

## **Value-Chain Approach as Stimulant for Recovery from Economic Recession in Nigeria: a Focus on Rice Marketing in Buruku Local Government Area of Benue State-Nigeria**

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### **A b s t r a c t**

**N**igeria started experiencing severe recessive growth with GDP indices of -0.36% and -1.5% in the first and second quarters of 2016 respectively. Though the growth in the fourth quarter was marginally positive at 0.8%, the country was already possessed with negative macroeconomic indices typical of a country in recession. In the effort to pull the economy out of the recession, various economic measures had been adopted. With the framework of unbalanced growth theory, this research identifies agriculture as a sure way out of the recession. The paper advocates the adoption of value chain approach to rice production. Using Buruku Local Government Area of Benue State as a case study, a value chain analysis reveals a profitable cost-benefit ratio for rice processing, wholesale and retail rice business, and rice dispensary business. The findings indicate that for every one naira, rice processors gain 56 kobo, rice dispensers gain 12 kobo, while rice wholesalers and retailers gain 41 and 15 kobo respectively. It is obvious that the value-chain of rice marketing enhances value accumulation at different stages which can help participants break way from the recession-driven poverty. In the medium term, through the multiplier effect, sectors related to agriculture generally and rice processing in particular would be stimulated, and accelerated economic activities and growth would ensue. The paper concludes that as economic recession comatose macroeconomic variables and deactivates the real output sector, a value yielding venture of the rice marketing variant presents ready opportunities to the economic managers to pull out the economy from recession as modeled in Buruku Local Government Area.

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**Keywords:** *Value-chain, Recovery and Economic recession*

## **Background to the Study**

Nigeria is presently facing one of the most challenging economic crises in its history. The country started experiencing severe recessive growth with -0.36% and -1.5% indices in the first and second quarters of 2016 respectively. Though the growth in the fourth quarter of 2016 was marginally positive at 0.8%, the country was already possessed with negative macroeconomic indices typical of a country in recession (NBER, 2017). There has been hurried and frantic short term economic measures like controlling the exchange rate of the naira to dollar which obviously has not impacted on real output sector of the country. Despite government recurrent assurances of imminent recovery, it is becoming very obvious that a *quick fix-it-all-at once* solution is unrealistic and cannot be found as expected by many. This, perhaps is the reason why the federal government has adopted the unbalanced growth strategy that emphasizes the development of agriculture since it holds great potentials for employment creation, food security, income generation and poverty reduction.

Despite the great potentials inherent in the agricultural sector, the growth of this sector is not in consonance with its strategic importance in the Nigerian economy. Between the colonial times and more than half a century after independence, Nigeria is still grappling with the issue of implementation of national agricultural programs. Numerous national agricultural programs have come and gone and yet those noble potentials are yet realized Ogbonna (2011).

Iwuchukwu and Igbokwe (2012) observes that the failure of the agricultural sector to sustain the economy in times of crises and overcome economic debacles like the current recession is because the Nigerian agricultural policies and programs since independence vary only in nomenclature and organizational network. New policies and programs emphasize almost same objectives like food security and sufficiency, and exportation of the anticipated surplus to other countries. The policies and programmes lack innovation and creativity and depth. The policies mainly planned for the initial stages of agriculture like planting or harvest with no or little attention given to harnessing the value-chain for enhanced welfare of the numerous people involved in the production process in the intermediate stages.

The current economic crisis calls for an urgent review of the existing agricultural policies with a view to helping achieve the aim of attaining self-sufficiency in food production and speed up the recovery process of the Nigerian economy. The obvious missing gap is the absence of value-chain approach in the design and implementation of the agricultural policies in Nigeria. According to Onov (2014), countries like Thailand, China, Brazil and many others that have attained self-sufficiency in food production all adopted the value-chain strategy. The need therefore arises for the country to adopt this approach in producing food crops that have many production links.

Rice is among the staple food crops that drive commercial activities in the Nigerian economy due to its chains of production. Quentin (2008) emphasized that in sub-Saharan Africa, rice is a driver of development because of its linkage effects. Consequently, Akbar and Mikuni (1998), cited in Akighir (2011), stated that Nigeria has the potential to increase her domestic share of the rice market in a medium to long range investment strategy that could develop into a self-sufficient industry locally, with almost fourfold increase in the industry's employment level.

In Benue State and particularly in Buruku Local Government Area, rice is produced on large-scale and the different chains of production are clearly discernible. It was as a result of the intensity of rice production activities in the study area that the World Bank in its third National FADAMA III Development project targeting rice production in 2012, spent a total of N376,153 100.00 on 20 communities in Benue State, with Buruku Local Government taking the lion share of the amount. The pertinent issue is the examination of the value provided by rice at each stage of production and how such can be replicated in the many rice producing areas of Nigeria to significantly impact on the rice producers and hence create employment, increased income, provide sufficient food and export the surplus; and by this pull Nigeria out of the economic recession quagmire.

It is against this backdrop that this work seeks to analyze the value-chain of rice production in Buruku Local Government Area. The aim of the paper is to find out whether a three-stage marketing value-chain of processing, wholesale/retail and dispensary can accumulate value that can stimulate the Nigerian economy to recovery. Effort is made to examine the economic values of the activities at each stage of production so as to ascertain the costs and benefits involved at these stages. To achieve this aim, the study is structured into 5 sections. After the introduction, section 2 reviews literature on key concepts used in the work, a brief on economic recession in Nigeria and the theoretical framework. Section 3 presents the methodology adopted for the research. Section 4 presents the results and discusses it, while section 5 presents the conclusion.

### **Literature Review**

The concepts that have peculiar meaning and application in this research treated under this section are value chain, rice marketing and economic recession. This section briefly describes the activities at the various stages of value-chain and closes with the theoretical framework.

### **Conceptual Issues**

**Value-chain:** The concept of value-chain was first described and popularized by Michael Porter (1985). The idea of the value-chain is based on the process view of organizations; the idea of seeing an organization as a system made up of subsystems each with inputs, transformation processes and consumption of resources – money, labour, materials, equipment, buildings, land, administration and management. A value chain at the firm's level is therefore defined as a chain of distinctive activities for a firm operating in a specific industry (MicroLinks, 2011). Products pass through all activities of the chain in order, and at each activity the product gains some value. The chain of activities gives the product more added value than the sum of the independent activities' values. At the industry level, a value chain is a physical representation of the various processes that are involved in producing goods and services, starting with raw materials and ending with the delivered product (Keyser, 2006).

A value-chain of rice describes a process in which rice accrues incremental value at various stages of its production, since rice production involves five prominent stages (farming, processing, wholesale, retail and dispensary), rice value-chains concern the value-added determination at each of these production links from where a Total Value Chain (TVC) can be derived.

Value-chain can be viewed from two perspective – quantitatively and qualitatively. Quantitative value-chain analysis focuses on the amount of money a customer is willing to pay for a firm's output. In an open economy, this price is determined competitively and flows upstream from the consumer to each producer and marketing company involved in the growing, collection, transformation, and delivery of that commodity to its terminal market (Olamola, 2007). On the other hand, generic value-chain methodology analysis focuses on qualitative analysis to understand trends, incentives and relationships. Undoubtedly, quantitative analysis plays an important role in value-chain analysis by illustrating the current situation and revealing inefficiencies that can be addressed to increase competitiveness. (Micro LINKS, 2011).

A quantitative analysis involves the *M-3 Method* i.e. mapping the pattern of value-added situation along the chain: Measuring Profitability, Productivity and Production capacity. However, the first step in mapping the distribution of value-added is to record prices at the different stages in the chain for one unit of a good beginning at raw material and ending with the final product sold to the customer. The next step is to assess the value added at each link. Total input costs (such as bought-in materials and contracted services) need to be subtracted from the recorded prices. This exercise identifies the roles of each segment and the incremental value that the market assigns to each role based on additional inputs and services to the product. Hence, after capturing the value added at each link, the next step requires the analyst to establish the relative profitability of each activity. To do this, more detailed data on costs are needed, including materials costs, depreciation costs, labour costs, financing costs, utilities, and the profit margin at each stage (Olamola, 2007).

Another aspect that is crucial in mapping the distribution of value-added is the measurement of productivity. Productivity measures the efficiency of economic units in employing resources in the production process. It is frequently expressed as a ratio of output over input. Productivity measurements are useful for tracking changes over time in a value-chain to assess and bring out improvements, and for benchmarking against competing value-chains. The third aspect of mapping value-added is the production capacity indicator analysis, which measures the production capacity of a specific value-chain. Capacity can be measured by cycle time analysis and throughout analysis. Cycle time analysis measures the time required to fulfil an order placed by a customer. This can be broken up into the time taken by each firm to complete its role in the value-chain, or even by each task within an enterprise. This is important because, *ceteris paribus*, buyers will typically prefer shorter cycle times to limit the amount of expensive inventory they have to hold (Micro Links, 2011).

**Rice marketing:** Rice marketing has been defined by Itheme (1996) as the performance of all business activities in the flow of paddy and milled rice, from the point of initial production until they are in the hands of the ultimate consumers. Seen from this perspective, Aderibigbe (1997) divided the marketing of local rice into four stages with a change of product ownership occurring between each pair of stages. The first stage is farming through harvesting. Stage two includes movement from the farms to processing centres, while stage three consists of moving the milled rice from processing areas to urban consumption centres. The fourth stage encompasses wholesaling and retailing in the urban centres. The present study adds the fifth stage; rice dispensary. Rice dispensary has been defined by Onov (2014) as the sale of cooked rice in small quantities in restaurants, hotels, market squares and other public places for onward consumption by members of the public.

Rice processing activities essentially entail parboiling and milling of paddy which make it ready for cooking ((Olomola, 2005 and Titiola, 2003). It is a distinct activity which involves the removal of panicle from rice seed to obtain the grain suitable for cooking (Aderibigbe, 1997). The activities consist in soaking paddy in hot or cold water in a drum, followed by a rapid exposure of the soaked paddy to steam and gradual drying for at least one day (Akighir, 2011) but particularly for two days (Stuykers, 1982 in Olomola, 2005).

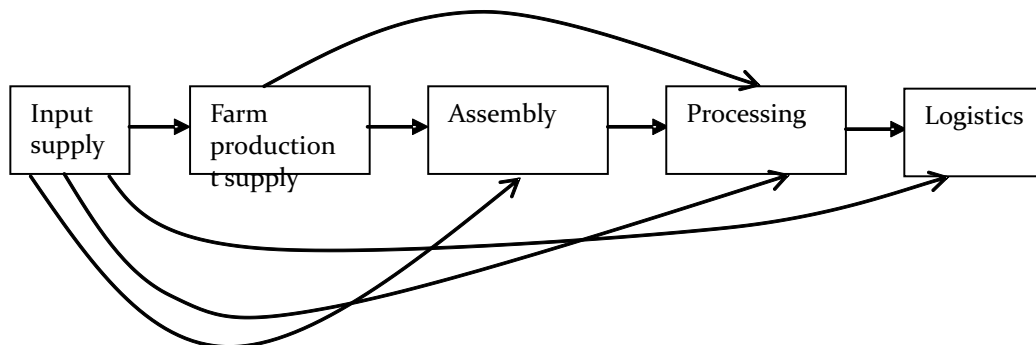
**Economic Recession:** There seems to exist two definitions of economic recession in the literature. First, it is viewed by some as “a significant decline in economic activity spread across the economy, lasting for more than a few months, normally visible in a real gross domestic product (GDP), real income, employment, industrial production and wholesale-retail sales.” (The National Bureau of Economic Research (NBER)). The problem with this definition is that the magnitude of the decline of economic activities that would be term *significant* is undefined. Also the period of time described as *more than few months* is vague. Thus the definition lacks precision, though it identifies the subject matter of recession clearly as decline in economic activity spread across the economy.

The second definition expresses economics recession as a negative real GDP growth rate for two consecutive quarters like first and second quarters of a year or fourth quarter of a past year and first quarter of a subsequent year (Hill, 1972). Though this definition resolves the problems inbuilt in the first, it might be deceitful because recession can begin before the quarterly Gross Domestic Product reports are out. It is also possible for a country under recession to experience a positive growth rate in a particular quarter of the year momentarily but yet remained in recession despite the positive value.

Based on the above definitions, it is clear that Nigeria sunk into economic recession since 2016 when the growth rates were -0.36% and -1.5% for the first and second quarters. The International Monetary Fund (IMF), as well as the Central Bank of Nigeria (CBN) all agreed that Nigeria economy has plunged into recession. All the macroeconomic indicators have turned negative. Inflation has been galloping above 18% since over a year. Interest rate is between 26 and 27% which is extremely high for investors and many firms have shut down already. Exchange rate of naira and unemployment are well out of control. There is a sharp general increased in poverty in the land.

### **Main Activities in the Value-chain Stages**

Value-chain analysis has gained considerable popularity in recent years. Although many approaches are taken, value-chain essentially represents enterprises in which different producers and marketing companies work within their respective businesses to pursue one or more end markets. Value-chain participants sometimes cooperate to improve the overall competitiveness of the final products, but also may be completely unaware of the linkages between their operations and other upstream or downstream participants (Olomola, 2007). Value-chains therefore encompass all the factors of production including such economic activities as input supply, production, transformation, handling, transport, marketing, and distribution necessary to create, sell, and deliver a product to a certain destination (Olomola, 2007). A typical agricultural value-chain may take the following form:



**Fig. 1: Stages of the value-chain**

In the diagram, arrows flow from input supply to all other stages to show that this is a crosscutting function that affects all participants, not just at the farm level. An arrow is also drawn from farm production to processing to show that some farmers may deliver their crop directly to a factory, thereby fulfilling the assembly function as well. This can either happen as part of a vertically integrated supply chain managed by a large company or because the scale or proximity of an individual's production to the factory justifies direct delivery. Some of the main activities that occur at each stage of the value-chain include the following:

**Input Supply:** This stage is concerned with the sourcing of raw materials required for agricultural production, processing and trade. The final value of an input at its place of use includes all manufacturing costs, tax, and unofficial payments incurred up to that point.

**Farm Production:** This stage is concerned with primary agricultural production and ends with the sale of raw commodity at the farm gate. These transactions may occur literally at the farm gate or at some other point where the farmer hands over ownership of the product to the next value-chain participants.

**Assembly:** This stage involves the collection of agricultural produce from many farmers and delivery of the raw material to a factory for industrial processing or packaging. Bagging and simple grading of crops can also occur at this stage depending on arrangements made at the first point of sale.

**Processing:** The processing stage involves the transformation of agricultural raw materials into one or more finished goods. Raw commodities are also traded and so this stage may not apply to every crop.

**Logistics:** The logistics stage is concerned with the delivery of traded commodities to their final market destinations.

### Theoretical Framework

This paper is framed on the unbalanced growth theory of economic planning strategy. Hirschman's (1958) unbalanced growth theory contends that deliberate unbalancing of the economy according to pre-determined areas of emphasis is the best method of development.

For steady growth and sustained economic development, the task of development policy is to maintain tension, disproportions and disequilibrium. When the economy creates and maintains existing imbalances, there exist spill-overs, multiplier effects and *tickle* from the prioritized sector which pull-up related sectors and ensure growth and development. With resources directed principally to few sectors, shortages created by unbalanced growth translate to incentives for inventions and innovations which necessitates intense economic activity and exacerbates economic progress.

In the theory's original form, Hirschman postulated that unbalanced growth strategy should identify and invest in direct productive activities (DPA) or Social Overhead Cost (SOC). The SOC was defined as basic services without which primary, secondary and tertiary productive activities would not blossom and peak. Such Social Overhead Capital included public services like transportation and electricity. Direct productive activity was defined to include the establishment of firms and industries which add up to GDP directly. Rice production falls under DPA which will directly impact on the lives of Nigeria and raise the standard of living.

The theory identifies macroeconomic characteristics common to underdeveloped countries which often present a springboard for economic recession experiences in countries like Nigeria. These common characteristics are low levels of GNI per capita and slow GNI per capita growth, large income inequalities and widespread poverty, low levels of productivity, great dependence on agriculture, a backward industrial structure, a high proportion of consumption and low savings, high rates of population growth and dependency burdens, high unemployment and underemployment, technological backwardness and dualistic existence of traditional and modern sectors. The dominance of these characteristics naturally ensured scarce resources and inadequate infrastructure to exploit these resources. With a high dependency on limited foreign investment and scarce international loan facilities, investment inputs like investors, entrepreneurs, cash flows and large capital allocations cannot be directed into various sectors simultaneously to ensure balanced economic growth, hence the inevitability of focusing developmental variables to one or few selected sector(s). The situation is worsened because these conditions ensure there exist an under optimum equilibrium.

A Country like Nigeria that had over 60% of her population living below poverty line for over two decades had become so used to poverty that there existed an inherent state of equilibrium with an extremely low level of income, production, consumption and investment. This undesirable extremely low level of equilibrium itself has become an obstacle to growth. Therefore, the unbalanced growth theory that perpetuates the sequence that leads away from equilibrium is precisely an ideal pattern for development. Unequal development of various sectors often generates conditions for rapid development. More-developed industries provide undeveloped industries an inducement to grow. Hence, development of underdeveloped countries like Nigeria should be based on this strategy.

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underdeveloped countries like Nigeria should be based on this strategy. The unbalanced growth strategy is premised on policy target of complementarity and induced investment. Unbalanced growth with the goal of complementarity entails planned increased production of one good or service that inevitably builds up demand for the second good or service. Investment particularly targeted at facilities like agriculture would lead to higher domestic output of varieties of raw materials and ultimate establishment of agro-allied industries that would pull Nigeria out of economic morass and recession.

The consequence of complementarity is the multiplier effect of the investment in the agricultural sector which would induce investment in related sectors. Investment in rice farming for instance would trigger a series of subsequent events. Growth sequences tend to move towards convergence especially as the output of external economies diminishes at each step. Policy makers should ensure divergence prevail as this would keep the multiplier effect widespread with multiplicity of value chains across several sectors of the economy. Rice is a staple food in Nigeria with clearly identified value chain stages. Unbalancing the economy to agriculture is already the policy direction of the present administration. The advocacy for prioritization of rice production under the unbalanced growth strategy tilted towards agriculture will not only pull Nigeria out of recession but will ensure steady and sustainable development from backward and forward linkages. Not only this, Nigeria's revenue has dwindled over the years and with the prevailing recession, balanced growth strategy is unrealistic, hence the aptitude of the unbalanced growth strategy for Nigeria.

### **Methodology**

The study used survey method to obtain relevant data from the respondents. The nature of the research was both descriptive and exploratory. It attempted to describe the main characterizations of rice marketing and also explored the cost-benefit or value analysis at each chain of production of rice while the type of design based on time was predicated on current factors explaining the value-chain of rice marketing in the study area. The study's target population comprised all marketers of rice, including those who participate at the level of rice processing, and those involved in rice marketing at wholesale, retail and dispensary levels in Buruku Local Government Area of Benue State. A pre-survey study revealed that the study population is 1,678 persons comprising 494 rice processors, 109 wholesalers, 226 retailers and 831 dispensers. Pre-survey data were sourced from the Zonal office of Rice Processors' and Marketers' Association in Buruku. However, it was difficult to obtain data on the exact number of rice dispensers in Buruku Local Government Area. Hence, in small market places like Diwa, Tomanyiin, Abakwa, Dogo and Ankaa-Kusuv, head count surveys were conducted while in large market places like Tyowane, Buruku, Abwa, Adi, and Ugbema, restaurant owners and other popular rice dispensers were engaged in focused group discussions and personal interviews to arrive at the population of rice dispensers in their areas, from where average values were taken and used.

The paper used stratified sampling technique to select a sample size of 400 respondents from the five strata. The sample is based on Yamen's (2004) formula. This sample was distributed among the sample strata using Bowley' (1964) formula as follows: processing 88; wholesale 19; retail 40; and dispensing 148. According to Emaikwu (2006), stratified sampling technique allows greater representativeness of the sample relative to the population and guarantees that minority constituents of the population are presented in the sample.



Primary data required for this work were sourced via the administration of questionnaire, oral interviews, personal observations and Focus Group Discussions (FGDs). The questionnaire method of data collection however formed the major basis of sourcing data. This is because it is easier and faster to administer. It also allows respondents the opportunity to provide some information about themselves they consider confidential and hence find it difficult to provide under a face-to-face interview session. However, where necessary the questionnaire was complemented by oral interviews to help elicit relevant information from respondents which were not captured in the questionnaire. Moreover, the study area comprised illiterate individuals who were not able to fill the questionnaires accurately, thereby, necessitating the use of interviews. Focus Group Discussions (FGDs) helped bring out more facts about the value of rice marketing at different stages because the technique is normally used to enable respondents bare their minds while discussing with the researcher.

Focused group discussions were conducted at the 5 stages of rice production. This helped participants bare their minds during discussion and hence express view and opinions on their activities in rice production and socioeconomic conditions, which they were not able to express using questionnaire and interview sessions. At each stage, two groups of five members were formed for discussion. The simple criterion for selection of group membership is evidence of rice production activities at the stage concerned. In each of the two groups selected, two round of discussions were held with participants. In total, twenty round of discussions were held with ten groups that cut across all the five stages of rice production. These rounds of discussion were deemed sufficient considering time constraint.

Group members were asked ten questions that border on their challenges in carrying out rice production activities, the types of costs they incur during rice production, their awareness of, and connection or cooperation with valuable clients, the level of cooperation that existed among them and such clients, the nature of competitions they face from other producers, whether they have deliberate strategies to withstand or overcome such competitions, their general assessments of the revenue generation in rice production compared with other staple foods, whether they re-invest such revenue in other stages of rice production or not and the average time it takes them to produce and sell their products to earn income .

A value-chain model was used to analyze the value of rice marketing at the four stages identified in this study based on a template of an EXCEL algorithm specifically designed for this study.

The value-chain model adopted from Onov (2014) is specified as follows:

$$Vc = \sum \frac{a_i}{t_i} = \frac{a_1}{t_1} + \frac{a_2}{t_2} + \dots + \frac{a_5}{t_5} \quad \dots (1)$$

Where

Vc = Value-chain

$a_i = \frac{B_i}{C_i}$  = cost-benefit ratio, and

$B_i, B_p, B_k, B_L,$  and  $B_m$  = total benefits (revenues) derived from the sale of cultivated (farmed), processed, wholesale, retail and dispensed rice, respectively.  
 $C_i, C_p, C_k, C_L,$  and  $C_m$  = total costs of farming, processing, wholesale, retail and dispensing of rice, respectively.  $s_{1aa-}$  = Cost-benefit ratios of cultivated, processed, wholesale, retail and dispensed rice, respectively.  
 $t$  = Time taken to complete value-chain at each stage of production.

It is expected that  $a_1 - a_3 > 0$

This means that each stage of production is expected to contribute positively to the production chain. In other words, value is expected to be added at each production link.

It is also expected that:

$$\frac{a_2}{t_{\square}} > \frac{a_3}{t_{\square}} > \frac{a_1}{t_{\square}} > \frac{a_4}{t_{\square}} > \frac{a_5}{t_{\square}} \quad \dots\dots (2)$$

This means that rice processing is expected to add the highest value due to its short time cycle and turnover; followed by rice wholesale because of its potential for high profitability; then rice cultivation, rice retail and rice dispensary, in that order.

**Cut-off Mark:** The cut-off mark of value chain is based on cost-benefit ratio of 1.00 (break-even point) and cycle time of 0.0029 yrs or one day (minimum expected in rice production). The maximum value-chain indicator of which is 344 units (i.e.  $\frac{1}{0.0029} = 344$ ) As observed in Google online, "the desired level of acceptance or significance is set by the researcher (not determined by data). Usually, the acceptance level of 5% which corresponds to 95% confidence level is used". This view was corroborated by Ikyanyon, (2012) that the acceptance level of 5% is commonly used by researchers as a statistical yardstick for decision making. Thus, taking 5% acceptance limit, this yields a result of 17.2 units. Thus, any value below 17.2 units is considered not significant contribution to rice production chain.

**Results and Discussions**

In tables 1-3 financial estimates and average values were used to calculate cost and benefits while periodic estimates and averages were used to determine cycle times. Table 1 below show that the cost of processing rice stands at N256,640 while the average revenue accrued to participants is N400,000. Given a cost-benefit ratio (a) of 1.56 and cycle time (t) of 0.08 years, the value chain indicator was 39.00, showing that for every one naira, rice processors gain 56 kobo. This value is above the cut-off point of 17.2. This suggests that rice processing contributes significantly to rice production chain in Buruku local government area of Benue state.

**Table 1: Rice value-chain indicators at processing stage**

Item	Description										Result
Cost	Tc	Ct	Cu	Cp	Cw	Ce	Cc	Cb	Cr	Ot	
	7200	12000	6000	4800	3120	3120	0	2400	0	2000	256,640
<b>Rev.</b>								Rp	Rc	Oj	
								384,000	14000	2000	400,000
<b>a.</b>											1.56
<b>t.</b>											0.04
<b>Vc</b>											<b>39.00</b>

**Source:** Author's Computation (2016)

Reference Table 2, the average costs of undertaking wholesale and retail business of rice are N423,000 and N99,000, respectively while the average revenues accruable to the participants are respectively N485,000 and N145,000. Given cost-benefit ratio (a) of 1.15 and 1.41 for wholesale and retail respectively, and cycle times (t) of 0.06 and 0.08 respectively, the value-chain indicators are 17.68 and 19.20 for wholesale and retail businesses, respectively showing that for every one naira, rice wholesalers and retailers gain 41 and 15 kobo, respectively. These indicators are above the cut-off point of 17.2. This suggests that rice wholesale and retail contribute significantly to rice production chain in Buruku local government area of Benue state.

Finally, data presented in Table 3 shows that the average cost of transacting rice dispensary business in one week (0.02yrs as cycle time) is N20,500 while the average revenue accruable to the participants in this business is N22,700, leaving a cost-benefit ratio of 1.12 and value-chain indicator of 55.37, showing that for every one naira, rice dispensers gain 12 kobo. This value is above the cut-off point of 17.2. This suggests that rice dispensary contributes significantly to rice production chain in Buruku local government area of Benue state.

**Table 2: Rice Value-chain Indicators at Wholesale and Retail Stages**

Item	Description							Result
<b>Cost(wholesale)</b>	<b>Tp</b>	<b>Lv</b>	<b>Ca</b>	<b>Cn</b>	<b>Cf</b>	<b>Pp</b>	<b>Ox</b>	
	9000	3000	3000	13,000	5000	390,000	0	423,000
<b>(Retail)</b>			<b>Td</b>	<b>Co</b>	<b>Rt</b>	<b>Cp</b>	<b>Op</b>	
			6000	3000	5000	85,000	0	99,000
<b>Revenue (wholesale)</b>					<b>Wr</b>	<b>Ov</b>		
					480,000	5000		485,000
<b>(Retail)</b>					<b>Rl</b>	<b>Oq</b>		
					145,000	0		145,000
<b>a(wholesale)</b>								1.15
<b>(Retail)</b>								1.41
<b>t(wholesale)</b>								0.06
<b>(Retail)</b>								0.08
<b>Vc(wholesale)</b>								<b>19.20</b>
<b>(Retail)</b>								<b>17.68</b>

**Source:** Author's Computation (2016)

**Table 3: Rice Value-chain Indicators at Rice Dispensary Stage**

Item	Description					Result
<b>Cost</b>	<b>Tz</b>	<b>Cg</b>	<b>Ch</b>	<b>On</b>	<b>Oy</b>	
	1000	9000	6000	1000	3500	20,500
<b>Rev.</b>		<b>D<sub>L</sub></b>	<b>S<sub>3</sub></b>	<b>O<sub>k</sub></b>	<b>O<sub>3</sub></b>	
		21,500	1,200	0	0	22,700
<b>a.</b>						1.12
<b>t.</b>						0.02
<b>Vc</b>						<b>55.37</b>

**Source:** Author's Computation (2016)

### Conclusion and Recommendation

As economic recession bites harder in Nigeria and requires a value yielding venture, the value-chain of rice marketing presents ready opportunities to the economic managers to use and stimulate the economy to recovery. As modeled in Buruku Local Government of Benue State, value-chain of rice marketing enhances value accumulation at different stages which can help participants break way from the recession-driven poverty to a prosperous level that can, through the multiplier effect, accelerate economic activities and reverse the direction of

economic progress from negative to positive. Consequently, the Nigerian Government should be more committed to the value-chain approach to rice marketing. Both vertical and horizontal linkages should be promoted, integrated and guided to ensure a wholistic participation in rice marketing value-chains.

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