

FISH-PRODUCTS CONSUMPTION ECONOMICS IN NORTH-WEST OF IRAN

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ABSTRACT

In natural resource economics, we sometimes observe a situation in which producers and consumers have direct access to the factors of production or can use some consumable products with little or no transformation. These goods are commonly referred to as “gifts of nature”. A factor of production is considered a gift of nature when little effort is required to make it usable; thus one would expect the appearance of under-pricing, over-utilization and/or over-consumption. Fish products, the results of fish culture, to some extent have such characteristics in Iran, where it is the output of a joint production process. In this country, fish is being produced using our excess capacity in water resources, with some more organic residuals where these are used in the other joint enterprises of farming or horticulture. Moreover, fish products have many recognized biological and physiological advantages; thus scientists view them as good sources of protein for human consumption. Iran is in relative deficit of this type of nutritious, high-protein product. But unfortunately, some available estimates suggest that the Iranian consumer’s inclination toward the consumption of fish products is not very promising. To develop a workable policy design to help policy makers to persuade Iranian consumers to purchase fish, a field research project was planned and executed in Northwest Iran. Almost 500 fish consumers were interviewed; the data gathered on the economic aspects of fish-consumption model in this region are analyzed in this paper. It is revealed that the rate of consumption here is lower than both the average national level and the average global level. This norm of consumption is correlated to some socio-cultural-behavioral-economic factors. Policy-makers could make use of this model to persuade consumers to make better use of this “gift of nature” within the target group.

Keywords: Fish, Consumption, Economics, Iran

INTRODUCTION

The main purpose and importance of this work lies within the holistic view of present Iranian socio-economic and perhaps political; circumstances. Currently, from social aspects self reliance is viewed as national pleasure. In economic views the country needs for further generation of income, employment, and foreign reserves. Politically the basic watchword is national independence, even if with its economic mis-interpretation. In economics, where the natural resources or natural endowments are studied; some economic phenomenon like direct access to the factors of production or the straight utilization of some consumable products are commonly considered as the gifts of the nature. A commodity for consumption is considered as the gift of the nature where little efforts on it make it consumable; thus one would expect the appearance of each or whole of mis-pricing, mis-utilization and mis-consumption. Fish products, the results of fish-culturing, to some extent have such characteristics in Iran; where it is the output of a joint-production process. Up here such fish is being produced from the excess capacity of water resources with some more organic residuals where are more useful for the other joint enterprises of farming or horticulture like. Moreover, fish products have many recognized biological and physiological advantages, thus scientists view the fish products as preferable porteinous products. The nutritious material where Iran is in relative deficit. But, unfortunately some available estimates suggests that the Iranian consumer inclination for the consumption of fish products is not very promising. To help the policy makers to improve the reported case of fish in Iran towards consumer persuasion for fish by workable policy design, an on-field research work was planned then executed in North-west of Iran. Little access were to extensive literature about the case but of few articles reviewed; it reveals that; there exists

extensive capacities in devising better utilization of water resources through improving the consumption of supplementary products such as fish and the like.

STUDY SITE

To understand the effects of field circumstances on research results, it is useful to know that the field works were carried on 32 townships, of 25 counties, of three provinces of north-west of Iran in middle east of Asia. Where environmental circumstances are mainly semi- and arid kinds with urgent water deficits. Out of average annual precipitation of 413000 million cubic meters(MCM) in 1.65 million kilometers of the surface of the country, the renewable water is about 130000(MCM) out of which some 105000(MCM) is surface water the other 25000(MCM) is ground water. Internal renewable water resources per capita of 2254 cubic meter in 1988 is to that of 1915 in 1997. With irritating rates of desertification, and alarming rates of decline in bio-diversity levels. Due to the extensive long-standing existence of red meat consumption preferences within consumers and the rapid urbanization rate of 47% in 1976 towards that of 70% in 2000, this location envisages with over-grazing and thereby this site has some drastic soil erosion and pasture degradation problems. Furthermore, although food production per capita from 1980 to 1997 increased by 37%, within which daily per capita supply of calorie rose from 2612 kcl per day to that of 3415 kcl per day. Daily per capita supply of protein rose from 70 gr to 87 gr. Average annual per capita meats and eggs consumption from 45 kg of 1990s to that of 50 kg in 2000. In due course, total fish catch and produce increased from 235 thousand tons to 400 thousand tones, still there exist some rates of shortcomings in micro-nutrients and in the optimal composition of food items, thus increasingly it appears some mall-nutrition-based and other serious food-based diseases, which has drawn the concern of nutrition authorities of the country. With some basic development indices of gdp per capita of 1985 ppp\$ in 1960s towards 5222ppp\$ in 1990s with annual growth rate of around 5%, of life expectancy of 50 years in 1960s towards 70 years of 2000s. With annual private consumption growth rate of 4%, and with educational enrolment ratio of 46% in 1980s towards 75% of 2000s; the country is reasonably paving the path of economic, social and trade development. In 1996, the values of HDI, GDI, GIM and HPI are 0.719, 0.542, 0.229 and 2.9 respectively.

METHOD OF STUDY

Considering the main theme of this research- description and analyses of fish consumption pattern in the defined region; i.e. which households, with what socio-cultural-economic characteristics and at which rate and norms and how do they consume fish; on the base of outstanding socio-economic theories and reviewed literature, and the fact that systematic approach would be a proper method of research; some research variables were in actual facts defined; a well designed and few time pilot tested questionnaires were equipped. Then, almost 750 fish consumer households were personally interviewed. Then, the entire data in the mass of questionnaires were extracted in Excel software. Through descriptive statistics the socio- economic aspects of fish-consumption model in this region was drawn and thereby some analytical statistics were applied and eventually interpreted.

RESULTS

The descriptive results show following special fish-products consuming pattern:

1. 89% of the households at least have consumed one sort of fish-products, and remaining 11% of them have never consumed any sorts of fish-products.
2. Among the consumers 6.6 % have consumed southern fresh catch fish, 15% northern fresh catch fish, 31% rivers' fresh catch fish, and the other 4% other sorts of fresh catch fish.
3. Also, among the consumers 45% have consumed cold water farming fish, 22% warm water farming fish and the other 1.5% other sorts of water farming fish.

4. Among the consumers 5% have consumed southern catch freeze fish, 2.8% northern catch freeze fish, 1% rivers catch freeze fish, and the other 0.4% other sorts of catch freeze fish.
5. Also, among the consumers 4.3% have consumed cold water farming freeze fish, 0.5% warm water farming freeze fish and the other 1.2% other sorts of water farming freeze fish.
6. Among the consumers 21% have chosen the canned types of fish as their first preference, the other 3% as their second priority and other 0.5% as their third preference.
7. Among the consumers 0.5% have consumed fish every day, 36% at least at the rate of once a week, 34% at least at the rate of once a month, the other 8% at least at the rate of once a season, 2.7 at least at the rate of once a year, the other 15% consume the fish occasionally without a regular pattern..
8. 17.5 per cent of the consumer had five years of fish products consumption experience, the other 16.7, 25.1, 13.4, 6.3, 3.3, and 1 per cent of the consumers had 10, 20, 30, 40, 50, and 60 years of fish consumption experience respectively; the rest have had no experience on this ground.
9. The average rate of fish product consumption in any course of meal eating in any family with reported periodical norm of fish product consumption of fresh catch fish, fresh farmed fish, frozen catch fish, frozen farmed fish was 1.2, 1.61, 0.33 0.14 kg respectively and that of processed fish was 3 cann. Thus, within households it is revealed that the rate of consumption with both criterion of periods of consumption and amounts of fish intakes is lower than both average national level and average global level. To catch some policy designing ideas, the reasons given for this norm and rates of consumption was questioned from the consumers of every fish products. For example, within fresh farmed fish consumers, the best accepted fish product among our consumers; 44 per cent of the respondents, mention the appropriateness of price levels at different priority levels of 1 to 5, 52 per cent of them mention less troubles with bones and the like at different priority levels of 1 to 5, 69 per cent mention least troubles with taste and smell at different priority levels of 1 to 5, 48 per cent mention the appropriateness of access system at different priority levels of 1 to 5, 40 per cent mention the previous habits at different priority levels of 1 to 5, and 45 per cent mention the easiness in preparation of the fish meal at different priority levels of 1 to 5.
10. The rate of preference amongst 69 per cent of respondents is fresh fish, this rate is 42 for canned fish, 24 for cleaned fresh fish, 12 for flesh fish, and 2 for frozen fish.
11. While 14% of respondent fish consumers get their preferred fish products from chains, 2.4% from expert sellers of fish products, 26% from fish markets, 9% from cooperatives, 8% from food and fruit jumbos, 28% from chickens and fish shops; and, 15% directly from fish producers, the high rate of satisfaction from such distribution and retailing system of fish product amongst reported respondents is just 20 per cent. For overall improvement of the system, some 8% of them propose price-intervention, 11% proposes more fresh fish distribution, 6% proposes clean fresh fish distribution, 34% proposes some improvements of the shops, 3% proposes supply increases, 25% proposes more sanitized fish product distribution, 8% proposes priorities given to cooperative systems, and 3% proposes packed fish products. In so doing, 53% stress on the importance of information dissemination, 75% on advertising and, 87% on appropriate price levels. For which 64% proposes T.V. and 45% radio and reminding fractions proposes the other less important information broadcasting instruments.
12. To achieve to the higher rates of fish products consumption amongst the studied sample, 58% propose the high importance of previous customs, 45% proposes the insemination of information of storing methods, 60% proposes the insemination of information of cooking methods, 75% proposes the insemination of information of physiological advantages of these products, through given mass media such as T.V. and radio.

In this study two sorts of analyses were concluded. The descriptive results show special fish-products consuming pattern:

13. This norm of consumption is correlated to some socio-cultural-behavioral-economic factors as such the policy-makers could make a reasonable use of this model if they wish to persuade the

consumption of this gift of the nature within aimed consumers. The results of statistical analyses of an on-field research works based on questionnaire completion from the population of fish-products consumers show the existing rate of fish consumption within respondents consumers is highly and significantly correlated to the rate of tolerances of consumers to embodied fish bone, to their smell, of fish costumes of consumers, income levels of fish consuming families and the family size of the consumers, all of them significant at 1% level. Multivariate regression analyses between dependent variable of norm of consumption and independent variable of consumers anxiety for future access of red meats, appropriateness of fish products price, rate of consumer awareness of physiological advantages of fish products, and to the access of consumers for information about cooking procedures and possible differences within fish menus. This analysis produced regression coefficient of 7.4, 1.3, 2.3 and 2.9 respectively; except that of price, all of the other coefficient were significant at 1%; and with all statistics of t, r, DW, and F acceptable. Considering overall statistical criteria; have revealed the facts that the crux of fish consumption utilization improvement in studied region is greatly cultural, where on could utilize cultural extension procedures.

DISCUSSIONS

The simultaneous and comparative consideration of: a) main question of this article of fish-products consumption pattern in north-west of Iran; b) the descriptive results of fish-products consumption economics; and c) the results of statistical analyses of an on-field research works based on questionnaire completion of population of fish-products consumption show the following most valuable, new creative syntheses, at list in this site, that increasing trend of proportions of respondents inclining towards fish consumption as measured by the number of years of fish consumption experience shows the fact that although the norm and rate of annual fish-products consumption at average of 3.6 kg compared to that of national average rate of 5 kg, and to that of 9 kg of world average is too low in studied region, but it has taken an increasing trend. In so doing it appear the facts that the nature of this trend lies within cultural factors of consumers anxiety for future access of red meats, appropriateness of fish products price, rate of consumer awareness of physiological advantages of fish products, and to the access of consumers for information about cooking procedures and possible differences within fish menus. For which one could establish basic policy designing principles that if and if the policy body is serious to augment the future performance of this fish-products consumption patterns in Iran; it should utilize the following policy guidelines:

The overall results of this research; shows that with respect to fish-consumption utilization efficiency the well consumed families who are anxious for future access of red meats, considered the appropriateness of fish products price, has a high rates of consumer awareness of physiological advantages of fish products, and have access for information about cooking procedures and possible differences within fish menus. Thus, to improve the arrangement of this phenomenon in the studied site, in accordance with the results of this study, one could prepare some extensionist proposals, plans and the like. There is a serious potentials to enlarge and develop more extensive research in these grounds.

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Table:1-Summary of descriptive results of fish-products consumption economics

Order	Variable description	Unit	Distribution criteria			Other criteria							
			Fresh south catch	Fresh north catch	Fresh River catch	Farm warm fish	Farm cold fish	Frozen south catch	Frozen north catch	Frozen River catch	frozen farm warm fish	frozen Farm cold fish	ton
1	Proportion of fish consumers	%	89			-							
2	Proportion of given fish consumers	kind	6	15	29	49	22	5	3	1	4	0.5	56
		%	6	15	29	49	22	5	3	1	4	0.5	56
3	Consum.. time period norms	Once In any	day	week	month	season		year		Occasional			Do not remember
		%	0.5	36	34	8		3		15			0.1
4	years of fish consumpti experience	criteria	min			average				max			
		%	0			17				72			
5	Quantity consumption norm:fsc	kg	0			1.2				30			

6	Quantity consumpti norm;fff	kg	0	1.61	50					
7	Quantity consumpti norm;frzsf	Kg	0	0.33	45					
8	Quantity consumpti norm;frzff	Kg	0	0.14	25					
9	Quantity consumpti norm;tonn	No.	0	3.3	300					
10	Quantity consumpti norm other	Kg	0	0.15	30					
11	Source of supply	name	chains	specialists	Fish market	coop	jumboos	Chikhen& fish stors	producers	Ready meals
		%	14	2	26	9	8	28	15	0.5