



AQUACULTURE INSURANCE IN SUSTAINABLE FISH PRODUCTION: CASE STUDY OF NIGERIA AGRICULTURAL INSURANCE CORPORATION, OYO STATE.

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Manuscript received: 18/12/2018

Accepted: 11/06/2019

Published: June 2019

ABSTRACT

This study was carried out to ascertain the level of awareness and participation of stakeholders to Aquaculture Insurance in Oyo State, South-West, Nigeria. The premium ledger of the Nigeria Agricultural Insurance Corporation of the State branch was used to identify the types of agriculture insured between 2010-July 2013. Total agricultural policies paid for under review period amounts to 642 with 71 policies for Aquaculture operations ranking third, 185 Poultry second and 209 Arable first. The study revealed that the Premium received for Aquaculture Insurance amounted to ₦1,680,959:90 (US\$11,206:39) during this period. Five commercial banks were responsible for all the aquaculture insurance policy undertaken.

Keywords: Premium, Broker, Indemnity, Risk, Uptake

INTRODUCTION

It is not only stock depletion beyond maximum sustainable yield and fishmeal trap that will affect the decline in the quest for aquaculture production for the coming decades. The unpredictable and uncontrollable nature of climatic change as well will have the worst effect on aquaculture production even with the high level of intensification and sophistication. The effect of climate change will be felt at sea fishing grounds as these are the final reservoir for the end product of aquaculture. Flooding, sandstorm, hurricane, typhoon etc. will continue to impact on aquaculture production along other factor of nutrition, breeding, and water quality. Production in adjoining and adjacent inland waters which also receive water from climate change effect will affect fish production in lakes/reservoirs, damage cage culture facilities, escape of genetically superior breeds of aquaculture species, distortion of genes and release of disease to native species (Naylor *et al.*, 2001). The aftermath of the Tsunami is still fresh worldwide likewise the devastating flood that ravaged Nigeria in 2012 (Falaye, 2013).

Aquaculture intensification involves borrowed capital/loan/savings and this needs the intervention of aquaculture insurance if the goal of future production is to be guaranteed, by stabilizing production and also keep producing operators on site.

Adeyefa (2013), Johnson (1983); defined insurance as a contract by which, for a certain specified amount of premium, an insurer agrees to pay a policy holder a specified sum of money on the occurrence of a specific event. Ezike *et al.*, (2009) stated that it is the substitution of a known small cost for the possibility of a larger loss and the risk is transferred to another business. Agricultural insurance spreads out risk and consequently minimize the burden an individual investor has to bear (Aja, 1998), thus paving way for Aquaculture Insurance.

Risk and uncertainty is the bane of occurrence in insurance Adeyefa (2013), Ezekiel *et al.*, (2011), Ayodele and Fregene (2003); describes risk as hazard, the probability of an event occurring which cannot be predicted with certainty. While McIntosh (2008), stated risk as something bad happening, an event whose outcome is adverse and the need to minimize the impact on financial stability of farm operations is therefore imperative. Aquaculture risk is greater than in any other form of animal husbandry Adeyefa (2013), Robert (2005), Pillay (1994), Gerhardsen (1979); as it takes place in an environment that is hidden. Akinyemi (1989) and Gerhardsen (1979) ranked risk according to events in fish farming. Disease, climatic condition and faulty construction ranks high in temperate climes, while poor management due to lack of skills, theft and finance ranked high in tropical

countries. Secretan (1986) reported that over 20% of losses handled by aquaculture insurance service of England were due to diseases.

Aqua-insurance is the protection for fresh and marine water aquaculture enterprise against mortality of fish stocks (Adeyefa, 2013). Aquaculture insurance includes all the various types of insurance that would normally be used to protect an aquaculture business operation by stabilizing production and income of farmers (Secretan, 2003; 2005). The most important asset to be insured in any aquaculture enterprise is the stock and exclusion of less important risk will reduce the premium to be paid (Secretan, 2003; Pillay, 1990). Pillay (1990) identified insurance as the best way of covering risk in aquaculture

Aquaculturist in developing countries especially Africa face many uncertainties and risk in production cycle which leads to substantial losses in expected revenue (Van Anrooy, *et al.*, 2006). Peculiar event of climate change in Africa is but not limited to the following; storm, flood, landslide, and ocean surge. The effects of pollution, disease, bird depredation of fish to list but a few are among the problems of fish farmers. The Black head heron *Ardea* specie and other bird strains have been sighted on farm operations even with the protective netting over pond (Ohnadeko *et al.*, 2000; Sule 2014) while Miller *et al.*, (2002) reported bird depredation as the peril with the second greatest economic concern for catfish and baitfish in the United State of America. However, risk can be insured against even in aquaculture operation. AUMS (2003) reported that global aquaculture insurance has increased considerably since the mid-1970s; the premium paid by producers has grown from US\$100,000 in 1974 to an estimated US\$50 million in 2002. The global aquaculture policy in force in 2006 was put between 7,500 and 8,000.

Van Anrooy *et al.*, (2006) reported Nigeria as the largest producer of catfish in Africa with 44,000 tons, and in value terms North African catfish US\$50 million and US\$35 million for torpedo shaped catfish. Nigeria is among the African nations with high vulnerability to the effect of climate change on fisheries and aquaculture (Falaye, 2013, Allison *et al.*, 2009, World Fish Centre 2009). The lack of timely quality information reporting, especially from weak national meteorological services and weather observing network (Yusuf, 2010) has further put risk and uncertainty at the forefront of aquaculture operations in Nigeria.

Uhienne (2012) reported only 500,000 producers have access to agricultural insurance in Nigeria, compared with a population of over 160 million, 70% of which are agrarian populace. Food Farm News (2013) reported the payment of N500

million (US\$3,333,333) claims to policy holders of the corporation that were affected by the flood crises in 2012. Minimizing investment risk needs targeting/sequencing of investment, improving access to technical services and productive technologies that minimize environmental impacts on productive resources (Beveridge *et al.*, 2013).

The advantages of aquaculture insurance uptake outweigh the eventual loss that will occur. Tranquility for a policy holder, assurance against vagaries of climate, indemnity against loss, income security and improve access to investment capital for insured farm, helps in stabilizing food security. Solution to natural disasters by government is taken care of and relief provision to farmers reduced (Secretan, 1980).

An Agricultural Insurance Act of 1987 heralds the birth of Nigeria Agricultural Insurance Corporation (NAIC 1993) and gave a legal backing for its operation through Decree No 37 of 1993 by the Federal Military Government administration. NAIC is the solely and legally mandated supplier of agricultural insurance in Nigeria. The NAIC subsidize the premium chargeable, encourage institutional lenders to lend more to agriculture and protect farmers from natural hazards effect through indemnity. Indemnity payment is based on a valuation table prepared by the corporation for each class of livestock, aquaculture inclusive. Losses are borne up to 200% of premium income and if greater than 200% Federal Government pay for all the losses. Premium are deducted from credit facility by the bank offering a loan facility and remitted to the corporation within 30 days from the date of disbursement of either part or whole of loan. Premium is subsidized to the tune of 50%; farmer pays 50% while the federal government and state government (where the project is located) pay 37.5% and 12.5% respectively (Adeyefa 2013; Yusuf 2010). On the occurrence of a disaster on the insured policy with due notification to the NAIC, followed by verification, claims are promptly adjusted within 30 days and policy holder receives claims after 24 hours of signing the discharge voucher.

MATERIALS AND METHODS

Anidi and Olajide (2013) description of the study area was adopted. Secondary data 2010-2013 formed the basis for this research and were obtained from the ledger of the NAIC, Oyo State branch and data were analysed using descriptive statistics, percentages and premium charged/receipt.

RESULTS AND DISCUSSION

The average exchange rate for the period of study of US\$ 1.00 = ₦150 (NGN) was similar to that reported

by World Bank (2011) of (NGN) 152 = US\$ 1.00
 Total agricultural policy under review period = 642
 Gross premium for aquaculture policy under review period = ₦3,561,292 (US\$23,741:95)
 Net premium for aquaculture policy under review period = ₦1,780,646 (US\$11,870:97)
 Received premium for aquaculture policy under review period= ₦1,680,959:99 (US\$11,206:39)

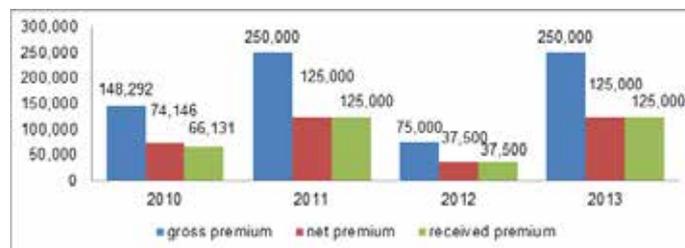


Figure 1: Premium paid by aquaculture policy holders

Fig. 1 shows that value of granted loan is small for all the review years. Also indicating that aquaculture insurance is low compared to other agriculture (Fig. 3) with an average of 18 farmers on a yearly average. Highest insured policy in 2012 was against fire in plantation N3,420,000 for gross premium, while in 2013 poultry was the highest insured agricultural project with N2,055,017.

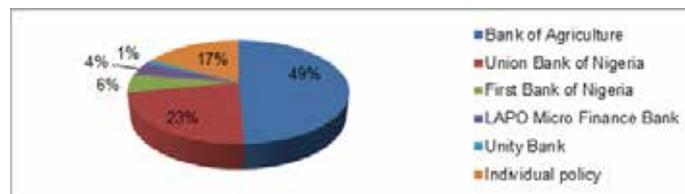


Figure 2: Aquaculture loan/insurance policies

Figure 2; indicated that only eight banks were visible on the ledger of NAIC despite the twenty commercial banks and numerous micro finance institutions in the country, while five banks were responsible for all the aquaculture policy undertaken. This shows that banks are still skeptical of lending and supporting the agricultural sector.

A total of 71 aquaculture policies were undertaken over period 27 policies were for association/cooperative societies and 32 individuals obtained bank loans while 12 individual insured their aquaculture farm on their own volition. The breakdown: Bank of Agriculture 35 (49.29%), Union Bank 16 (22.54%), First Bank 4 (5.63%), LAPO Micro-Finance Bank 3 (4.23%), Unity Bank 1(1.41%) and 12 (16.90%) individual policies. Bank of Agriculture showed its ability to finance aquaculture projects more than any other bank and this corroborates Yusuf (2010) low participation of commercial banks in agriculture projects financing.

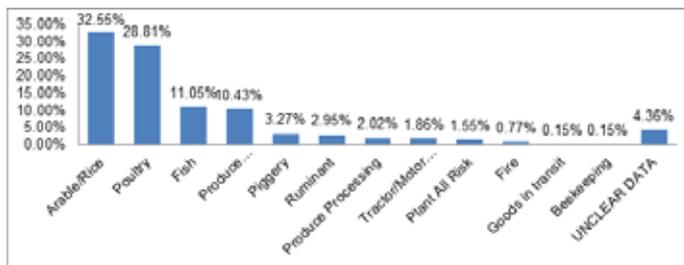


Figure 3: Ranking of agricultural policies.

Third ranked position for aquaculture (Figure 3) indicated that fish farmers are yet to realize the importance of aquaculture insurance despite the loss they incur in their operations. Ayodele and Fregene (2003); Pillay (1990) stated that most farmers do not carry aquaculture insurance policy primarily due to the high associated cost i.e. premium.

Identification of risk to be covered, high premium rate, staff skill shortages (Secretan 2003; Pillay 1990), also subjects examined by the Chartered Insurance Institute of Nigeria (CIIN, 2019) do not reflect any subject for agricultural insurance. Yusuf (2010) reported the success of Nigerian Agricultural Insurance Scheme (NAIS) to farmers with challenges of low penetration of the scheme, scarcity of data for actuarial determination of important underwriting parameters, lack of qualified personnel in the field of agricultural insurance, low participation of commercial banks in agricultural finance, difficulty in designing new agricultural insurance products and lack of interest from insurance companies in the scheme. All these are limiting factors to policy uptake which were also identified in the study area.

In Nigeria there is the general lack of awareness on aqua insurance coupled with low level of education on fisheries management, as indicated above where only 71 fish farmers in Oyo state purchased policies under the period of review despite the growth being witnessed in the aquaculture sector. This is in line with Mazwi *et al.*, (2011) who reported the uptake of insurance services in the agricultural sector of Zimbabwe, while World Bank (2011) reported for Nigeria a 1% covered of NAIS as generally low as compared with other sectors of the economy.

Van Anrooy *et al.*, (2006) report of none aquaculture insurance policy in Nigeria is however untrue as the state owned NAIC accepts premium for various fishery/aquaculture based loans. All agricultural loans granted by the banks in Nigeria now require a mandatory policy and the bank serve as the receiving agent to the state owned NAIC.

A noteworthy aspect is the growing awareness by cooperative societies taking up 38% of the insurance policies for aquaculture, 45% were

for individual who sought bank loan while 17% individual insured their project without bank loan. This is in line with the findings of Anthon (2002) that reported a voluntary/compulsory participation of farmers. Raising farmers' awareness through the electronic media especially radio as is done in China (Wenli *et al.*, 2012) where farmers are willing to take aquaculture insurance due to the electronic media awareness. Education, accessibility, communication and interaction were identified by Mazwi *et al.*, (2011) as ways of improving awareness. Aquaculture insurance information and education awareness is however absent in the study area. Due to on-going liberalization, private insurance companies are now floating subsidiaries solely on agriculture insurance with mandate on fishery and fish farm insurance. Some leading agricultural insurance firms have advertised to farmers to take up policies in national daily newspapers as part of increasing awareness to farmers. FIPAMAT (2015) highlighted low premium cost by a private insurance operator as 1% on ponds, 2.5% juvenile stocks and 1.5% feed.

In the study area distance of aquaculture fish farms from state capital where offices of NAIC are located was noted this will ultimately lead to logistics in monitoring and even reporting of losses in cases of any eventuality as some policy holders come from remote part of the state. This corroborates Yusuf (2010) that offices of insurance companies should be close to the grass root farmers as this will increase level of patronage for its policy uptake. While the operation of NAIC should follow the report of Secretan (2005) of Iran Agricultural Products Insurance Fund with over 2000 branches.

CONCLUSION

The level of aquaculture insurance uptake and awareness in the period under review is low. The development of curriculum in aquaculture/fisheries/insurance courses in tertiary institution and professional insurance/accounting bodies would be a welcome development. There is also the need for extension agents to inform farmers of the benefit of taking up insurance policy. Staffing of insurance organizations with specialist in aquaculture and opening offices in the senatorial zones is highly recommended. The liberalization of agricultural insurance in Nigeria should allow participation of private insurance firms in order to spur competition and lower prices of premium to be paid by fish farmers. These strategies will increase the level of awareness and thereby reduce the risk associated with aquaculture operation.

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