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A Study of Fishermen's Livelihoods and Fish Processing Practices in Rajnandgaon: Traditional Approaches and Economic Outcomes

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ABSTRACT
There are 1.64 Lakh hectare average water area is available of fish culture in Chhattisgarh which require effective management for the welfare of poor fishermen. This study conducted a survey of socioeconomic condition of the fishermen's who fully or partly depend on fishing activities in two selected reservoir namely, Saroda and Chhirapani reservoirs in Kabirdham district, Chhattisgarh. The study evaluates the state of small-scale fishers, fishing operations, and cooperatives in terms of socio-economic indicators and success performance during 2016-17 fishing season in these reservoirs. During the survey, 83 fishers, all of whom cooperative members, were interviewed in six different fishing villages. It was found that most of the fishermen were at the age group 31-40 years (38.6%), larger family size (4-6). About 46.6% fishermen on both the sites were illiterate with no person above secondary level and 17% were educated above secondary level. Housing condition of fishermen is mostly Katcha (67%) semi-pucca (22%) and pucca (11%). The average annual household income of the land owner (LO) fishermen ranges from Rs 1796-566888 whereas average annual household income of the land less LL fishermen ranges from Rs 8407-36990 which is much below the poverty line. Agriculture is the main occupation and aqua ulture are the main secondary occupations for the LO farmers. LL fishermen are mainly fulltime fishermen with agriculture and aquaculture labor being the main secondary occupations. Fish culture can improve their socioeconomic condition.
Keywords: Economic status of fishermen, fish processing, Rajnandgaon, Sheonath River, traditional methodology.

Introduction
The fish processing is the process in which fishes are harvested and the final product is served to customers. Fish harvesting, processing, marketing and distribution are part of livelihood of millions of people worldwide1-3. Fish is an important source of many types of animal proteins4 but it is extremely susceptible to the environment. The fish-based products change the flavor and texture rapidly during storage after death. Hence, they need preservation or processing measure to avoid spillage5,6. Coming era may face the crisis of food due to insufficiency of

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soil and low yield of crops by polluted soil. Hence, we need to trap other food resources which are not used properly now a daytime. In this light, therefore processed fish is important alternate, which offer not simply good nutrition but also meet the need of the larger population. The recent economic survey reiterates that regardless of the impact of the global financial crisis on India, some of the challenges that India faces are of continuing nature. These inter alia include eradicating poverty, improving its physical and social infrastructure, education and creating productive employment opportunities (Economic survey 2009-10, Chapter 11). One way of achieving social justice is to optimize government spending specially the non-plan expenditure. Therefore, though the financial crisis is receding and the economic recovery is gaining momentum, the austerity measures initiated in the preceding financial years have been reiterated (Ministry of Finance, Office Memorandum (OM) F.No. 66(16) PF-II/2009 dated 24 July 2009 and No. 7(1)/ E.Coord/ 2009 dated 07 September 2009) and extended to autonomous bodies of Govt of India (Ministry of Finance, OM No. 7(1)/E.Coord/2009 dated 08 September2009). State governments were also forced to adopt the guidelines on austerity measures issued by central government, due reduction in tax collection by the states themselves and reduction in the allocation received from central government. The instructions contained in various Government of India MOs were reiterated in circulars of various state Governments e.g. Chhattisgarh (Financial Instruction No37/2006, 12/2007, 28.A/2007 etc.), Andhra Pradesh (Government Order (GO) Memo1320.2007, GO. Ms.168.2008 etc.).

There are 34 primary fisheries cooperatives in the district which require effective management for the welfare of poor fishermen. These management actions depend on livelihood status of the beneficiaries and policies need to implement should relate with the socioeconomic status and demands of the stakeholders. Saroda reservoir and Chhirapani reservoir are small reservoir situated under the village of Bodla block, of Kabirdham district, Chhattisgarh. The Chhirapani reservoir is constructed on the Fonk River and Saroda reservoir is constructed on the Uthaani River. They are open water body, connected nearby a local Fonk river and Uthaani river, respectively. Government of Chhattisgarh (2016-17) state that, the various welfare program envisaged by the State Fisheries Department, to improve the living condition of fishermen like National Schemes, for Welfare of fishermen, Group Accidental Insurance Scheme, Development of fishermen villages (DFV), Saving cum relief, housing, health care, providing fishing assistance and established Fishermen welfare board. In spite of reasonably good achievement in aquaculture development in the state, after adoption of the perspective plan by the government, to ensure fish for all in the state, there is still poor living standard of fishermen community in a state, which indicates that, there still exists a ga between traditional fishermen and modern fishing, which needs to be filled up with appropriate measures. They need to be educated and trained in terms of juvenile fisheries, importance of fishing ban etc. Regarding fishery cooperatives it was found that some cooperatives showed particular strengths and were partly successful but performed less than their potential due to many internal (lack of solidarity, lack of qualified business management), and external success factors (weak legislative support by government, lack of training). To conclude, they deserve more attention and encouragement to show better performance India is one of the largest countries in the world, comprising one-sixth of the world's population. Although India has made progress in reducing stunting among

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children between 2006 and 2016, the progress has been variable across the states and within states. The interstate differences in stunting reduction occurred in the context of common national policy framework for programmes including health and nutrition, food security and sanitation. Previous studies have found interstate differences in poverty reduction and nutritional outcomes across India to be correlated with political regimes. To our knowledge, there are only two subnational studies of drivers of change in childhood stunting in India: Maharashtra and Odisha. Both these studies showed that change was possible under enabling national programmes and policies targeting health, food security and poverty, along with effective implementation of health and nutrition interventions at the state level. Chhattisgarh, a state in eastern India, was carved out of the state of Madhya Pradesh in 2000 with a population of ~30 million. The decline in stunting in Chhattisgarh between 2006 and 2016 (from 52.9% to 37.6%) was higher than in any other state in India during that period, despite having higher levels of poverty compare with several states. We sought to understand how the state achieved such remarkable improvements in child stunting in this short period. We aimed to (1) examine the em pirical drivers of change in stunting in children in Chhattisgarh; and (2) identify programmatic, social and political factors that contributed to changes in the drivers.

Review of literature

(Mahish 2015)studied "Traditional Fish Processing and Economic Status of Fishermen of Central India with Special reference to Rajnandg.." found that and Traditional fishing and fish processing are very significant activity in Chhattisgarh. The fishing and fish processing in Chhattisgarh is related with the culture, employment and protection of food. This present study was done to find out the traditional methodology of fish processing in Rajnandgaon and also to recognize the economic status of fishermen involve in fish processing. Data was collected by a survey between July to December 2014 in five local markets and some colonies of fishermen. Personal interview and on sight observation were taken for the fish processing methodology, preservation technique and economic status of fishermen. A total of 15 species of processed fish was collected during the investigation period. Half burning and sun drying were found as a common traditional method for processing of fish.

(Mukesh P Bhendarkar et al., 2017)studied "A STUDY ON PROFILE OF SOCIO-ECONOMIC CONDITION OF FISHERMEN IN SELECTED VILLAGE IN KABIRDHAM DISTRICT" found that and the general aims of the study were to state economic viability of the fishing activity, through the estimation of some socio-economic indicators and economic performance. It was also aimed to determine success, problems and the obstacles of the fishing cooperatives, with regard to objectives of cooperatives, fishermen's satisfaction and several other criteria to attract attention of central fishery management authority like DoF, Govt. of CG. The State is playing an important role by generating self-employment through fisheries in rural areas which in turn provides nutritious food to rural folks. Fisheries business has generated an employment potential for about 2.09 Lakh person, most of them belong to weaker section of the society. There are 34 primary fisheries cooperatives in the district which require effective management for the welfare of poor fishermen.

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(Painkra, Jhariya, and Raj 2015)studied "Assessment of knowledge of medicinal plants and their use in tribal region of Jashpur district of Chhattisgarh, India" found that and The present study was conducted to assess the knowledge of medicinal plants and their use in tribal region of Jashpur district of Chhattisgarh. Under the socio-economic profile, farmers of middle age (36-55 yrs) people showed the maximum percentage (78%) distribution and frequency, 50 per cent of respondents belonged to primary to middle school level of education and 63 per cent of respondents were having medium size of family (5 to 8 members).

(Rao et al. 2018)studied "Public Satisfaction towards Solid Waste Management Services in Chhattisgarh: A Comparative study" found that and Waste generation and improper waste handling is a universal problem around the world. Unscientific waste disposal and unawareness of waste recycling is multiplying this social issue. A systematic approach is needed to practice an effective waste management system which consists of waste collection, transportation, disposal and treatment. The problem cannot be solved by the local authorities alone whose responsibility is to make the city clean. However, in this research study public satisfaction towards municipal authority's role on waste management is evaluated and major cities of Chhattisgarh i.e. Raipur and Bilaspur are selected for identifying the public satisfaction towards cleanliness of the city and finding the better city among them. A survey was conducted through structured questionnaire with the help of various parameter like waste collection frequency, waste handling containers, behavior and neatness of crew members, Public monitoring and various other were selected for measuring the effectiveness of services provided. Public have given their opinion on the basis of their daily waste handling management system and their observation and problems faced on the present system.

(Chanchani 2015)studied "SOCIAL INEQUALITY, REPRODUCTIVE HEALTH AND CHILD DEVELOPMENT: A CHHATTISGARH VILLAGE STUDY" found that and Poor nourishment especially during the stages of foetal growth and the first 3 years of life can have irreversible life-course and intergenerational consequences for human welfare and development (Black et al. 2008, 2013; Victora et al. 2008). At the population level, consequences include increased mortality risks and susceptibility to ill health (Black et al. 2008), alongside a long shadow cast on adult health and cognitive development (Victora et al. 2008; Grantham-McGregor et al. 2007). India's figures on Low Birth Weight (LBW), a widely used marker of foetal growth and an important predictor of long-term impairment stand out. With a prevalence of 28% in 2005-064, India has amongst the highest LBW incidence in the world, and this moreover is predominantly attributed to circumscribed in- utero growth in full-term infants, a condition which predicts a sequela more devastating, and less reversible than LBW ascribed to prematurity (Sachdev 2001).

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(Das 2020)studied "Role of Urban Local Bodies in Disaster Management in Chhattisgarh" found that and the purpose of the study is to determine the extent to which disaster preparedness is determine. A disaster can be as an occurrence either nature or manmade that cause human suffering and creates human needs that victim cannot alleviate without assistance. Every city is prone to a few hazards like flood, cyclone, water scarcity, epidemics, and earthquake, and fire, chemical and industrial hazards. All over the world rapid urbanization is taking place. According to World Bank by the year 2025, 80% of world population will be residing in urban areas. This is most critical and disastrous situation.

CONCLUSIONS

Considering the findings of the present work, it is clear that the livelihood status of the fishermen in Kabirdham district is not satisfactory. Fishermen are deprived of many amenities of life. Now a day's government give more emphasis on privatization of fisheries resource that leads decreases interest in fisheries. As a result, the number of fulltime fishermen gradually decreasing in Kabirdham district. Unlike other state, CG government also enabling the policy and policy reform of fishing rights to the reservoir by many societies cause conflicts among fishermen. It is expected that the study finding will help policy maker to take effective initiatives to implement developmental policies. Most of fishermen were less perceptive about modern capture fisheries techniques still they are fishing with traditional gear and craft. It was found that, landless fishermen mainly depend on fishing. They live below poverty line. They are mostly illiterate; their housing conditions are *katcha* and they used pit toilets. Further studies should focus, on factors affecting both economic performance and the success of the individual fishermen and fishery cooperatives. The government should empower the fishing communities, including both men and women, to participate in decision making process. The society should recognise the role of fishing community to restore, conserve, protect and co-manage reservoir. There is need of strengthening of Do components, viz. Fishermen welfare board, training centre and fisheries federation under fishermen line.

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