



Research Article

EX-ANTE IMPACT ASSESSMENT OF INDIA-JAPAN COMPREHENSIVE ECONOMIC PARTNERSHIP AGREEMENT (CEPA) ON FISHERY SECTOR

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Abstract- India and Japan signed a free trade agreement in 2011 called India-Japan Comprehensive Economic Partnership Agreement (IJECEPA). The signing of this agreement had resulted in different views when it comes to India's Agricultural exports to Japan. The present study focused on impact of India-Japan free trade agreement on fishery sector. The choice of this sector is directed by the fact that India is the second largest producer of fishery products in the world. This study has been performed using Finger-Kreinin (FK) index to know the degree of competitiveness and also an *ex-ante* partial equilibrium model *i.e.*, SMART model (Software for Market Analysis and Restrictive Trade) to find the resultant trade creation and trade diversion effects from the proposed tariff reduction agreement. This study is based on secondary data sources like WITS database of the World Bank and COMTRADE database of the United Nations. The results obtained from the study suggest that the IJECEPA will lead to considerable increase in exports of fishery products as per the SMART analysis and this increase in exports is mostly driven by trade diversion rather than trade creation replacing efficient exporters of Japan. On the other hand, tariff preferences offered from India's side creates very little scope for Japan to expand their shares in Indian market. The danger of cheap imports supplanting the domestic products in the Indian markets therefore, is not much. Overall, as per the results obtained from SMART model, IJECEPA will have a favourable effect on Indian fishery sector.

Keywords- Trade creation, Trade diversion, Tariff, Export, Import

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Introduction

In the recent years, most of the developed and developing countries started giving importance to expansion of regional trade agreements (RTAs). As of July 2015, 406 RTAs were in force, this figure did not include a significant number of agreements that had not yet been notified to the WTO, or many of them are in their negotiation process. With regard to trade in goods, developing countries like EU, has been engaged in highest number of RTAs, followed by its competitors like United States, Chile and Mexico which are members of 10 to 20 RTAs. Australia, Canada and few countries from Asia participate in five to ten RTAs. Whereas, most of the African and Latin American countries are involved in one to five RTAs. [1] There are several factors which have contributed in proliferation and deepening of RTAs or FTAs among developing economies such as Asian countries in recent years, predominant among these are the slow progress of the WTO Doha round negotiations over the years and the suspicion that substantial benefits can be achieved from the WTO for developing Asian countries, the neglect of Asia's 1997 crisis which lead to enormous social, political and economic damage by North America and the EU. Further the emergence of regional trade arrangements (RTAs) in the North like the North American Free Trade Agreement (NAFTA) and European Union (EU) which caused fear of discrimination and isolation among the developing nations and Asian countries and the more recent one is the powerful recovery and emergence of the ASEAN and East Asian economies from the 1997 crisis period which bestowed a boost to the power and buoyancy of these economies to create their own trading blocs to encourage and guard their regional

trade, co-operation, economic growth and welfare [7].

Among these agreements, some of them are free trade agreements in which tariff and non-tariff barriers are eliminated to enhance the trade between countries. These recent RTAs includes broad set of rules and disciplines beyond the traditional market access vision such as trade facilitation, regional rules on flows of investments, standards on technical and sanitary measures, government procurement, labour rights and free movement of labours, competition policy, environment protection policies, intellectual property regimes and other issues. The developed economies like USA and EU RTAs, for instance, focus more on WTO plus agenda, that is focusing more on disciplines which are already been adopted by the WTO but more often expanding their intensity and wideness and seeking enforceability [4].

This intensive regionalism or bilateralism may offer developing countries vast opportunities to upgrade and modernize their rules and disciplines with a view of greater efficiency. But these trends of regionalism may also create a severe challenge for policy makers of developing countries because of increasing burden of covering complex set of issues with limited resources for negotiation and implementation of agreements.

While manufacturing sector is more likely to get benefit from tariff reductions in FTAs, agriculture is the sector, which is most often excluded or treated differently [3]. The main issues in addressing agricultural trade in FTAs are whether regional integration encourages or deter the development of a sustainable, competitive agriculture sector and whether the consideration of agricultural trade in regional

integration contributes benefits to it or not. There are signs that FTAs may be more successful than multilateral agreements in liberalising agricultural trade but recent assessment has casted doubt on the long term benefits of FTAs on the base that they tend to lock exporting countries into a particular pattern of exports, often of raw materials and agricultural commodities, while rivals expand into other markets to develop and diversify their range of exportable products [1].

India-Japan Comprehensive Economic Partnership Agreement (IJCPEA)

Over the last two decades, India and Japan have preferred to diverge from their traditional preference for multilateral trade liberalisation but confining themselves within the World Trade Organisation (WTO) framework, towards free trade agreements with select countries, including Sri Lanka, Korea and Malaysia (by India), Mexico, Australia and Mongolia (by Japan), Singapore, Malaysia, Chile and the ASEAN, by both. Recent simulated studies show that India's GDP can go up by as much as 3.45 per cent if it enters into CEPAs with the ASEAN countries (Cambodia, Laos, Brunei, Malaysia, Indonesia, Myanmar, Singapore, Thailand, Philippines and Vietnam), and their Dialogue Partners (Japan, China, Australia, South Korea and New Zealand) [6].

In the year 2004, the then Prime Ministers of both the countries agreed to set up a Joint Study Group (JSG) to study and give its recommendations on strengthening economic relations between the two countries. In June 2006, the JSG submitted its report and concluded that there is a huge potential between both the countries to deepen and expand their existing bilateral economic relations. It has also recommended that India and Japan should launch negotiations to develop an Economic Partnership Agreement (EPA) or Comprehensive Economic Partnership Agreement (CEPA), within a reasonable period of time. The talks for Comprehensive Economic Partnership Agreement (CEPA) commenced in 2007 and were concluded after fourteen rounds in 2010. After intensive years of long negotiation process, two of Asia's largest economies, India and Japan signed a free trade agreement called as Comprehensive Economic Partnership Agreement (CEPA) on February, 16, 2011 and came into effect from August of same year. It is Japan's 12th free trade agreement and India's first of such agreement with a developed country. This agreement is most comprehensive of all such agreements concluded by India and it covers trade in goods and services, Immigration, Investments, Intellectual Property Rights, Government procurement, competition, cooperation and other trade related issues.

According to official notifications, the trade in goods agreement which focuses on tariff liberalization on mutually agreed tariff lines on both the sides and is targeted to eliminate about 94 per cent of the tariffs between India and Japan over a period of 10 years (*i.e.*, 2021). Based on trade value, India will abolish tariffs on items covering about 90 per cent of its imports from Japan in 10 years whereas Japan will eliminate tariffs on items covering about 97 percent of its imports from India in the same period. The agreement on trade in goods, proposes to gradually cut tariffs for over 4500 tariff lines (HS-6-digit level) by 2021 on both the sides.

In general, Japan's tariff liberalization has been less than that of its trading partners by the end of the implementation of the agreement, with agricultural products tending to be excluded from liberalization or restricted liberalization by maintaining import quotas. The major items of India's export include marine products, spices, fruits such as mangoes, lemons, spirits and most textile products, chemicals, *etc.*

Tariff Reduction Schedules and Category

According to the trade in goods agreement, the tariff lines (HS 8-digit) subject to tariff reduction or elimination are categorized into six broad categories. These are:

- Category A:** The applied MFN duties on originating goods classified under this category has been totally eliminated as from the date of entry into force of the IJCPEA *i.e.* 1 August 2011. A total of 2074 tariff lines under HS 8-digit level are listed in this category from India, of which only 75 tariff lines (3.6 %) are from agriculture and rest of them are from NAMA. From the Japan's side, a huge number of 5900 tariff lines (HS 8-digit) are listed under this category (of which 642 (10 %) are from agriculture and 24 (0.41%) are from fishery [Table-1].
- Category B5:** The Custom duties on originating goods classified under this category shall be eliminated in six equal annual instalments (*i.e.* by 2016) from the base rate to free after the agreement came into force. A meagre 509 tariff lines (all are NAMA lines) under HS 8-digit level are listed in this category from India and there are no tariff lines under this category from Japan's side [Table-1].
- Category B7:** The Custom duties on originating goods classified under this category shall be eliminated in eight equal annual instalments (*i.e.* by 2018) from the base rate to free after the agreement came into force. A total of 1229 tariff lines under HS 8-digit level are listed in this category from Japan of which 10 tariff lines are from agriculture and 8 from fishery. From the India's side, only 2 tariff lines of NAMA (HS 8-digit) are listed under this category [Table-1].
- Category B10:** The Custom duties on originating goods classified under this category shall be eliminated in eleven equal annual instalments (*i.e.* by 2021) from the base rate to free after the agreement came into force. An enormous number of 7164 tariff lines (63 % of total tariff lines) at HS 8-digit level are listed under this category from India of which 848 tariff lines (12 %) are from agriculture and 100 (1.4 %) are from fishery. From the Japan's side, mere 395 tariff lines (HS 8-digit) are listed in this category, of which 239 (61 %) are from agriculture and 58 (15 %) are from fishery [Table-1].
- Category B15:** The Custom duties on originating goods classified under this category shall be eliminated in sixteen equal annual instalments (*i.e.* by 2026) from the base rate to free after the agreement came into force. A meagre 29 tariff lines (all are agriculture except one) under HS 8-digit level are listed in this category from Japan and India has not kept any tariff line under this category [Table-1].
- Category X:** For products under this category, there are no reduction commitments or kept out of the elimination of custom duties. Considering sensitiveness at domestic level, India has kept 1538 tariff lines (13 % of total tariff line) out of the tariff elimination commitments at HS 8-digit level, among these 497 tariff lines are from agriculture and 69 from fishery. Japan has also excluded 1489 tariff lines (16 % of total tariff lines) from the tariff elimination commitments at HS 8-digit level (935 and 208 tariff lines from agriculture and fishery, respectively) [Table-1].

Table-1 India and Japan tariff reduction Commitments

Category	Total		Agriculture		Fishery		NAMA	
	India's offer	Japan's Offer	India's offer	Japan's offer	India's offer	Japan's offer	India's offer	Japan's offer
A	2074	5900	75	642	0	24	1999	5234
B5	509	0	0	0	0	0	509	0
B7	02	1229	0	10	0	8	02	1211
B10	7164	395	848	239	100	58	6216	98
B15	0	29	0	29	0	0	0	0
X	1538	1489	497	935	69	208	972	346
Total	11287	9042	1420	1855	169	298	9698	6889

Source: Authors calculation based on data from Ministry of Commerce website

If we look at the percentage share of different categories in total tariff lines, the scenario will be comprehensible. The main motive behind having a free trade agreement with a country is to liberalise the bilateral trade, but if we see the category A, where the duties are eliminated immediately once the agreement come into effect, Japan has placed about 65 per cent of its total tariff lines in 'A' category but when it comes to India, it has not immediately liberalised its tariff lines to the extent of Japan's offer, only 18 per cent of total tariff lines were categorised as A category. However, India has kept most of its tariff lines (63 % of total tariff lines) in category B10, where the duties will be eliminated gradually over

a period of 11 years. When it comes to exclusion list (category X) both the countries have placed nearly equal amount of tariff lines, *i.e.*, 13.6 and 16.5 per cent of total tariff lines by India and Japan, respectively [Table-2].

Perhaps, the scenario at sectoral level is different, Japan has kept largely of its NAMA tariff lines (76 % of total NAMA lines) under 'A' category, where most of the textiles sector product lines got free access to Japan market immediately after agreement came into effect, so Indian textile industry will get benefitted hugely from this agreement.

Table-2 Percentage Share of different sectors in total tariff line

Category	Total		Agriculture		Fishery		NAMA	
	India's offer	Japan's Offer	India's offer	Japan's offer	India's offer	Japan's offer	India's offer	Japan's offer
A	18.4	65.3	5.3	34.6	0.0	8.1	20.6	76.0
B5	4.5	0.0	0.0	0.0	0.0	0.0	5.2	0.0
B7	0.0	13.6	0.0	0.5	0.0	2.7	0.0	17.6
B10	63.5	4.4	59.7	12.9	59.2	19.5	64.1	1.4
B15	0.0	0.3	0.0	1.6	0.0	0.0	0.0	0.0
X	13.6	16.5	35.0	50.4	40.8	69.8	10.0	5.0
Total	11287 (100)	9042 (100)	1420 (100)	1855 (100)	169 (100)	298 (100)	9698 (100)	6889 (100)

Source: Authors calculation based on data from Ministry of Commerce website

Whereas India kept 35 per cent and 40 per cent of its total agricultural and fishery products respectively, out of tariff liberalization schedule (*i.e.*, in category X) Japan as opposite to NAMA products kept its 50 per cent and 70 per cent of its total agricultural and fishery product lines in exclusion list but about 35 per cent of agricultural product lines given immediate zero duty status which will help India's agricultural traders and a meagre of 8 per cent of total fishery products were liberalized [Table-2].

Data Source and Methodology

The present study utilises the 6-digit (Nomenclature HS 2007) trade and tariff data collected from the WITS database for a period of 2009 to 2014, *i.e.*, 3 years before FTA and 3 years after FTA in effect. The other data sources have been used for this study are Ministry of Commerce, United Nations Development Programme (UNDP), International Monetary Fund (IMF) and World Bank. This study will be performed using indices like Finger-Kreinin (FK) index to know the degree of competitiveness. After identifying the competitiveness, we use *ex-ante* partial equilibrium model – SMART model (Software for Market Analysis and Restrictive Trade) to find the resultant trade creation and trade diversion effects from the proposed tariff reduction agreement.

Finger- Kreinin (FK) Index:

This Index has been used here to measure the similarity between India and Japan's trade with respect to the rest of the countries or to gauge the overlap between export distributions by commodity group of any two countries to a final destination. If the countries in agreement have similar trade and production structures, bilateral trade liberalization will result in trade creation and if it is not similar then the bilateral trade liberalization will lead to trade diversion [2]. FK index is calculated by this formula:

$$FKI_{ij}^k = \sum_i \min \left[\left(x_{i1j}^k / X_{i1j} \right) \left(x_{i2j}^k / X_{i2j} \right) \right] \dots \quad [Eq-1]$$

In the above formula, i_1 and i_2 represents country 1 and 2 respectively. j refers to the destination, X refers to the trade flow and x^k refers to the trade flow in commodity k . So $\frac{x_{i1j}^k}{X_{i1j}}$ is the share of commodity k in country 1's total exports to the destination country ' j '. $\frac{x_{i2j}^k}{X_{i2j}}$ is the share of commodity k in country 2's total exports to the destination country ' j '. The results for FKI usually range from 0 to 1, where 1 indicates that the share of exports out of total exports going to destinations is perfectly similar across two countries whereas if it is 0, this implies

both nations have structurally different export portfolios.

[Fig-1] shows the Finger-Kreinin Index of India and Japan's exports of fishery product to the world from 2009 to 2014. From the above figure, it is clear that before signing of free trade agreement *i.e.*, before 2011, exports to world from both the countries were similar but over the period of time both the countries have specialised in the products that were exported.

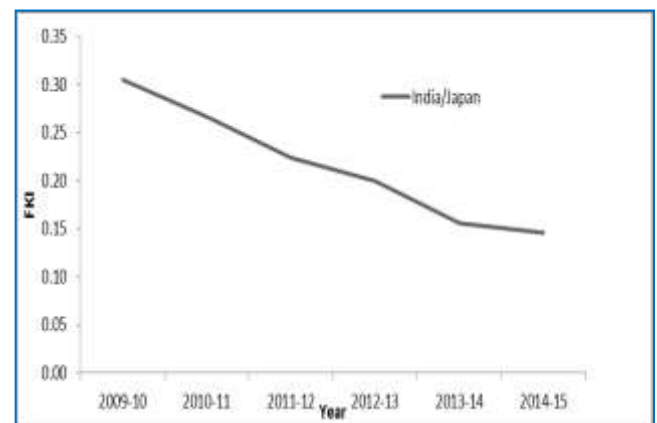


Fig-1 Finger-Kreinin Index of fishery sector

Source: WITS

The SMART Model

This study employs the partial equilibrium SMART¹ model to simulate the tariff effect of a single market on disaggregated product lines. According to the theory proposed by Viner [8] on custom unions, the increase in trade caused by free trade agreement would be welfare improving or not will depends on the source of the increased trade *i.e.*, degree of trade creation in comparison to trade diversion. Trade creation occurs when displacement of less efficient domestic production by more efficient partner country products due to the tariff reduction commitment made on imports of partner country products. While trade diversion occurs when the reduction or removal of tariffs leads to displacement of more efficient non partner imports in favour of less efficient partner country sourced imports. SMART model allows us to estimate the trade creation and trade diversion effects linked with tariff reduction.

This model was developed by UNCTAD and World Bank in the eighties, mainly to

¹The underlying theory and other details of the WITS/SMART model can be seen in Laird and Yeats (1986).

assess the impact of General Agreement on Trade and Tariffs (GATTs) rounds. Its theoretical background is borrowed from Laird and Yeats [5]. SMART model can be accessed through World Bank's World Integrated Trade Solution (WITS). It is a common format, which brings together different trade information databases such as COMTRADE, TRAINS and WTO-IDB in order to provide simulated analytical tools to simulate tariff reductions. SMART model is one of the simulation analytical tools in the WITS. The SMART contains incorporated analytical modules that carry trade policy analysis, such as the effects of tariff cuts, preferential trade liberalization and ad hoc tariff changes. Here it considers only single import market and its export partner or partners and analyses the impact of a tariff reduction or elimination scenarios by estimating new values for a set of variables. This model not only decomposes total trade effect into trade creation and trade diversion effect but also analyses revenue and welfare effects.

Every analytical model has some assumptions, the underlying assumptions in this model are: *import demand elasticity* is based on Armington assumption, which implies that similar goods from different countries are imperfect substitutes. The values of this elasticity are provided by SMART module (*i.e.*, system defined) is used. *Import substitution elasticity* is assumed at 1.5 for each good. *Export supply elasticity* is assumed as infinite, which implies that an increase in demand for a particular good will always be matched by the producers and exporters of the good, without any influence on the price of the good. In other words, countries act as a price taker rather than a price maker. The simulation modelling has been carried out with India as an exporter as well as importer of fishery products from Japan. Drawing from the tariff reduction schedule of both the countries as per the IJCEPA agreement, the impact of tariff change in 2016 and 2021 compared to base year tariff in 2013 were simulated for the relevant product lines of fishery products at HS 6-digit level.

The simulation was carried out on B7 and B10 category under *scenario I*. B7 category consists of only one product and in B10 category, 25 fishery products were kept but there was trade in only 3 products at HS 6-digit level. Therefore, simulations were carried out for only these products. Under *Scenario II* *i.e.* India as importer of fishery products from Japan, most of the fishery products were kept under B10 category *i.e.* 75 products at HS 6-digit level out of which only three products are traded in this category. Therefore, the simulation was carried on

these products only and there were no products kept under B7 category by India in its tariff reduction offer to Japan [Table-1].

Results

India exports to as well as imports fishery products from Japan, with a positive net trade balance. Hence, the tariff reduction commitments under IJCEPA would affect the Indian exports and imports of fishery products. Therefore, to quantify the effect of the tariff reduction under the agreement, simulations were carried out in two different scenarios as mentioned earlier.

Scenario 1: India as exporter of fishery products to Japan

The simulations result for fishery products showing gains to India in 2016 (middle of the phased tariff reduction) and 2021 (terminal year for phased tariff reduction as per IJCEPA) as compared to the base year 2013 are presented in [Table-3 & 4].

The total value of Indian fishery exports in the base year from both the categories (*i.e.*, B7 and B10) was about US\$ 1267 million of which 60 per cent is from B10 category. If Japan reduces or dismantles the tariffs it imposes on the imports from India, trade worth US\$ 2.7 million and US\$ 3.9 million would be increased in favour of the India in 2016 and 2021, respectively. In both the tariff reduction periods (*i.e.*, 2016 and 2021), trade diversion dominates the trade creation in total as well as each category [Table-3].

Trade diversion signifies the level of trade that is replaced by Indian producers which was earlier exported by rest of world to Japan due to tariff preference given to Indian fishery exports. As a result, many countries lost their market in Japan. So, overall, the Indian fishery exporters will get benefitted from this agreement.

At the disaggregated level (HS 6-digit), the gains are particularly noteworthy in B7 category product like 30499 (*Frozen fish meat whether or not minced*) as its share in total increase in export value is about 87 % and 80% in 2016 and 2021, respectively [Table-4]. Almost 85 % of the total trade diversion towards Japan would be attributable to 5 countries; they are Thailand, Norway, China, Vietnam and Chile, implying that these countries will lose their market share of fishery products in Japan while India will be the gainer.

Table-3 Impact of IJCEPA on Indian Fishery Exports to Japan

Category	Base year Exports (in '000 US\$)		Total change in Exports (in '000 US\$)		Trade Creation Effect (%)		Trade Diversion Effect (%)	
	2016	2021	2016	2021	2016	2021	2016	2021
B7	505474	505474	2361 (0.46)	3332 (0.66)	0.11	0.16	0.36	0.50
B10	761442	761442	358 (0.04)	611 (0.08)	0.02	0.03	0.03	0.05
Total	1266915	1266915	2720 (0.22)	3943 (0.31)	0.06	0.08	0.16	0.23

Note: Figure in parenthesis indicate percentage change in imports to base year's imports

Table-4 Product wise Increase in Fishery Exports from India

Product Code	Trade Total Effect (in '000 US\$)		Trade Creation (in '000 US\$)		Trade Diversion (in '000 US\$)	
	2016	2021	2016	2021	2016	2021
30499 (B7)	2362	3332	564	795	1798	2537
30332 (B10)	03	07	03	07	0	0
30759 (B10)	71	136	27	53	43	84
30799 (B10)	285	457	119	191	166	266
Total	2720	3943	713	1396	2008	2887

Scenario II India as importer of Fishery products from Japan

Under IJCEPA agreement, like Japan, India has also committed to reduce tariff on fishery products under B10 category on 100 product lines at HS-8digit level. The reduction of tariff by a country have two effects on its economy, one it may lead to loss in tariff revenue and another it can increase consumer surplus due to access to cheaper imports from Japan. Due to this tariff reduction commitment, there

would be an increase in India's fishery import value from Japan by US\$ 0.09 million and US\$ 0.17 million by 2016 and 2021, respectively. In both the tariff reduction periods (*i.e.*, 2016 and 2021), the simulation results reveal that trade creation outweighs the trade diversion in total as well as in each product [Table-5]. This additional trade would benefit to the Indian consumers in the sense that more efficient Japan producers and exporters will supplant the inefficient producers in India. The increase in import value would come about in three major products, Fresh or chilled tunas (HS 030239), Fish salted and in brine (HS- 030569) and Lobsters, in shell or not (HS- 030612). It is particular interest to see the increase in imports of Fresh or chilled tunas (HS 030239), where it would even surpass the level in base year [Table-5].

The level of welfare gain depends mainly on the level of trade creation. Weighed against the revenue loss, the trade creation effect and positive welfare effect changes in the terminal year of tariff reduction present IJCEPA as potentially beneficial arrangement for India [Table-6]. However, these are static results and welfare results do not represent the producer surplus loss that will occur due to replacement of domestic producers of India by the Japanese producers.

Table-5 India as Importer of Fishery Products from Japan

Product Code	Base year Imports (in '000 US\$)		Total change in Imports (in '000 US\$)		Trade Creation Effect (%)		Trade Diversion Effect (%)	
	2016	2021	2016	2021	2016	2021	2016	2021
30239	13	13	87 (669)	159 (1223)	669	1223	0.00	0.00
30569	12	12.02	1.58 (13.21)	2.91 (24.21)	12.65	23.20	0.57	1.01
30612	216	216	4.50 (2.08)	4.10 (4.09)	01.19	02.18	0.89	1.91
Total (B10)	241	241	92.70 (38.50)	171 (70.85)	37.67	69.08	0.83	1.77

Note: Figure in parenthesis indicate percentage change in imports to base year's imports.

Table-6 Revenue & Welfare effects of IJCEPA on Indian Fishery Imports from Japan

Product Code	Revenue shortfall		Total welfare in 1000 US\$	
	2016	2021	2016	2021
30239	9.74	-3.80	18.90	23.83
30569	-1.71	-3.53	0.34	0.43
30612	-1.45	-3.96	0.76	1.36
B10 total	-6.58	-11.29	26.73	25.61

Conclusion

To sum up, the India-Japan Free Trade Agreement (IJCEPA) is said to be an important step taken by both the countries to enhance their economic complementarities between them. The results obtained from the study suggest that the IJCEPA will lead to considerable increase in exports of fishery products as per the SMART analysis; however, these would have to be analysed from the point of view of the sanitary and phyto-sanitary (SPS) measures also to come to any conclusive. But in SMART model quality parameters are not taken into consideration and therefore these results are based on new tariff allocations only. The increase in exports is mostly driven by trade diversion rather than trade creation replacing efficient exporters of Japan like Thailand, Norway, China, Vietnam and Chile. In future, the inefficient fishery producers will become efficient due to achievement in economies of scale.

On the other hand, tariff preferences offered from India's side creates very little scope for Japan to expand their shares in Indian market. The danger of cheap imports supplanting the domestic products in the Indian markets is not much. However, clear directives and necessary assistance should be provided to the domestic fishery producers to counter the competition. Future research should concentrate on non-tariff measures also and traceability should be brought under whole process.

Research Category: Agricultural Economics

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