

Socio-Cultural Factors Affecting the Adoption of Snailery in Delta Central Agricultural Zone, Delta State Nigeria

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Abstract: The broad objective of the study was to evaluate the socio-cultural factors affecting the adoption of snailery in the Delta Central Agricultural zone. The specific objectives were to:- dichotomize the adoption response to snailery; examine, the socio-cultural factors affecting the adoption of snailery; ascertain the relationship between adoption of snailery and religious affiliation, investigate the relationship between adoption of snailery and level of education and establish the relationship between adoption of snailery and taboos and beliefs. Interview schedule was used to collect data. Data were analysed by the use of percentage mean and chi square test. The results show that snail habits which include the hissing noise of snail, tentacles, slimy nature and blood colour withdrawal into shell and beliefs and taboos were the major factors responsible for the non-adoption of snailery. The economic value and delicacy positively influence the adoption of snailery. The chi square test shows that there was a statistically significant relationship between adoption of snailery and religious affiliation ($X^2 = 69.84$; $p < 0.05$); there was a statistically significant relationship between adoption of snailery and level of education ($X^2 = 19.82$; $p < 0.05$); there was a statistically significant relationship between adoption of snailery and taboos and beliefs ($X^2 = 6.75$; $p < 0.05$). Religious beliefs, taboos, snail habits and level of education influence the adoption of snailery. The planning and implementation of development intervention programme involving the introduction of snailery must take into cognisance the socio-cultural factors in order to facilitate the adoption.

Key words: Snailery adoption, agricultural zone, religious affiliation, belief

INTRODUCTION

Adoption of innovation is the yardstick for the measurement of progress in agricultural extension delivery. Ekong^[1] and Williams *et al.*^[2], defined adoption as a decision to continue full use of an Innovation. Sanders^[3] averred that modern agriculture requires an innovative technology which systematically adapts scientific knowledge to farming.

The Socio-cultural milieu of the farmer particularly the rural farmer could attenuate or facilitate the adoption of an innovation. Williams *et al.*^[2] remarked that the factors which affect the adoption process include size of the farm business, personal characteristics of the farmer, contact with extension service and availability of well trained extension officers, cost and economic feasibility of the innovation, leadership structure of the community, complexity of innovation, sociological characteristics of the intended beneficiaries, values, norms and beliefs,

social nature of the community and neighbourhood. Adoption of new innovation is a continuous process. In agriculture, it is geared to meet up with the ever-increasing challenges of providing food and fiber for human and industrial consumption. Snailery has become a popular innovation because of its relative advantage over the other conventional meat sources in terms of protein and medicinal value. Akinnusi^[4] has explained that the snail meat was particularly rich in protein, calcium, phosphorous and iron. She further stated that it contains about 70% water and dry matter content of high quality protein which consists of hysine, leucine, arginine and tryptophan. She also found that the snail meat was useful in the treatment of arteriosclerosis, anemia, hypertension, high blood pressure, asthma, poor eye sight, haemorrhoids and constipation.

The introduction of snail meat in an environment where culture seems to dictate the acceptance or rejection of an innovation germane this scientific investigation.

The study investigates the relationship between adoption of snailery and socio-cultural factors.

Statement of the problem: Agricultural innovations are continually being developed in research institutes, Universities, ministries and allied organizations for the purpose of increasing agricultural production. Alao^[5] and Ajala^[6], found that a lot of researches have been done on adoption and diffusion of agricultural innovations, yet there was still a wide gap between the research findings and what the farmers produce.

Many reasons have been adduced for the slow rate of adoption of new technologies. Reynolds *et al.*^[7] maintained that the weak extension services was one of the reasons for the slow pace of adoption of agricultural innovations. Ahmed and Aliu^[8] opined that the poor adoption of agricultural innovation was due to lack of economic incentives accruing from the innovation. Vanek and Bayard^[9] and Gamser *et al.*^[10] maintained that the greatest problem facing agricultural development in most developing countries was the nature of the technology. They observed that not until recently technologies used in developing nations were imported to those nations in a fixed fashion with skills, labour and managerial requirements standardized for the recipient countries.

Many of the researches identified poor research-extension linkage, lack of incentives and improper transfer of technology without considering the socio-cultural factors affecting adoption of innovation. This paper deals with the socio-cultural factors affecting the adoption of snailery in Delta Central Agricultural Zone.

The broad objective of the study is to evaluate the socio-cultural factors affecting the adoption of snailery in Delta Central Agricultural Zone of Delta State. The specific objectives are to;

- Dichotomise the adoption response to snailery;
- Examine the socio-cultural factors affecting the adoption of snailery;
- Ascertain the relationship between adoption, of snailery and religious affiliation;
- Investigate the relationship between adoption of snailery and level of education; and
- Establish the relationship between adoption of snailery and taboos and beliefs.

Hypotheses: Three null hypothesis were tested.

Ho₁ : There is no significant relationship between adoption of snailery and religious affiliation.

Ho₂ : There is no significant relationship between adoption of snailery and level of education.

Ho₃ : There is no significant relationship between adoption of snailery and taboos and beliefs.

Sampling procedure and sample size: Simple random sampling was used to select the respondents. A total of one thousand one hundred and seventy livestock farmers who were introduced to snailery in 2004 by the Delta Central Agricultural Development Programme (ADP) constituted the population. Ten% of the sampling frame corresponding to one hundred and seventeen farmers were selected to constitute the sample.

Method of data collection and analysis: Data were collected by the use of oral and structured interview schedule and observation. Data were analysed by the use of percentage, mean and chi square test. For the socio-cultural factors, a score above 2.50 and above was regarded as disagree and agree for negative and positive statements, respectively.

RESULTS AND DISCUSSION

Adoption response: The respondents were required to indicate whether they have been practicing snailery since it was introduced to them. The following responses were obtained Table 1.

Table 1 shows that 40.17 and 59.83% constituted the adopters and non-adopters of snailery, respectively. The responses merely showed a percentage dichotomy of adopters and non adopters as at the time of data collection. However, the adopter categorization by Rogers^[11] classified innovators 2.5% early adopters 13.5%, early majority 34%, late majority 34% and Laggards 16%. As reported by Gartrell and Gartrell^[12] have predicted a curvilinear relationship between socio-economic status and innovation.

Socio-cultural factors affecting adoption of snailery: A four-point rating scale consisting eight negative statements was used to elicit responses from the livestock farmers on the socio-cultural factors affecting adoption of snailery. The adopters and non-adopters were made to respond to the same items and their responses compared.

Table 1: Response category to snailery

Adoption response	Frequency	Percentage
YES (Adopters)	47	40.17
(NO) Non-adopters	70	59.83
Total	117	100.00

Source: Field data (2006)

Table 2: Adopters responses to the socio-cultural factors affecting adoption of snailery (N = 47)

S/N	Item	SA 4	A 3	D 2	SD 1	Score	X	Remarks
1	+The snail meat is not palatable	1	5	6	35	169	3.59	Disagree
2	+Snailery is not easy to practice	6	3	10	28	154	3.28	“
3	+Snail meat does not attract much economic value	2			45	182	3.87	“
4	+The slimy nature of snail, tentacles and hissing noise affects adoption of snailery	4		2	41	174	3.70	“
5	-The blood colour of snail meat is not an important consideration in adoption of snailery.	32	7	3	5	160	3.40	Agree
6	-The withdrawal of the snail into its shell does not affect the adoption of the snailery.	43	2	1	1	189	4.02	“
7	-My religion does not go against adoption of snailery	20	10	9	8	136	2.89	“
8	-Beliefs and taboos does not affects the adoption of snailery	23	3	2	19	124	2.64	“

Source: Field data (2006)

Table 3: Non-adopters responses to the socio-cultural factors affecting adoption of snailery (N = 70)

S/N	Item	SA 4	A 3	D 2	SD 1	Score	X	Remarks
1	+The snail meat is not palatable	11	19	16	15	157	2.16	Agree
2	+Snailery is not easy to practice	13	15	10	28	154	3.28	Disagree
3	+Snail meat does not attract much economic value	5	10	20	25	225	3.21	“
4	+The slimy nature of snail, tentacles and hissing noise affects adoption of snailery	22	25	13	10	151	2.16	Agree
5	-The blood colour of snail meat is not an important consideration in adoption of snailery.	6	37	19	8	181	2.59	Agree
6	-The withdrawal of the snail into its shell does not affect the adoption of snailery	24	13	10	23	178	2.5	Agree
7	-My religion does not go against adoption of snailery	2	6	12	50	100	1.43	Disagree
8	-Beliefs and taboos does not affect the adoption of snailery	2	7	20	41	110	1.57	Disagree

Source: Field data (2006), NB, SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree, + = Positive statement, - = Negative statement

The mean values in Table 2 shows that the adopters disagreed with the four negative statements and agreed with the four (4) positive statements. Disagreed. In Table 3, the non- adopters disagreed with two negative statements (items 2 and 3) and agreed with two positive statements (items 5 and 6). This showed that both adopters and non-adopters accepted the fact that snail meat attracts high economic value; snailery was easy to practice; and the blood colour of the snail meat does not affect the adoption of snailery. This corroborates the findings of Akinnusi^[4] that the snail meat has high economic value and was easy to practice. The habits (slimy nature, tentacles and hissing noise), withdrawal of the snail into its shell, religion, local beliefs and taboos were factors preventing the adoption of snailery by the non-adopters in spite of the high economic value. The Oral interview showed that it was a taboo to consume the snail meat in many rural communities in the Delta Central agricultural zone. Igboke^[13] remarked that taboos,

custom and beliefs make some rural communities to forbid certain species of animals. Williams *et al.*^[2] and Ekong^[1] stated that beliefs might act as negative factors against economic productivity and acceptance of innovations.

Hypothesis one: There is no significant relationship between adoption of snailery and religious affiliation.

The data on adoption of snailery and religious affiliation were analyzed by the use of Chi square test Table 4.

The results in Table 4 shows that there is a statistically significant relationship between adoption and religious affiliation. It was observed that the christians and those without any religious affiliation adopted snailery more that the pagans. A follow up oral interview pointed out that most of the pagans forbid the consumption of snail meat and were not inclined to husband it because it removes the potency of traditional medicine for war. Marsden^[14] concluded that the

Table 4: Adoption response to snailery and religious affiliation

Adoption response	Religious affiliation			Total
	Christianity	Paganism	No particular religion	
(Adopters)	20 (9.64)	2 (24.10)	25 (13.26)	47
Non-adopters	4 (14.36)	58 (35.90)	8 (19.74)	70
Total	24	60	33	117

($\chi^2 = 69.84$; $p < 0.05$), Source: Field data (2006)

Table 5: Adoption response to snailery and Levels of education

Adoption response	Level of education				Total
	No formal education	Primary six and below	SSCE and below SSCE	First degree and above	
(Adopter)	4 (13.66)	12 (12.45)	22 (15.26)	9 (5.62)	47
Non-adopters	30 (20.34)	19 (18.55)	16 (22.74)	5 (18.38)	70
Total	34	31	38	14	117

($\chi^2 = 19.82$; $p < 0.05$), Source: Field data (2006)

knowledge and practices of rural people was tied to mystical or religious beliefs. Ekong^[1] found that through holding certain beliefs people find meanings to their lives, explain their frustration and justify their actions and inactions.

Hypothesis two: There is no significant relationship between adoption of snailery and level of education. The data on adoption and levels of education were subjected to Chi square test Table 5.

The results in Table 5 show that there is a statistically significant relationship between adoption of snailery and levels of education. Based on the observed frequency it could be explained that the higher the level of education of a farmer, the more likely he adopts new farm practices. Educated farmers also benefit more from innovative knowledge and technical practices. Ogunfiditimi^[15] and Ekong^[1] maintained that the more farmers are well-of socially and economically, the more they adopt innovations.

Hypothesis three: There is no significant relationship between adoption of snailery and beliefs and taboos. The data on adoption of snailery and beliefs and taboos were subjected to Chi square test Table 6.

The results in Table 6 shows that there was a statistically significant relationship between adoption of snailery and beliefs and taboos. Beliefs and taboos influence to a large extent the adoption of snailery in the study area. The oral evidence further buttressed the reasons for the taboos in some communities. In a particular community an olden days story was told of how a man killed his wife because he heard a hissing noise only to discover later that the noise was from a snail.

Table 6: Adoption response to snailery and beliefs and taboos

Adoption response	Influence of beliefs/taboo			Total
	Not influenced by beliefs and taboos	Influenced by beliefs	Influenced by taboos	
(Adopters)	9 (4.82)	21 (23.30)	17 (18.88)	47
Non-adopters	3 (7.18)	37 (34.70)	30 (28.12)	70
Total	12	58	47	117

($\chi^2 = 6.75$, $p < 0.05$), Source: Field data (2006)

However, the reason across all communities was that the snail meat neutralizes the potency of traditional medicine against gun. Raintree^[16] has maintained that anthropologists see cultural conservatism as a community's way of defending itself against disruptive changes. According to him they do this to preserve the core values of their cultural identity and avoid the risks they believe change could bring.

CONCLUSION

Over half of the livestock farmers who were exposed to the practice of snailery have not adopted it. The major reasons given by the non-adopters for not adopting snailery were : unpalatability of the snail meat, habits (hissing noise, tentacles and slimy nature), withdrawal of the snail into shell, religious beliefs and taboos. The high economic value and relative ease of production were the major reasons for adoption. The introduction of snailery must take into cognizance the socio-cultural milieu of the intended beneficiaries.

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