



## Bringing fish to the table: Can we devise climate friendly consumption?

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### Abstract

Environmental impact literature needs to include changing food consumption behaviour in the era of conscious consumption especially in the post COVID period. The observations on fish consumption from India offers interesting insights into how there has been change in consumers' tastes and preferences and further how it can be integrated to create a sustainable fisheries value chain. However, there is a need to develop strong statistical base on consumption studies with respect to food items such as fish given its importance as a source of affordable nutrition and the international trade aspects associated with it. We argue that the Pradhan Mantri Matsya Sampada Yojana (PMMSY) provides a potential framework to develop such a statistical base as well as inform policy making to move towards sustainable fisheries.

**Keywords:** Marine Fisheries Sector, Fish Consumption, Covid Pandemic and Indian Consumers, Pradhan Mantri Matsya Sampada Yojana (PMMSY)

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### Introduction

The idea of viewing the pandemic as a portal, as writer Arundhati Roy writes, assumes crucial significance to policy planners (Roy 2020). This is because we were facing not just an unprecedented situation, but the pandemic further specified a time where new policies, behaviours and phenomenon were occurring. This presents a unique challenge to any policy maker but especially so, for a country as diverse as India where the diversity of ethnicities brings in multiple identities and therefore behaviours. Consumption behaviour too then underwent subtle and significant changes during this period. In this manuscript, we look at the existing policy framework of the marine fisheries sector in India whereby the covid induced changes in the fisheries value chain can be absorbed to facilitate the consumption of fish among the India population. We term these "externalities in consumption" By this, we mean that while there are changes in consumption that occurred as a direct and expected result of the pandemic, (for example an increase or decrease in income leading to changes in consumption) there are specific effects that are generated in food systems through change in taste and preferences of the consumer. For example, the preference for locally known sources of supply over unknown sources has led in some instances to supply of inland fish increasing relative to marine these we term as externalities. Overall, this has resulted in reduction of food miles. However, these are observations based on the preliminary data drawn from the ICSSR (Indian Council of Social Science Research) funded study on 'Covid pandemic and marine fisheries sector in India: Impacts, externalities and stakeholders' reflection on adaptation and mitigation' for which over 800 fish consumers across India were surveyed.

In addition to being a fundamental human right, food practices form an important constituent of the cultural rights of the people. In the Indian context, the government has been cognizant of the same, and devised policies such as the National Food Security Act 2013, providing a "paradigm shift from a welfare based to rights-based approach" to food security in the country covering over two thirds of the Indian households (NFSA Act 2013)<sup>[4]</sup>. In recent years, the focus has shifted from provision of grain to concentrating on increasing the nutritional content of the food basket. Thus, one could say that there has been movement towards a more wholesome definition of food security.

Over the years the country has also built a strong statistical base conducting household consumption surveys undertaken by National Statistical Organisation and National Family Health survey to gauge the food consumption habits of Indian households. In addition, there are also state specific studies by Indian Council of Agricultural Research-Central Marine Fisheries Research Institute to understand the consumption habits of the Indian population-particularly fish consumption. However, there are still remain lacunae in terms of the specific food items being consumed by the average household- both at the global and national levels. Keeping in mind that the Global Hunger Index points to the worrying statistic of increase in the prevalence of the undernourishment from 7.6 per cent in 2017 to 9.8 per cent in 2021, there is a need to focus on consumption. In addition, Oxfam reports have warned that one needs to be wary of a potential “hunger pandemic” with the covid. One can also agree with the Oxfam observation that the covid pandemic constitutes along with climate crisis and conflict, the three lethal Cs accelerating world hunger (Oxfam 2020). Therefore to begin addressing the issue of hunger, we need to go back to the table- understand what is being eaten in an average household?

In this manuscript, we look specifically at the fish consumption basket. So, what does consumption basket of a fish consumer in India tell us? On an average the quantity of fish consumed is around 5-8 kg per capita with variations across states as well as within states with higher consumption levels in southern, eastern and north-eastern states and lower in western and northern states, the lowest being in the western states (Ravikanth & Kumar 2015, Shyam, S. S 2016, Shyam, S. S *et al* 2021a and A *et al* 2021b) <sup>[9, 12]</sup>. Further, studies based on National Statistical Organisation survey data point out that the fish consumption in India has depicted an increasing trend; showcasing, it increased from 6.97 kg/year/capita to 9.12 kg/capita in the rural areas and from 8.01 kg/year/capita to 11.05 kg/capita in the urban areas during the period 1983-2000. In addition to the nutrition provided by fish, studies have shown that assurance of the quality of the fish available, steady and affordable prices, the accessibility (location of markets near to households, easy transport to markets, etc.), the taste and preferences for certain kinds of fish species and the easy availability of the same, the tradition and cultural practices are all drivers that can that determines the consumption of fish. It is a paradox that over the years more than adding new consumers the increase in the fish consumption of existing consumers lead to augmenting fish consumption. The intricate production and distribution network exert considerable influence on the fish consumption. Here, the role of international trade is important as well because the fish supply chain does not remain bound within national geographical boundaries. International trade has been an important influencing factor with seafood. Further, seafood has a share of around 37% of production value entering international trade- the highest among food commodities including meat and milk and dairy products (Natale and Motova 2015). FAO estimates that 77% of world seafood production is exposed to trade competition showcasing how important it is to examine the global fish supply chain. While the seafood export sector remained resilient in the face of crises such as the global recession in 2007-8 as well as seems to be on the upswing in 2021 following a slump in 2020 due to covid pandemic, our survey of 60 exporters across the country informs us, that there are

reasons to consider that domestic market needs to feature more exclusively as far as fish is concerned. Among the reason mentioned above regarding the nutritional security of the country, there is also the phenomenon of “paradox of export” by which we mean that the sale of a higher quantity of fish at a lower export price compared to the prices prevailing in the domestic market (Shyam, S. S. 2016) <sup>[12]</sup>. In addition, there have been issues with export firms – particularly smaller size firms facing buyer rejections and sanctions and this call for more attention to the potential of the domestic market from a production and distribution point of view.

Even as we learn the drivers and impediments influencing fish consumption, including global factors, there is need to examine the composition of the fish basket. By this we mean the focus needs to be on the species consumed as well. While this varies from state to state but covid pandemic has shown that there has been shift in preferences driven by factors other than price. For example, from our survey of over 100 households in Kerala it was seen that consumers preferred locally known sources of inland species rather than marine species from relatively unknown sources. Therefore, reliability was accorded a higher rank provided that price remained within reasonable. Similarly, the shift was also towards local sources on account of environmentally conscious consumer (Shyam, S. S. 2020.) <sup>[13]</sup>. This needs to be seen in the growing global movement that is driven by conscious consumption as opposed to conspicuous consumption (Hüttel & Balderjahn 2022, Kim, Yang, Min & White 2021 and Severo, De Guimarães & Dellarmelin 2022) <sup>[2]</sup>. Therefore, there is greater scope for smaller retail outlets who source locally and whose products are of assured quality to find markets. Whether there can be economies of scale in this endeavour is a question that requires further deliberation. In another instance, we could also see that there are seldom substitute that satisfies the consumer in the absence of fish being available (Shyam, Monolisha, & Sunil 2020) <sup>[14]</sup>. With growing value-added production in fish products, there is an important segment that can be catered to whose strong preference for fish would lead them to consume products such as chutneys, pickles and powders. Our survey points towards the incidence of increasing reliance on value added products during covid in the state of Kerala. Given that there are state driven initiatives such as the Kudumbashree (in the south western Indian state of Kerala) operating in this area, there is much to be gained in terms of generating employment (specifically for women) in this aspect.

India’s demographic features where there is a sizable working age population as well as the fact India has over children under 5 facing stunting and malnutrition, it is important to examine the nutrient intake and studies assume particular importance (Das, Sanyal and Basu 2005) <sup>[11]</sup>. Being a country with over 7500 kms of coastline spread across 9 coastal states, and the multitude of fisheries resources and production jump, the role of fish in the diet of the Indian population is fundamental. This has therefore been reflected in the state policies as well. Further, the from the point of view of production, the role played by the fisheries sector international trade contributing to a source of earning foreign reserves has been well recognised. The fisheries sector constitutes the fastest growing segment among the primary sector contributing 5.23% to the Agriculture GVA of the country (Rajeev and Bhandarkar 2022) <sup>[8]</sup>.

The Indian government has specific policy such as the

Pradhan Mantri Matsya Sampada Yojana (PMMSY) which aims at “Economic Revolution through Blue Revolution” (PIB Release 2020) [6]. The significance of production and consumption related to fish further assumes central importance when we analyse the global movement towards rationalisation of fisheries subsidies – an issue that gained the attention of world leaders in the 12<sup>th</sup> WTO Ministerial Conference held at Buenos Aires in June 2022(PIB Release 2022) [7]. While India has been able to state its position clearly with the need for differential treatment for developing countries, there is a need to further re-iterate the uneven growth patterns in fisheries sector and the reasons for the same which includes colonialism, under development, and greater levels of inequality. Unequivocally, no country supports Illegal, Unregulated and Unreported fishing or the relentless exploitation of the fish stocks. Further, the regulation of subsidies is outlined in the Sustainable Development Goal 14.6 part of SDG 14 which brings the much-needed focus on ‘Life Below water’(United Nations Sustainable Development Goals). However, what needs more clarification has been issue of what constitutes as “harmful subsidy” and how there has been a general lack of debate on the topic. For example, the chief work on fisheries subsidies by Sumaila *et al* 2019 [15], capacity enhancing subsidies are considered largely harmful subsidies. While fuel subsidy can be unquestionably included as harmful subsidy, the inclusion of modernisation of crafts and gear can be contested given the fact that there are significant differences in development stages of the countries (Sumaila *et al* 2019) [15].

### Conclusion

To conclude, we argue that environmental impact of consumption and through consumption requires more specific studies to understand the evolving taste and preferences of the consumer not just in terms of specific species or food items but further, understand what is driving the climate conscious consumer. In doing so, we develop a strong effective demand that is climate friendly- moving a step ahead from Keynes. This would be an endeavour to build back better. We hope that the study that we have drawn preliminary observations from would provide the data and insights needed to understand the changing behaviour of the Indian fish consumer (in addition to other stakeholders). The pandemic provides the opportunity to refine the existing policy framework and rebuild structures with more climate consciousness. This could be a way we move forward from the portal.

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### Declaration of interest

▪ The authors declare that they have no known competing financial interests or personal relationships that could

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- The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

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