

Distributional Strategy of Fish Product in Asari-Toru Local Government Area of Rivers State

Horsfall Omona-a Hamilton¹

¹ Department of Marketing, Faculty of Business Administration, University of Uyo, Akwa Ibom State, Nigeria

Correspondence: Horsfall Omona-a Hamilton, Department of Marketing, Faculty of Business Administration, University of Uyo, Akwa Ibom State, Nigeria. Tel: 234-80-3921-1873. E-mal: omona4sure2006@yahoo.com

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Abstract

The study examined the distributional strategy of fish product in Asari-Toru Local Government Area of Rivers State, South-South zone, Nigeria. The objective of the study is to investigate the current distribution strategy of the rural fishermen and their sellers (middlemen) and to suggest how to improve on their strategy in moving their fish product to the urban market in order to decrease losses incurred. To determine the sample size, the study adopted Taro Yamen's method. Total population of Asari-Toru Local government area was 385,841 (1991 population census record) in

Nigeria. Applying the formula: $n = \frac{N}{1 + N(e)^2}$. We have 400; we then stratified the local government area into four (4) fishing zones. Then, judgmental sampling technique was adopted to select 400 respondents from the four (4) zones. Data were collected from the respondents with structured questionnaire and data collected were analyzed both descriptive and inferential statistic. Hence, chi-square was applied at 0.05 level of significance. The study revealed that the resellers (middlemen) and fishermen lacked the insight of what it entails towards distribution strategy in this modern business environment. In other word, they lack knowledge of proper planning, storage and publicizing so as to operate in a suitable distribution channels for their products. The study found that, the use of Air and Rail transport is completely absent in the area. The only major road is the one link the local government headquarters, all other communities mode of transportation is the swampy salt water. However, since their products are perishable, intensive distributional strategy is appropriate in their business.

Keywords: distribution, strategy and fish product

1. Introduction

Nigeria is a country endowed with fertile land and fishing settlements scattered about in the country. Fishing provides employment of many people in West Africa. In Ghana and Liberia, the percentage of the population engaged in fishing is significant.

However, in Nigeria fishing provides employment for over a million Nigeria predominantly in the riverside areas of Edo State, Rivers State, Lagos State, Bayelsa State, Delta State, Akwa Ibom State and Ondo States as well as long big rivers and creek in different zones of Nigeria. In spite of this, the production of fish is yet to meet local demand, only about two thirds of the total fish demand in the country is being met locally. And that is why perhaps the fishermen and re-sellers hardly get any good proceed or returns on their investments, rather most of them remain in advert poverty.

The main focus of any investment or business ventures is to offer good quality product and services in order to satisfy its customers and in turn improve the lifestyle of these riverine rural dwellers. As such, most of the fishing settlement is faced with inaccessibility due to the mode of water transportation which now affects the distribution of fish product from the riverside rural zones to the urban cities. Okeafor (1995) defines "*Physical distribution involved in the performance of several activities which tend to close the gap between the producer and the consumers*".

Therefore, the study examined the physical distributional activities currently carried out by the rural fishermen and the re-sellers and how they apply it. In distributing their products from rural area to urban area poses a concern in the mind of the researcher. This statement certainly calls for a research study on this issue in River state particularly in the Asari-Toru Local government Area of Rivers State, South-South Zone, Nigeria.

1.1 Statement of the Problem

The research work examined the physical distributional strategies of the fishermen and the re-sellers in the rural areas in their bid to move their product from the rural area to the market place in the urban cities. The study predicted upon the approach of the fishermen and re-sellers and the current application as regards distributional strategies.

The distributional strategy if put in place appropriately, maybe would help customers to purchase goods at the right time, right quantity, right price and the right place at a profit. This goes a long way to help solve the problems of discrepancies of quantity and assortment.

Also, salient factors that the study looked into are storage, transportation, and cost of production, pricing and Niger Delta Youth activities in the riverside areas. Hence, the study examined the distributional activities currently carried out by the rural fishermen and the re-sellers and how they apply it in distributing their products from rural area to urban cities.

This will help the researcher to suggest a better way of distributional activities and re-direct their application to achieve on time delivery in order to satisfy the customers or end users at a profit.

1.2 Objective of the Study

The relative level of output for fish and fish products has been on the decline in the recent times due to the high demand of the product in the country. This is, in spite of all effort put by the successive governments to boost fish production. Most people have been attributing the inadequate supply of fish and fish products on effect of bird flue and marketing activities.

Based upon this, the objective of the study is to examine the distributional activities of the rural fishermen and the re-sellers in the fishing local communities to see whether it is bird flue, marketing activities as some claim or wrong application of physical distributional strategies adopted by them. And to suggest how to improve on our production level by changing strategy or appropriate application of physical distributional strategy in order to decrease loses.

1.3 Research Questions

Problem within an organization can hardly be seen unless this problem at hand is properly defined and to profess appropriate solution to it through research. Therefore, the research sought to address the following research questions

- i. How do rural fishermen and the re-sellers move their product to the urban market?
- ii. Which mode of transportation is common in the fishing zones?
- iii. Which of the mode of transportation that is most preferable in the area?
- iv. What are the major factors with respect to losses of fish in the local fishing zones?
- v. What is the nature of fishing common in the local fishing zones?
- vi. What are the major factors that affect price of their products?
- vii. Does Niger Delta Youth militant activities affect the distribution activities in the local fishing zones?

1.4 Research Hypotheses

Ho₁: Fishermen and re-sellers in the Asari-Toru Local government area do significantly differ in the water transportation mode adopted in the movement of their product to the urban market.

Ho₂: There is no significant relationship between storage condition and the level of losses incurred by the fishermen and the re-seller in Asari-Toru Local government Area.

Ho₃: The Niger Delta Youth militant activities do not hinder distribution activities in the local fishing zones of Asari-Toru Local Government Area.

1.5 Significance of the Study

The effectiveness of the production of good and services in any economic system depends on the efficiency with which economic system operated. That is from suppliers of raw materials to production, and there to distribution of finish inventory through suppliers to customers or end users.

The more efficient the economy is organized, the greater will be the quantity of fish and fish products available for consumption. As such the study will cancel the very low level of cash flow in the rural areas. And if this is done, individuals' local fishermen, fish re-sellers and communities in the local government area, south-south zone of Nigeria as a whole will benefit in a way of multiplier effect.

Therefore, an improved distribution system will improve the economy as a whole, thus enhance the continuous improvement of the gross national production (GNP).

2. Review of Related Literature

2.1 The Concept of Distribution Management

The concept of distribution management indicates the application of the principles of management of distribution. Distribution simply put, is the set of business activities which is designed to move the right amount of the right products to the right place in proper condition at the right time and at reasonable costs (Okefor, 1998). While, management as a word has been defined by many scholars, Stanton, (1991) defined management as the "process of planning, implementing and evaluating the efforts of a group of people working towards a common goal".

Kalu, (1998), defined management "as an integrating process by which managers create; maintain and operate an organization in order to achieve set organizational objectives. Iruka, (2001) defined distribution management "as distribution deals with the physical movement of products and the selection and management of the channels through which the product move from the point of origin to the user. The researcher sees distribution management as logistics management. He defined it, "as a management process of planning, requisition, movement and storage of raw materials, parts into the firm (in-bound) and distribution of finished inventory (out-born) from the original sources and its penultimate point the customer or consumer at a profit."

However, distribution as one of the major variable or marketing, you find the various marketing intermediaries that perform a variety of marketing functions. This means that distribution management is applicable to both consumers and industrial goods and services. For consumers, channel of distribution encompasses direct and indirect channel flow. This is where the producer decides to sell directly to the consumers without middlemen. While the indirect channel consists of middlemen who include, retailers, wholesalers and agents, etc, the industrial marketing channel also operates on direct and indirect channels system. The direct channel consists of producer to industrial customers while the indirect consist of agent, middlemen, industrial distributors and agent middle-men merchant middlemen to industrial customers, etc. All of these mentioned above makes the organization being involved in the performance of several activities, which tends to close the gap between the producers and the consumers.

Meanwhile, the distribution management decision varied from one organization to another regarding:

- i. The structure of the channel to be used for his goods and services.
- ii. The scope of the distribution desired
- iii. The use of multiple channels to serve different segments.
- iv. Channels control and conflict management

2.2 The Distribution Decision

Distribution decisions are concerned with location of marketing facilities and the selection and use of marketing specialists including the transportation and storage agencies etc (Kalu, 1998). This decisions are very important because, if not manage or coordinate well, will flop the system as a whole. As such, a product or services may be the best in the World, but it will be of little use to the consumer or user if the product did not get to the consumer where he wants it and when he wants it.

The marketing manager's decisions on distribution management may be the important one he makes. Because once made has a long-range implications and are hard to change than product, price and promotion decisions. For instance, it is difficult to move retail and wholesale facilities once lease have been signed and customer movement patterns have been established. Lawrence, (1984), in his study of marketing decision refers to distribution channel decision as choice among using independent sales representative or own salesmen and distributors. It encompasses decision on who to be the organization's channel partners.

Lipson and Darling, (1971) identified the following as the factors in which the degree of directness of a distribution channels depends. These are thus:

- i. The characteristics of the manufacturer

- ii. The nature and extent of the customer market
- iii. The characteristics of the product or product line
- iv. Availability and competence of marketing middlemen
- v. Financial opportunity costs.

These factors give a clear degree of direction or path of a distribution channels to reach the customers or end users. It also tries to identify and clearly the target customers a firm intends to reach to enhance an efficient channel management. Kotler, (1990) identified the strategic alternatives available to organization as:

- i) Intensive distribution
- ii) Exclusion distribution
- iii) Selective distribution

He described intensive distribution as being used when a manufacturer seeks as many available outlets and middlemen as the firm can obtain at a wide variety of different and competing real institutions in a given area, e.g. producers of convenience goods and common raw materials.

However, exclusive distribution means that one particular retailer serving on a given area a granted the sole right to stock and sell company product. On the other hand, selective distribution entails that a firm in an attempt to improve the caliber of its distribution activities, reduces the number of outlets. Other area is that, a company may adopt a multiple channel strategy in an attempt to reach certain markets. The company may adopt two or more different channels, which may be complementing or competing channels.

2.3 Distribution Components/Activities

The components of distribution consist of the following – the internal enterprises movement of product e.g. stocking and other handling activities. The external extra price movement of product e.g. transport of products from one firm to another. Marketing channels, storage facilities, inventory control and shipping facilities were put towards (Lipson and Darling, 1971). Below shows the components and how they are all directed towards the target market.



Figure 1. Components of distribution activities

Source: Lipson and Darling (1971), Introduction to Marketing: An Administrative Approach, New York, John Willey and Son Inc. (pp. 688-690).

However, the above component encompasses the following:

- Warehousing
- Inventory
- Transportation
- Materials handling
- Packaging, order-processing
- Customer services and communication

Okefor, (1998) said logistics or distribution system has three main components. They include material management activities, physical distribution management activities and internal inventory transfer management. Below indicate the process of these components in Figure 2.

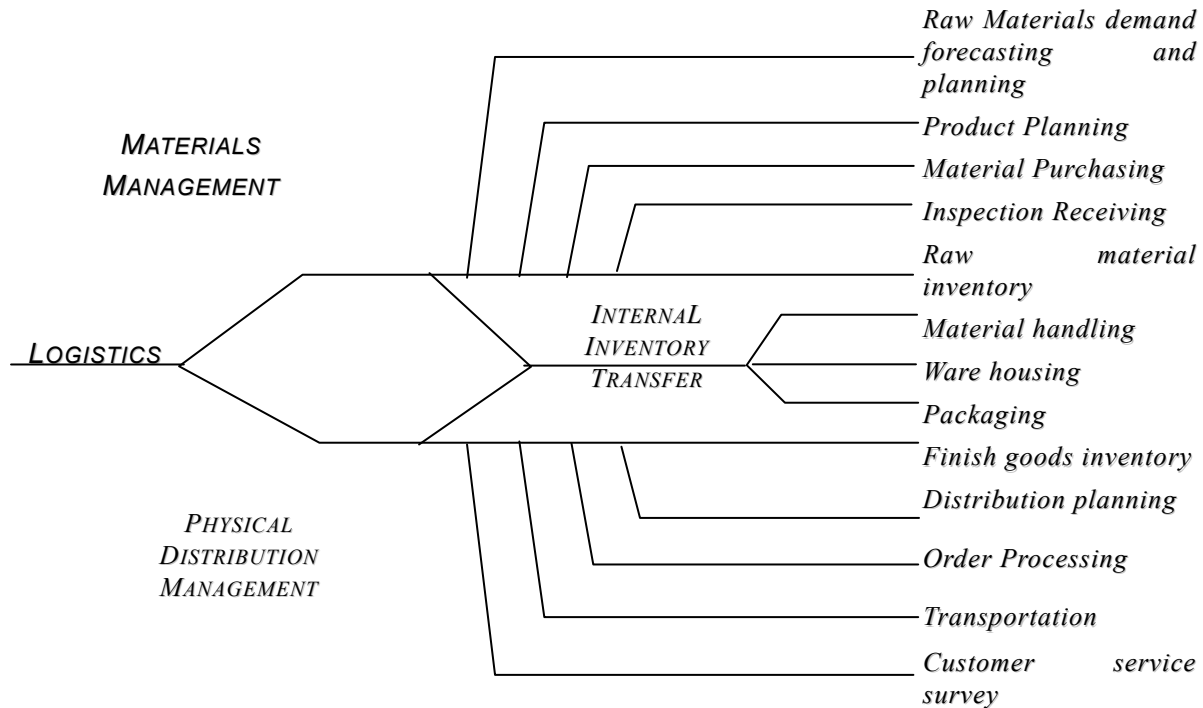


Figure 2. Components of distribution system

Source: Okeafor (1998), adapted from Coyle, J. and Bardi, E. (1984), the Management of Business Logistics, 3rd Edition, West Publishing Company, N.Y. p. 12.

2.3.1 Material Management: Involves the planning and movement activities of raw materials and component parts from the sources of supply to the beginning of the production line of any business. The specific activities involved in materials management include:

- i) Raw material demand forecasting
- ii) Production planning
- iii) Purchasing
- iv) Inspection and receiving
- v) Raw Material inventory management.

2.3.2 Physical Distribution Management: Involves in the activities of the goods coming out of the company's production line (finished goods) must be made available to the intended markets so that the products can command economic value. The specific activities necessary to perform the physical distribution function (outbound customer shipments), may include:

- I Finished goods inventory management
- ii Physical distribution planning
- iii Order processing
- IV Transportation
- V Customer service

2.3.3 Internal Inventory Transfer: It involves the control mechanisms over semi-finished components as they flow between stages of manufacturing and the initial movement of finished goods to warehouses or retail outlets. This is a limited movement of inventory within and under the control of the organization. The specific activities may include:

- i. Material handling

- ii. Warehousing
- iii. Packaging

2.4 The Concept of Strategy

Within the globalization factors and the rapid evolution of markets demand, organization has to integrate numerous suitable solutions to each specific production and the change in market condition (Hilletoft, 2008).

Many researchers have proposed different approaches to define strategy based on various factors. Nwokoye, (1982) defines strategy “as a single statement indicating the general route to the achievement of the firm objective. He indicated further that it is often specific and quantitative and that it is usually broken down into sub-strategies for some or all of our variables of the marketing mix. Awujo, (1993) on the other hand defined strategy “as a proposed action as sequence of action intended to achieve its objectives. Ge, (1991) quoted in Osazi (1991) argues further that an organization’s strategy classifies the environment of the organization by specifying what business is in and the main courses of action it will use to achieve it.

Meanwhile, Glueck, (1972) defined strategy “as unified, comprehensive and integrated plan relating the strategic advantages of the firm to the challenges of environment. It is designed to ensure that the basic objectives of the enterprises are achieved. Steiner and Miner, (1977), defined strategy “as the forgoing of company missions setting of objectives for the organization in the light of external and internal forces. Okefor, (1995) argued that, strategy involves the development of section capabilities of use to adapt to environmental changes.

In summarizing a literature of definitions of strategy Osazi, (1991) opined that strategy is a chosen course of action for pursuing an objective. For business organization strategy decisions are primarily concerned specifically with the selection of the product mix which the firm produced and the market to which it will sell. Ansoff, (1994) seems to agree on the notion. It should be noted that strategy must be flexible since it must change with the dynamics of the business environment. It is selected and implemented over time so as to effectively position the firm within a constant rapidly changing environment.

Finally, there are so many factors that shaped strategies in an organization. These factors are as follows:

- i. Opportunities identified in the environment
- ii. Organization competence and resources capabilities
- iii. Threats to opportunities in the environment
- iv. Social obligation and ethical value
- v. Organization culture and value system

2.5 The Marine and Riverside Resources

The marine and riverside resources borders on fisheries and fisheries are economically important primarily as sources of high quality protein food as well as edible oils for human consumption either directly or indirectly through bait and livestock feed components. Fisheries may be valuable as sources of precious shells, sponges and pharmaceuticals. This aspect of the resources utilization is not developed adequately. Fish and prawns abound in the sea and constitute a major resource which the local fishermen in Asari-Toru LGA’s and the rest of the South-south zone (Niger Delta), Nigeria depend largely on for food and economic well being.

In the Marine and riverside, estuary and costal area of the Niger Delta region particularly in the Asari-Toru Local Government Area where fish constitute the highest tropic level in the economy. Hence, their variety, status of the environment. The studies on fish and shell fishes indicate that the water system of the fishing zones in Asari-Toru LGA in Niger Delta have high occurrence of species.

In all, these species are mostly marine fin-fishes and few from fresh water origin in the area. The fish activities in the area are mostly from main river channels, mangrove flats, tributaries and headwater and Barrier Island swamps (i.e., fresh water). Following the high endemic and exotic fish species, several fish species are found in the area and these include: Bonga fish, sardine, croaker, cat fish, mullet, shell fish, fisheries and mixed fisheries with fishes of various species and many others in the region (Derefaka, 2002).

2.6 Major Problems of Fishing in Asari-Toru Local Government Area

The problems of fishing in Asari-Toru government area is similar to all the area in the Niger Delta region (South-south) zone, Nigeria. The major problems of fishing identify in the area are thus:

- i. *Inadequate Capital*: In sea fishing, heavy capital outlay is required for the purchase of fishing vessels, modern gear, cold storage facilities. This is usually beyond the scope of the indigenous fishermen who cannot have access to normal commercial credit for lack of collateral.
- ii. *Lack of Adequate Infrastructural Facilities*: Fishing terminals and other infrastructural facilities are inadequate in the fishing local communities of Asari-Toru LGA. In other words, there is generally a lack of provision of suitable fishing ports with facilities for the docking of ocean-going fishing vessels, cold stores, processing plant, fuel storage and shipway.
- iii. *Fishery Management Inadequate*: Fishing settlements and the actual number of people involved are unknown to some extent, especially the swamps owing to the difficult terrain. Fishermen in the local fishing communities are unaware of the important of record keeping and lack of knowledge to do so.
- iv. *Few Fishermen and Low output*: Due to the white collar jobs in the urban areas, full time fishermen are few. Even the young men who join the old men in the ports combine fishing with other occupations or supplement their income with odd jobs during bad fishing seasons. The whole family could be involved in the different aspects of fishing processing and marketing.
- v. *Inland fisheries decree of 1992 is being flouted*: Despite the internal fisheries decree of 1992, management of fisheries resources is under the control of the local people through traditional regulations. These are being flouted due to the absence of enabling laws, whereby effecting the production and distribution of fishes in the area.
- vi. *Fishing seasons effects the production and the distribution of fishes caught*: Fishing is intensified and confined to the river channels in the dry season or low water period, but shifts into the inundated flood plain at the high water or flood period. At this period the river channels are abandoned due to the fast flow of the flood water and to take advantage of the lateral movement of fish into the flood plain. At this period fishing gear are usually changed or modified to suit the new habitat. Fishing is done from paddle-propelled dug-out canoes though some fishing gear can be operated from the shores or by wadding in the shallow waters of the river channels.
- vii. *Niger Delta Youth Militant Activities*: The recent activities of the Niger Delta Youths militant activities in the Creeks of the fishing zone also effects both production and distributional activities of fish in the area.

3. Research Methodology

The research design adopted for the study was a cross-sectional survey. The cross-sectional survey design was appropriate because, it involves studies which are done at one or more zones in a given period. The design gathered information from a sample of people or organization by the use of questionnaires (Baridam, 2001).

The study utilized both primary and secondary data. The primary source involved the direct administration of well-structured questionnaire to respondents within the fishing communities in the Asari-Toru Local Government Area. While, the secondary sources include previous work that are relevant to the study, test books, journals and internet.

However, the sample size of 400 respondents was used for the study. The unit of analysis for the study includes local fishermen, fishermen relatives who buy and sell, resellers or middlemen selected from the four (4) fishing zones of the local government area. The fishing zone selected are known to be the major fishing ports of the local Government Area.

Therefore, sample was taken from them using a combination of stratified and judgmental sampling techniques. This means the researcher deliberately selects the sampling units that are to be included in the study because he feels that they are representative of the target population. The study depends on the target population of Asari-Toru Local Government Area in other to determine the sample size. This means the total population will be too large for the study. To determine the sample size, we used Taro Yamen's formula. Then judgmental sampling was applied to ascertain the result of the calculated figure. Below is the Taro Yamen's formula for the calculation of the sample size.

$$n = \frac{N}{1 + N(e)^2}$$

Where,

- n = Sample size sought
- e = level of significance
- N = Total population

The total population of the targeted fishing zones in Asari-Toru Local Government Area is 385,841 as at 1991 census. Assuming a 95% (i.e., 0.05) chance that the sample is distributed in the same way as the zone population. Substituting the figure into the formula we have:

$$n = \frac{385,841}{1 + 385,841 (.05)^2}$$

$$n = \frac{385,841}{1 + 385,841 \times .0025}$$

$$n = \frac{385,841}{965.6025}$$

$$n = 399.5857509$$

$$n = 400$$

Based on the size of the study, the Asari-Toru local Government Area was divided into four (4) fishing zones which include: Elem Kalabari zone, Sikaka Kiri zone, Baayi Kiri zone and Sani Kiri zone. Then, 412 copies of structured questionnaire were distributed to the respondents in the four (4) selected fishing zones. All the zones received 103 questionnaire each, while 406 questionnaire were returned (i.e., Elem Kalabari = 103; Sikaka Kiri = 102; Baayi Kiri = 100 and Sani kiri = 101 questionnaire returned respectively). Six (6) questionnaires not retrieved and among the returned questionnaire which is 406, six (6) questionnaires were discarded. Because the discarded questionnaire was not correctly filled leaving the useful questionnaire to be 400 valid copies for the study.

However, four hundred (400) copies representing Ninety-seven point one percent (97.1%) were useful for the study. The implication of this is that all further analysis made in this study was based on the four hundred (400) valid copies of questionnaire. The data collected were analyzed by the use of descriptive and inferential statistical techniques. The descriptive statistics used are percentage, frequency and range. The inferential statistics was also used to analyze the study hence, chi-square (χ^2).

The chi-square formula is:

$$\chi^2 = \frac{(fo - fe)^2}{fe}$$

Where, χ^2 = chi-square value
 FO = observed frequency in each cell
 Fe = expected frequency in each cell

The number of degree of freedom (df) is given as $df = (r-1)(C-1)$ where R = Row and C = Column at 0.05 significant level.

Decision Rule:

Reject H_0 if the calculated χ^2 value is greater than the table value of χ^2 . The reason for using the chi-square is based on the fact that it's relevant for testing significant relationship that might exist between two or more or within a sample proportion.

4. Data Analysis and Results

4.1 Data Presentation and Analysis

Presentation and analysis of responses of questionnaire administration and collection.

Table 1. Questionnaire distribution, administration and collection of frequency from the fishing zones

Questionnaire	Fishing Zones				Fre-quency	%
	Elem Kalabari	Sikaka Kiri	Baayi Kiri	Sani Kiri		
Number of Questionnaire distributed each zones	103	103	103	103	412	100
Number of Questionnaire retrieved	103	102	100	101	406	98.5
Number of Questionnaire not retrieved	0	1	3	2	6	1.5
Number of Questionnaire discarded	0	3	2	1	6	1.5
Useful questionnaire for the study	103	99	98	100	400	97.1

Source: Survey Data (2006)

The above table indicates that 412 questionnaire were distributed to the respondents in the four (4) selected fishing zones of Asari-Toru Local Government Area of Rivers State (South-South), Nigeria.

However, the analysis shows that 103 copies were given to each of the selected fishing zones and the above table shows the rate of questionnaire returned and frequency. In Elem Kalabari zone, 103 questionnaires were distributed and 103 were also returned. At Sikaka Kiri zone, 103 were distributed, 102 was retrieved and three (3) were discarded because it was not correctly filled while 99 in the zone is useful. For Baayi Kiri zone, 103 were given, 100 was retrieved and two (2) were discarded due to wrong filling while 98 were useful. Also, Sani Kiri zone, 103 questionnaire were distributed to respondents, 101 were returned and one (1) was discarded because it was not properly filled. While 100 questionnaire were useful in those zones.

The implication of this is that all further analysis made in this study was based on the four hundred (400) valid copies of questionnaire (i.e., Elem Kalabari, 103 + Sikaka Kiri, 99 + Baayi Kiri, 98 + Sani Kiri, 100 = 400).

4.2 Sample Characteristics

Demographic profile of the respondents is presented in the table as depicted below:

S/No.	Demographic Variables	No.	%
1.	Gender:		
	Male:	380	95
	Female:	20	5
		400	100
	Total	400	100
2.	Age Brackets:		
	Under 20 years	50	12.5
	21 - 30 years	80	20
	31 – 40 years	120	30
	41 – 50 years	150	37.5
	Total	400	100
3.	Marital status:		
	Married	350	87.5
	Single	50	12.5
	Total	400	100
4.	Educational Qualification:		
	Primary Six	200	50

	Senior Sec. School Cert.	150	37.5
	NCE/ND	50	12.5
	Total	400	100
5.	Fishing Experience		
	Under 4 years	20	5
	5- 10 years	130	32.5
	10 – 20 years	250	62.5
	Total	400	100

Source: Survey Data, (2006)

4.3 Analysis of Research Questions

i. Research Question One:

The respondents were asked to name how often they use the following modes of transportation to move their products to the market and the frequency. Their responses are as shown in the Table 2 below:

Table 2. How rural fishermen and re-sellers move their products and frequency

Mode of Transportation used in the Area	Frequency				Percentage
	Very often	Often	Not often	Not at all	
Road	60	--	--	--	15
Water	340	--	--	--	85
Rail	Nil	--	--	--	--
Air	Nil	--	--	--	--
<i>Total</i>	400				100%

Sources: Survey Data, (2006)

Drawn from the respondent responses in Table 2 above we will conclude that the use of water mode of Transportation in the area is more often and preferable to move their products to the market. 340 respondents (85 %) said water transportation very often in moving their products to the market, while 60 respondents at (15%) agreed that road transportation is more often.

ii. Research Question Two:

The respondents were asked to indicate yes and no if water mode of transportation is most preferable in the fishing zone of their area and the frequency. Their responses are as shown in the Table 3 below:

Table 3. Water preferable mode of transportation and frequency

Response	Frequency				Fre-quency	Percent-age
	Elem Kalabari	Sikaka Kiri	Baayi Kiri	Sani Kiri		
Yes	91	90	72	90	343	85.75
No	12	9	26	10	57	14.25
<i>Total</i>	103	99	98	100	400	100

Sources: Survey Data, (2006)

The analysis in Table 3 above shows that 343 (85.75%) indicated 'Yes' that water mode of transportation is preferable in the zones. While 57 (14.25%) respondents indicated 'No'. This implies that, water mode of transportation is most preferable and often in used in their zones of distributing products to the market.

iii. Research Question Three:

The respondents were asked to name the major factors that affect price of their products in the area and the frequency. Their responses are as shown in Table 4 below:

Table 4. Factors affecting fishing product price

Factors	Frequency				Fre-quency	Percent-age
	Very High	High	Average	Not at All		
Competition	20	10	--	--	30	7.5
Cost of Production	300	50	--	--	350	87.5
Demand	15	5	--	--	20	5
<i>Total</i>	335	65			400	100

Sources: Survey Data, (2006)

The analysis shows that 30 (7.5%) said competition effect price. Also, 20 (5%) confirmed that demand effect price too. However, the majority of the respondents 350 (87.5%) indicated that cost of production activities is very high in the zones. And is the major factor that affects the price of their products.

iv. Research Question Four:

The respondents were asked to indicate the nature of fishing in their zones and the frequency. Their responses are as shown in the Table 5 below:

Table 5. The nature of fishing common in the zones

Nature of Fishing	Present	Absent	Frequency	%
Artisanal nature of fishing	400	--	400	100
Mechanized nature of fishing	--	--	--	--
<i>Total</i>	400	--	400	100

Sources: Survey Data, (2006)

The analysis in Table 5 above shown that artisan nature of fishing that is present and common in all the fishing zones of the Asari-Toru Local Government Area of Rivers State (South-South) zone of Nigeria. As such 400 respondents confirmed it according to their respondents while mechanized method of fishing is completely absent in all the zones.

v. Research Question Five

The respondents were asked to indicate yes and no whether storage condition is the major cause of losses of fish in the area and the frequency. Their responses are as shown in Table 6 below:

Table 6. Losses of fishes due to storage condition

Response	Frequency				Frequency	Percent-age
	Elem Kalabari	Sikaka Kiri	Baayi Kiri	Sani Kiri		
Yes	94	90	70	90	344	86
No	9	9	28	10	56	14
<i>Total</i>	103	99	98	100	400	100

Sources: Survey Data, (2006)

The analysis in Table 6 above revealed that 344 (86%) respondents accept the fact that their major losses of fish products in the area is due to storage condition, while 56(14%) did not accept the fact. This means majority of the respondents agreed to the fact that their major losses of fish is mainly caused by bad storage condition.

vi. Research Question Six:

The respondents were asked to mention the nature of their distribution strategy and the frequency. Their responses are as shown in Table 7 below:

Table 7. Distributional strategy currently in use in the zones

Strategies	Frequency			Frequency	Percent-age
	Very High	Moderate	Absent		
Intensive distribution	--	50	--	50	12.5
Selective distribution	350	--	--	250	87.5
Exclusive distribution	--	--	--	--	--
<i>Total</i>	350	50		400	100

Sources: Survey Data, (2006)

The analysis shows that 350 (87.5) indicated that, the current distributional strategy commonly in use in the zones is selective distribution. While 50 (12.5%) indicated that intensive distribution strategy were applied but moderately. This analysis confirmed that selective distributional strategy is what is commonly used by majority in the fishing zones.

vii. Research Question Seven

The respondents were asked to indicate yes and no whether the Niger Delta Youth militant activities effect distribution of their product in the zones and frequency. Their responses are as shown in Table 8 below:

Table 8. Niger Delta youth militant activities effects distribution activities in the fishing zones

Response	Frequency				Frequency	Percent-age
	Elem Kalabari	Sikaka Kiri	Baayi Kiri	Sani Kiri		
Yes	95	90	71	90	346	86.6
No	8	9	27	10	54	13.5
<i>Total</i>	103	99	98	100	400	100

Sources: Survey Data, (2006)

The analysis in Table 8 above shown that 346 (86.6%) agreed to the fact that the Niger Delta Youth militant activities effect distribution activities in the area. While, 54 (13.5%) say no to that. The implication of this is that the youth militant activities effect the distribution of their products from the Creeks in the rural areas to the urban markets.

4.4 Analysis of Hypotheses

4.4.1 Hypothesis I

Ho₁ Fishermen and re-sellers in the Asari-Toru Local Government Area do significantly differ in the water transportation mode adopted in the movement of their product the market.

Contingency table of water preferable mode of transportation

Response	Frequency				Frequency	Percent-age
	Elem Kalabari	Sikaka Kiri	Baayi Kiri	Sani Kiri		
Yes	91	90	72	90	343	85.75
No	12	9	26	10	57	14.25
<i>Total</i>	103	99	98	100	400	100

Sources: Survey Data, (2006)

Calculation of Chi-Square

$$Fe: \frac{\text{Column total} \times \text{Row total}}{\text{Grand Total}}$$

Response	fo	fe	fo - fe	(fo - fe) ²	$\frac{(fo - fe)^2}{fe}$
Yes	91	88.3	2.7	7.3	0.08
No	12	14.7	-2.7	-7.3	0.50
Yes	90	84.9	5.7	26.0	0.31
No	9	14.1	-5.1	-26.0	-1.84
Yes	72	84.0	-12.0	-44.0	-1.71
No	26	13.10	12.9	166.4	12.7
Yes	90	85.8	4.2	17.6	0.21
No	10	14.3	-4.3	-18.5	-1.30
	400	400			8.95

$\chi^2 = 8.95$ value

Degree of freedom = 3 at 0.05 significance level is 7.815 table value

Decision Rule: Since, the calculated chi-square (χ^2) 8.95 value is greater than the table value of 7.815. We reject the null hypothesis. This confirming the respondents responses that, rural fishermen and re-seller do not significantly differ in the water transportation mode they adopt in the movement of their products to the urban (i.e. market place).

4.4.2 Hypothesis II

Ho₂ There is no significance relationship between storage condition and the level of losses incurred by the rural fishermen and re-sellers in the Asari-Toru Local Government Area

Contingency table for losses of fisher due to storage condition

Response	Frequency				Frequency	Percent-age
	Elem Kalabari	Sikaka Kiri	Baayi Kiri	Sani Kiri		
Yes	94	90	70	90	344	86
No	9	9	28	10	56	14
<i>Total</i>	103	99	98	100	400	100

Sources: Survey Data, (2006)

Calculation of Chi-Square

<i>Response</i>	<i>f_o</i>	<i>f_e</i>	<i>f_o - f_e</i>	<i>(f_o - f_e)²</i>	$\frac{(f_o - f_e)^2}{f_e}$
Yes	94	88.6	5.4	29.2	0.33
No	9	14.4	- 5.4	- 29.2	- 2.03
Yes	90	85.1	4.9	24.0	0.28
No	9	13.9	- 4.9	- 24.0	- 1.73
Yes	70	84.3	- 14.3	- 204.5	- 2.43
No	28	13.7	14.3	204.5	14.9
Yes	90	86.0	4.0	16.0	0.19
No	10	14.0	- 4.0	- 16.0	- 1.14
	400	400			8.37

Calculated chi-square (χ^2) = 8.37

Degree of freedom = 3 at 0.05 significance level is 7.815 table value.

Decision Rule: Since, the calculated chi-square (χ^2) 8.37 value is greater than the table value of 7.815. We reject the null hypothesis. This validates the respondents claim that, the fish losses they incurred was as a result of bad storage condition in the area.

4.4.3 Hypothesis III

Ho₃ The Niger Delta Youth Militant activities do not hinder distribution activities in the local fishing zones of Asari-Toru Local Government Area.

Contingency table for Niger Delta youth militant activities effect on distribution activities in the zones

Response	Frequency				Frequency	Percent-age
	Elem Kalabari	Sikaka Kiri	Baayi Kiri	Sani Kiri		
Yes	95	90	71	90	346	86.6
No	8	9	27	10	54	13.5
<i>Total</i>	103	99	98	100	400	100

Sources: Survey Data, (2006)

Calculation of Chi-Square

<i>Response</i>	<i>f_o</i>	<i>f_e</i>	<i>f_o - f_e</i>	<i>(f_o - f_e)²</i>	$\frac{(f_o - f_e)^2}{f_e}$
Yes	95	89.1	5.9	34.8	0.39
No	8	13.9	- 5.9	- 34.8	- 2.50
Yes	90	85.6	4.4	19.4	0.23
No	9	13.4	- 4.4	- 19.4	- 1.45
Yes	71	84.8	- 13.8	- 190.4	- 2.25
No	27	13.2	13.8	190.4	14.4

Yes	90	86.5	3.5	12.3	0.14
No	10	13.5	-3.5	-12.3	-0.91
	400	400			8.05

Calculated chi-square (χ^2) = 8.05

Degree of freedom = 3 at 0.05 significance level is 7.815 table value.

Decision Rule: Since, the calculated chi-square χ^2 (8.05) value is greater than the table value of 7.815. Hence, we reject the null hypothesis. This support the view of our respondents that the Niger Delta Youth Militant activities seriously hinder distribution activities of the rural fishermen and re-sellers in the Area.

5. Discussion of Findings

- i. *Common and Accessible mode of Transportation:* The study revealed from the analysis that, the common and accessible mode of transportation in the area is salt water transportation. The fishing zones is largely cover by salt water and swampy forest, which eventually gives way to waters as a preferable mode of transportation in the fishing zones and communities in the Asari-Toru Local Government Area. However, Rail and Air mode of transportation is completely absent in the area. It is only Road mode of transportation that connects the headquarters of the local government area only. Therefore, the concentration of the transportation activities is on the salt water.
- ii. *Current and Common Distribution Strategy in the zones:* The study found that, the current and common distribution strategy applied is the selective distribution method. Where distribution is mainly through close friends, relatives and wives of the rural fishermen, but never considers what characteristics distinguish good and efficient middlemen for effective distribution. As such, they are supposed to consider the following characteristics:
 - a. Number of years in this business
 - b. Other product lines carried
 - c. Growth and profit record of the re-sellers
 - d. Financial capability (i.e. solvency)
 - e. Cooperativeness
 - f. Reputation and so on

On this regard, selective distribution cannot effectively cover the relatively large geographic area of the fishing zones that dominant largely by sea and Creeks salt waters.

- iii. *Cost of production affect fish price in the zones:* Although demand of fish by consumers, competition among fish resellers (i.e. middlemen) who buy fish and distribute them to urban market for re-sell do effect price too. But the most salient factor they encountered in pricing is due to the production cost, which they consider is very high. As such, it gives more concern in their distribution activities operations. And so, sometimes they are forced to adjust their prices and sell at the price that cannot pay for fresh operations. These the respondents in the fishing zones considered it very important because every cost incurred in the cause of any production must be recovered in order to make profit.
- iv. *Storage condition and fishes loses incurred in the zones:* The study found that major losses of fish in the zones are as a result of lack of modern storage facilities. The rural fishermen and re-sellers still maintained the local methods of preservative concept, which could not keep fish for a long period. The dry fish stay for few weeks and gets rotten while the fresh fish cannot even stay for 24 hours before they rotten. This condition is so critical that the fishermen, fish mammals and other buyers cry out every day for permanent solution. Also, they lack funds to provide storage facilities for their products. Although, other factors which include climatic condition and lack of sales causes fish losses. But the major causes of the losses incurred by the fish middlemen are lack of modern storage facilities.
- v. *Nature of Fishing Common in the Zones:* The study found that, the nature of fishing common in the zones is artisans fishery, which characterized by high labor intensity and low productivity. The rural fishermen operate in remote and scattered fishing settlements in the zone along the coastlines, employing large and

small canoes with their set-nets and beach seines, cast nets, hooks and traps of various kinds. This implies that, local methods and canoes kinds ancient fishing are still in full operation in the zones of Asari-Toru Local Government Area.

- vi. *Niger Delta Youth Militant Activities Hinders Distribution Activities in the Fishing Zones*: The distribution activities have been seriously hindered in the coastal area of the fishing zones of the local government area. Because, re-sellers or middlemen in the area expressed fear of attack by the militant youth. Meanwhile, during the fishing season they avoid going about their normal operations, even if they do, they do it with all amount of carefulness and safety which limit their production capacity and distribution efficiencies. As such, certain distribution activities that will boast their business will be done haphazardly.

5.1 Conclusion

The resellers, rural fishermen used marketing tools to move or distribute their fish products to the markets. But lack the insight of what it entails towards distribution strategy. In other word, they lack knowledge of proper planning, storage and publicizing so as to operate in a suitable distribution channels.

However, since their goods or product are perishable, therefore, suitable distribution strategy for the area is intensive distribution strategy.

5.2 Recommendations

Having examined the current distribution strategy of fish product in Asari-Toru Local Government Area. And established strong relationship among rural fishermen and the reseller or middlemen in the bid to move their products to the market the following recommendations are made:

- i. Good roads should be developed including construction of bridges across some swampy forest to a dry land within the fishing zones/communities of the area. It is very sad that only the local government headquarters and few villages along the road that are connected or link to the state capital.
- ii. Rail way network should be extended to all the local government area in the country. Also, the services of the railway corporation be re-established.
- iii. Establishment of public Warehouse should be encouraged by the local, state and other governmental bodies, private organizations and wealthy individuals to assist the situation in the rural areas.
- iv. Research should be encouraged to study and develop the present fish local preservation technique in the fishing zones for possible improvement.
- v. National, state and local houses of Assembly should formulate and implement laws that will guide all family in the riverside area to engage in mechanized fishing to balance the fish production capacity in the country to avoid shortage of fish supply to the market.
- vi. Laws should be made and monitor against the use of chemicals and dynamite in the coastline or riverside areas. Even the old laws should be re-enforcing into actions with all seriousness to make sure our seas and creeks are not polluted.
- vii. Grants should be given to concerned rural fishermen and re-sellers to encourage them of production and effective distribution of fish products to the market.
- viii. Rural fishery programmed should be organized to educate rural fishermen and middlemen on cost management and proper planning on production/distribution activities.
- ix. Apart from artisanal mechanized fishing, federal government, state government, and local government should provide an effective management of loan system to rural community members to encourage them set up fish farming to compliment the demand capacity in the country.
- x. Seminars should be organized periodically for rural fishermen and middlemen to acquaint themselves with the simple basic marketing distributional strategies and its applications to better their lot.

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