysis/Matrix: concept, key features, assumptions and preconditions, OVI, SMART.

Unit II
Sustainable Development: criteria, types, linkages; Indicators: qualitative, quantitative, Sustainable Fisheries Development: indicators, criterion, need, nature, types, yield-related and capacity-related indicators, economic, technological, social, institutional, ecosystem related indicators, critical habitats; policy relevance

Unit III
Project evaluation: methods, criteria, undiscounted and discounted measures; Impact Assessment: outcome, output, impact phases, types; habitat mapping; public participation and consultation: concept, importance, focus, tools, principle, purpose, hierarchical typology, ethics, core values; Public participation models: crisis management, conventional participation, participation in project-cycle, concurrent participation, dedicated participation framework; social auditing: concept, elements, steps, potential problems, benefits

Practical
Development of M&E plan and procedures for fisheries using participatory approach. Preparing M&E plan for fisheries development programs. Developing indicators and information system for sustainable fisheries development; analysis of different reports, conducting impact assessment exercises.

Suggested Readings

1. Resources on Impact Assessment, <http://www.gdrc.org/uem/eia/define.html>
2. Louisa and Mike Edwards, Toolkits: A Practical Guide to Assessment, Monitoring, Review and Evaluation
3. Evaluating Development Operations: Methods for Judging Outcomes and Impacts. Operations Evaluation Department, The World Bank. Lessons & Practice Number 10, July 1997.
4. John Pearch, Peter Raynard, Simon Zadek,.Social Auditing for Small Organizations: The Workbook. New Economics: London. (1995)
5. Capturing Experience: Evaluation, Evaluation and Impact Assessment Methods, <http://web.mit.edu/urbanupgrading/upgrading/resources/bibliography/Evaluation-Impact.html>
6. EqualityImpact Assessment, <http://www.scotland.gov.uk/Resource/>

Objective To acquire an in depth understanding extent of utility and relevance of ICT in fisheries development and the draw lessons from the case studies

Theory

Unit I Recent advances in information and communication technologies: digital audio and video technologies and media; computing, networking, web and mobile technologies; their implications for learning and extension.

Unit II ICT based applications and fisheries, agricultural and rural development in India and other countries: Use of expert systems, e-Extension initiatives, Web based and Mobile based advisory services, Community radio, VKC and CSC, INCOIS-PFZ advisories; National e-Governance Plan in Agriculture (NeGP-A).

Unit III Research in ICT based applications for fisheries, agricultural and rural development; ICT and poverty alleviation; ICT and pluralistic rural advisory services (GFRAS).

Practical Examples, case studies and exercises on ICT based interventions in fisheries and agriculture; Development and use of online and offline e-learning modules in fisheries; Designing and developing a theme based website / blog.

Suggested Readings

1. August E. Grant and Jennifer H. Meadows (Ed.), 2012. Communication Technology Update and Fundamentals, Focal Press, USA
2. L. Elder, H. Emdon, R. Fuchs & B. Petrazzini (eds), 2013. Connecting ICTs to Development, Anthem Press, London
3. J. Donner & T. Parikh (eds), 2013. ICTD2013: Proceedings of the Sixth International Conference on Information and Communication Technologies and Development held in Cape Town, South Africa
4. The Internet and Poverty: Opening the Black Box, http://dirsi.net/web/files/files/Opening_the_Black_Box.pdf
5. Batcheloret all, 2003. ICT for Development: Contributing to the Millennium Development Goals: Lessons Learned from Seventeen ICT Development Projects, World Bank
6. NISG, 2004. ICT for Development: Make ICT Work for People – Compilation of ICT Cases in India, NISG, Hyderabad
7. ICTs for Development (<http://ict4dblog.wordpress.com/>)

Objective: The participants at the end will be able to describe and conduct participatory approaches and tools in fisheries extension

Theory
 Unit I Participatory approaches for aquatic resources management and development: need, importance and guiding principles; Farmer First Approach; Trickle Down System of aquaculture extension - concept, method and processes; public-private-community partnership; innovative field practices and approaches in aquaculture extension.

Unit II Community based fisheries management and fisheries co-management - concept, origin, importance, types, method, processes, stakeholder rights, responsibilities and participation, institutional mechanisms, implementation constraints, experiences from India and other countries; conflict resolution and management.

Unit III Innovations in PRA, RRA, RAPFISH and PARFISH

Practical Conducting RRA/PRA/FGD to improve students' participation in teaching and learning; Case studies on participatory aquaculture extension approaches; case studies on fisheries co-management / community based fisheries management.

Suggested Readings

1. David Brown, Derek Staples and Simon Funge-Smith, Mainstreaming fisheries co-Management in the Asia-Pacific, Asia-Pacific Fishery Commission Rap Publication 2005/24, Food And Agriculture Organization of The United Nations Regional Office For Asia And The Pacific, Bangkok, 2005
2. Robert S. Pomeroy, 2006. Fisheries Co-Management: A Practical Hand book, CABI
3. Edwards P. Little D.C. and Demaine, H. 2002. Rural Aquaculture, CABI Publishing (RS)
4. Dilip Kumar, 1999. Trickle Down System (TDS) of Aquaculture Extension for Rural Development, RAP Publication (RS)
5. R.Chambers ;P.Arnold and Thrupp (1989) Farmers First : Farmer innovation and Agricultural Research. Intermediate Technology
6. Chambers R. (1983) Rural Development Putting the last first. Longman.
7. Participatory Approaches in Agricultural Extension, MANAGE's Post Graduate Diploma in Agricultural Extension Management Study Material [<http://www.manage.gov.in/pgdaem/studymaterial/aem104.pdf>]

- Objective:**
1. To learn about different indigenous knowledge systems and their importance in fisheries
 2. To appreciate the need for integrating traditional and modern practices

Theory

- Unit I Indigenous knowledge - historical perspective, terminologies, concepts, systems, importance, relevance and roles in fisheries sector; adoption and non-adoption of technical knowledge; Indigenous *vis-a-vis* Scientific knowledge;
- Unit II Types of indigenous knowledge; Information, Practices and technologies; Beliefs, Tools, Materials, Documentation, validation and Dissemination of ITK; Peoples' Biodiversity Register; Accessing the indigenous knowledge; Constraints of indigenous knowledge, Conserving ITK, Grassroot level innovations in fisheries
- Unit III Issues in protection of traditional knowledge / ITK - understanding Indian Biological Diversity Act and National Biodiversity Authority, - limits to benefit sharing – IPR, PIC, TRIPS vs. CBD; integration of Indigenous knowledge and modern technologies.

- Practical** Documentation of ITK in fisheries; Development of Case studies of ITK in fisheries; Institutions and NGOs involved in ITK collection and validation, Testing appropriateness of ITKs

- Suggested Readings**
1. Julian Inglis, 1993. Traditional Ecological Knowledge: Concepts and Cases, published by DRC, ISBN 0889366837.
 2. Berkes, Fikret 2001, Managing Small-Scale Fisheries: Alternative Directions and Methods, IDRC, ISBN 0889369437
 3. Anon., 1998, Aquatic Sciences and Fisheries Abstracts, By United Nations Dept. of Economic and Social Affairs, Information Retrieval Limited, Cambridge Communications Corporation, v.28 no.8001-10000 1998
 4. Robert S. Pomeroy Rebecca Rivera-Guieb Fishery Co-Management: A Practical Handbook, published by IDRC, ISBN 1552501841

Objective	To develop critical understanding of policy issues and options in fisheries sector
Theory	Historical development of fisheries sector in India; review of fisheries legislations and policies at Centre and States; plan allocation, programs and performance of fisheries sector; regional disparities and balanced development; political economy of fisheries development;
Unit I	
Unit II	Policy and regulatory environment in Marine Fisheries Sector, Inland Fisheries Sector, Brackishwater Aquaculture Sector, Freshwater Aquaculture Sector, Processing Sector, Fish Marketing and Trade, Human Resource Development, Service Delivery System, Fishers' Livelihood and Welfare; Coase theorem and institutionalization of stakeholder participation; Developing policy framework for fisheries and aquaculture development;
Unit III	International policy and regulatory scenario in fisheries sector; FAO's CCCRF; UN's Law of the Sea and other conventions; EU's Common Fisheries Policy; Fisheries policy and regulation of select countries in Asian and American region; WTO and Fisheries; Subsidies and taxation in fisheries sector.
Practical	Case studies on sub-sectoral review of fisheries policy and legislative framework in select Indian States; Case studies on shrimp culture policy and development in Thailand & East Coast of India; Case studies on leasing policy in Bihar, Rajasthan, Tamil Nadu, Orissa, Karnataka, Maharashtra and Himachal Pradesh; Case studies on monsoon fishing ban in West Coast; Case studies on conflict among fishers & States; Case studies on Cod and Squid fisheries of Europe & Argentina; case studies on implications of WTO agreements for Indian and world fisheries
Suggested Readings	<ol style="list-style-type: none"> 1. Ananthan, P.S., B. Nightingale Devi and Nisha Elizebeth Joshua (Compilation), 2010. Policy & Regulatory Environment for Fisheries & Aquaculture in India: A Compendium Vol I: Policies and Case Studies, Vol.II: Legislation, &Vol.III: Legislation-State MFRA's; CIFE, Mumbai 2. Ananthan, P.S., Dilip Kumar &R.S. Biradar, 2010, Policy Guidelines and Framework for Fisheries and Aquaculture Development in India-Second Draft for Discussion, CIFE 3. Dilip Kumar, Ananthan, P.S., <i>et al.</i> 2008,Proceedings of Five Zonal Workshops on Fisheries Policy in North Eastern States, East Coast States, West Coast States, Central Zone States &Northern states organised during 2006-2008 by CIFE 4. Salagrama, Venkatesh, Fish Out of Water: Story of Gloabalisation, Modernisation and Artisanal Fisheries of India. 5. Michael L Weber, 2001. From Abundance to Scarcity: A History of U.S. Marine Fisheries Policy, Island Press, New York

FEX 607

ADVANCED COURSE ON INTELLECTUAL PROPERTY RIGHTS

1+1

Objective

1. To make the students aware and appreciate the IPR regime
2. To make the students aware of patent procedures

Theory

Unit I

Interface between WTO, TRIPS and Intellectual Property Rights (IPR); IPR before and after WTO; Levels of IPR protection in India, USA and Europe; Features of Indian Patents Act and their Amendments; Patent Cooperation Treaty (PCT); Patents and Copyrights

Unit II

Patents in Indian Fisheries sector / sub-sectors from 1910 onwards; Patent search using Boolean operators; Introduction to patent search engines and databases; Patenting process and procedures in India and other countries;

Unit III

Critical Issues in IPRs, Patenting of life forms; GMOs in fisheries; ITKs and grassroot level innovations in fisheries sector, benefit sharing and bio-piracy, protection of new varieties of plants; IPR in ICAR: policy, management and implementation; Technology commercialisation models; AgrilInnovate India; National Innovation Foundation;

Practical

Case studies on patents in fisheries sector/sub-sectors; conducting prior art and patent search; online retrieval of patent information using patent search software; Exercises on patent drafting and procedures; technology commercialisation negotiation exercises; group discussions on patenting of life forms, testing appropriateness of ITKs and grassroots level innovations

Suggested Readings

1. Ganguli, P., Gearing Up for Patents: The Indian Scenario, Orient Longman
2. Sikder, S., Contemporary Issues in Globalisation- an Introduction to Theory and Policy in India, OUP
3. CMA / IIMA, Implications of WTO Agreements for Indian Agriculture, Oxford & IBH
6. www.wto.org; www.wipo.org; www.patentoffice.nic.in; www.greenpeace.org

Broad Research Areas

1. Comparative study on performance of public, private and market led extension systems
2. Performance and Impact of ATMA model of Service Delivery / Knowledge Dissemination
3. Communication effectiveness of different media
4. Impact of Community radio and ICT led extension systems
5. Case studies on Co-management and CBFM experiences in India
6. Training need assessment of State Department of Fisheries
7. Recruitment policy and career advancement in State Department of Fisheries
8. Role and importance of PRIs and NGOs in implementing fisheries development programs
9. Critical factors in successful development of community based organizations
10. Reach and impact of fisheries innovations
11. Stakeholder analysis of fisheries innovations
12. Developing effective interactive e-learning and multimedia products
13. Reach and impact of fisheries innovations
14. Socio-economic impact assessment of development Programs
15. HRM practices of various State Fisheries Departments, NGOs and private consultancies
16. Division of labour and gender equity among fishing communities
17. Content analysis of development oriented articles / features in print /electronic media for their reach, readability, and persuasion and conviction
18. Political economy of mass media and development journalism
19. Case studies on documentation and validation of ITK practices in fisheries sector
20. Impact of Tsunami 2005 on fishers livelihoods and fisheries
21. Pattern of rehabilitation work and its impact
22. Returns to investment in fisheries and aquaculture extension
23. Evolving participatory result oriented monitoring and evaluation system for fisheries development programs in developing countries.
24. Developing appropriate scaling technique for measuring the attitude of fishers towards conservation technologies
25. Professionalism in Service Delivery System
26. Performance of Public and NGO led extension systems
27. Developing and field testing of effective training tools for trainers
28. Conflict between small scale fishers and large scale fishers and in(adequacy) of the present resolution mechanism
29. Social change, mobility and integration in fishing communities
30. Case studies on success stories in use of ICT for fisheries development
31. Limiting factors in effective use of ICT for Development
32. Comparative study of effectiveness / performance of extension systems in India and Indonesia / Thailand
33. Levels of Workload among Fishers and their impact on Health

List of Journals

1. Agricultural Economic Research Review
2. Agricultural Extension Review
3. British Journal of Educational Technology
4. Disastermanagement& response
5. Down To Earth
6. Economic and Political Weekly
7. Ergonomics
8. Extension Review
9. Gender & Society
10. Gender, Work and Organization
11. Honey Bee
12. Indian Journal of Agricultural Extension
13. Indian Journal of Extension Education
14. Indian Journal of Mass Communication
15. Indian Journal of Public Administration
16. Indian Journal of Social Science Research
17. Indian Journal of Social Work
18. Indian Journal of Traditional Knowledge
19. Indian Journal of Tropical Biodiversity
20. Indian Research Journal of Extension Education
21. International Journal of Agricultural Extension
22. International Journal of Education and Development using ICT
23. International Journal of Project Management
24. International Journal of Social Research Methodology
25. International Journal of Training and Development
26. Journal of Communication
27. Journal of Computer Assisted Learning
28. Journal of Extension Education
29. Journal of Extension Systems
30. Journal of Rural Development
31. Journal of Social Work
32. MANAGE Extension Research Review
33. Politics and Gender
34. R&D Journal of Information & Communication Technologies
35. Rural Sociology
36. The Journal of disaster studies, policy and management
37. The Journal of Gender Studies
38. The Journal of Vocational Education and Training
39. Vikalpa