

APENDIX-B

SEMINAR/WORKSHOP PERTICIPATED

Sl. No.	Seminar /Conference/ Workshop	Organizer	Presented/ Participated	Research Paper
1.	Climate Change, Development, Social Transition and Social Policy in North-East India, 21-22, September, 2015.	International seminar, Dept. of Social Work AUS.	Presented	Should Sustainability of Fish Stock Be Prioritised Over Catch Efficiency? – A Study on Traditional Fishermen in Karimganj District of Assam.
2.	Development Strategies, Issues and Challenges in North-East India with Reference to the Southern Part of Assam, 14-15 February, 2015.	UGC, National Seminar	Presented	Technical Efficiency of Fish Catch and Its Socio-Economic Determinants- A Study on Traditional Fishermen of Karimganj District of Assam
3.	Socio-Economic Status of Marginalised Communities in Barak Valley with Special Reference to Schedule Caste Groups. 30-31, August, 2013	UGC, National Seminar, NIIT, Silchar	Presented	Quality of Life and Its Influence on Fish Catch- A Case Study of Traditional Fishing Household of Karimganj District.
4.	14 th Annual conference of North Eastern Economic Association (NEEA) 14-15, December, 2012.	UGC, NEC and ICSSR	Presented	Technical Efficiency of Fish Catch and Its Socio-Economic Determinants- A Study on Traditional Fishermen of Karimganj District
5.	National Workshop (Econometric Application on Cross Section and Time Series Analysis)	ICSSR and Dept. of Economics AUS	Participated	

APENDIX-C

PUBLICATIONS

Roy, Manish, & Mazumder, Ritwik (2016). Technical Efficiency of Fish Catch in Traditional Fishing: A Study in Southern Assam. *Journal of Regional Development and Planning*, 5(1), (in press)

Roy, Manish, & Mazumder, Ritwik (2015). Technical Efficiency of Fish Catch and Its Socio-Economic Determinants- A Study on Traditional Fishermen of Karimganj District of Assam. *Journal of Economics and Sustainable Development*, 6(9), 182-192. [ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)].

Roy, Manish, & Mazumder, Ritwik (2015). Should Sustainability of Fish Stock Be Prioritised Over Catch Efficiency – A Study on Traditional Fishermen in Karimganj District of Assam. *International Journal of African and Asian Studies*, 15, 20-33. [ISSN 2409-6938 An International Peer-reviewed Journal].

Roy, Manish & Mazumder, Ritwik (2013). Fish Catch Efficiency and Its Determinants: A Study on Traditional Fishing Population of Karimganj District. *A Journal of Natural Sciences and Allied Subjects*, 3, 85-92. [ISSN 2250-0650 (Print)].

Roy, Manish & Mazumder, Ritwik (2013). Determination of Technical Efficiency of Fisheries- A case on the Sone Beel of Karimganj District. *Sonari College Academic and Research Journal*, 2, 1-15. [ISSN 2321-015X (Print)]

Should Sustainability of Fish Stock Be Prioritised Over Catch Efficiency – A Study on Traditional Fishermen in Karimganj District of Assam

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Abstract

Sone Beel, the largest wet land of southern Assam is the home of traditional fishermen who are dependent solely on fishing for their livelihood. No fishing permits are required in the Sone Beel during the peak fishing season, and as such there is open access to fishing during this period. This paper estimates technical efficiency of fish catch and its non-input determinants using a stochastic production frontier with inefficiency effects. A sample of 165 fishing teams operating during the monsoon of 2013, were chosen for this purpose. The study suggests that experience in fishing has a positive influence on technical efficiency while education and income from sources other than fishing have depressing effects on the same. Uncontrolled fishing in the area during peak fishing seasons is the consequence of overdependence on fishing. There is no institutional mechanism in place to check the rampant use of dense nets that lead to massive loss of non-fish species in the water body. Thus immediate policy intervention may check loss of fish stock and aquatic species in the region, and can help in restoration of the ecological balance in the Sone Beel.

Keywords: Sone Beel, fish catch, technical efficiency, stochastic production frontier, inefficiency effects model, and non-input factors.

JEL classification: C 21, Q 22.

1. Introduction and Objectives

For a long time, fishing has been regarded as one of the most important means of livelihood of thousands of households living in the neighbourhood of the Sone Beel in Karimganj district located in the southern part of Assam. The Sone Beel is the largest wet land and catchment area of the region. The fisheries sector in Karimganj is almost entirely dominated by small scale, poor fishing households dwelling in the vicinity of the Sone Beel. The Sone Beel accounts for a considerable share of the total fresh water fish catch of the district (*Source:* Comprehensive District Agricultural Plan Report of 2011-12, District of Karimganj, Government of Assam). People in the region (that includes fishermen) already have a perception that there is over-crowding of catchers in the Sone Beel. In all probability, this is due to the complete absence of entry restrictions during the peak fishing season (the monsoon months) and the lack of alternative livelihoods. Moreover lack of modern catch methods, capital shortage and technical knowhow prevents the fishing households to go beyond the traditional methods. With rapidly rising catch, falling fish stock and growing fish demand, the sector faces the challenge of developing a sustainable small-scale fisheries sector, which can integrate socio-economic and environmental objectives in their planning decisions.

The major concerns as identified by the fishermen themselves include, (i) poor and inefficient fishing gears and vessels, (ii) lack of financial capital, (iii) poor fisheries management, (iv) limited access to major markets of the region (e.g. Silchar, Guwahati and Agartala) on account of poor communications, (v) poor handling facilities, and finally (vi) high post-harvest losses, and above all (vii) over-concentration of fishermen. Lack of alternative employment opportunities and rising number of fishing households have possibly been responsible for over-crowding of catchers, ultimately leading to over-exploitation of the resource and degradation of fish stock in the Sone Beel. Almost all fishing households around the Sone Beel continue to be trapped in poverty and this has been their status over generations.

Since, the principal occupation of people residing around the Sone Beel is fishing, standard of living of the fishing household is indisputably linked with, (i) the productivity and efficiency of fish catch with respect to catch-effort or labour time spent, (ii) the revenue earned and, (iii) the income from non-fishing occupation if any – say for example from agriculture and allied activities, or even from other petty businesses. However the efficiency of fish catch depends on several factors that are not used as direct inputs by fishermen. These include health status (physical fitness and physical capability) of the fishermen, experience, knowledge and awareness regarding fishing in the area, indebtedness, understanding within the fishing team members and income sources other than fishing, e.g. agricultural or petty business income. Unfortunately in a remote and backward pocket of southern Assam, collection of detailed information on all these factors from fishermen is practically challenging

TECHNICAL EFFICIENCY OF FISH CATCH IN TRADITIONAL FISHING: A STUDY IN SOUTHERN ASSAM

Manish Roy¹ and Ritwik Mazumder²

This paper has measured technical efficiency of fish catch among traditional fishermen settled in the vicinity of the Sone Beel in Karimganj district of Assam. The Sone Beel is the largest wet land and catchment area of Northeastern India. Two fishing methods are commonly observed in the Sone Beel – single boats accompanied by two or three catchers and paired boats with six to eight catchers. A stochastic production frontier with inefficiency effects is estimated on the basis of cross-sectional data on fishing inputs and value of catch of a sample of 149 single boat using fishing teams. Selected non-input socio-economic variables such as experience, education and non-fishing income of fishermen are hypothesized to explain team level technical efficiency. The mean technical efficiency is estimated around 68 percent. Experience in fishing is found to have a positive influence on technical efficiency while formal education and income from other sources are found to have depressing effects on the same.

INTRODUCTION

For a long time, fishing has been regarded as one of the most important means of livelihood of thousands of households living in the neighborhood of the Sone Beel in Karimganj district located in the southern part of Assam. The Sone Beel is the largest wet land and catchment area of the region. The fisheries sector in Karimganj is almost entirely dominated by small scale, poor fishing households dwelling in the vicinity of the Sone Beel. The Sone Beel accounts for a considerable share of the total fresh water fish catch of the district (Source: Comprehensive District Agricultural Plan Report of 2011-12, District of Karimganj, Government of Assam). People in the region (that includes fishermen) have a perception that there has been over-crowding of catchers in the Sone Beel in recent years. In all probability, this is due to the complete absence of entry restrictions during the peak fishing season (the monsoon months). Moreover lack of modern catch methods, capital shortage and technical knowhow prevents the fishing households to go beyond the traditional methods. With rapidly rising catch, falling fish stock and growing fish demand, the sector faces the challenge of developing a sustainable small-scale fisheries sector, which can integrate socio-economic and environmental objectives in their planning decisions.

The major concerns as identified by the fishermen themselves include, (i) poor and inefficient fishing gears and vessels, (ii) lack of financial capital, (iii) poor fisheries management, (iv) limited access to major markets of the region (e.g. Silchar, Guwahati and Agartala) on account of poor communications, (v) poor handling facilities, and finally (vi) high post-harvest losses, and above all (vii) over-concentration of fishermen. Lack of alternative employment opportunities and rising number of fishing households have possibly been responsible for over-crowding of catchers, ultimately leading to over-exploitation of the resource and degradation of fish stock in the Sone Beel. Seemingly, most households that are dependent on fishing and have settled in the neighbourhood of the Sone Beel continue to be trapped in poverty and this has been their status over generations.

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