

**SHORT COMMUNICATION****Evaluation of Indigenous Poultry Improvement Project in Irepodun Local Government Area of Kwara State**

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ABSTRACT

The study assessed an indigenous poultry improvement project carried out at Irepodun LGA of Kwara State. The focal objective of the project was to facilitate traditional backyard poultry development through improved chicks' survivability. Ten (10) indigenous backyard poultry farmers were selected based on willingness to participate in the project from Rore Village of Irepodun LGA and were trained on the rudiments of the projects and improved poultry management practices. Baseline data were collected at the onset of the project on the level of chick survivability and other parameters. Cages, feeds, medication were supplied while each farmer was to provide five laying hens. Upon hatching, the chicks were reared in cages for six weeks without the mother hen. The project was found to yield 70 – 90% chick survival up to 6 weeks of age. Bird mortality was noticed to decline considerably after 6 weeks of age when the birds are turned to scavengers. It is concluded that the innovation is result-oriented and therefore recommended for extension dissemination and farmers' trials.

Keywords: indigenous poultry, improvement, innovation, evaluation.

INTRODUCTION

Poultry as conventionally defined means all domesticated birds used for egg and meat production (Oluyemi and Roberts, 2000, Wikipedia, 2011). Poultry meat is appreciated and acclaimed as being the favourite worldwide. The meat is wholesome, with low fat, easy to prepare, tender and loved by children (Oluyemi and Roberts, 2000). The advantages and potentials of indigenous poultry farming are numerous. The indigenous breeds of poultry are still held in high esteem in Nigeria even after 50 years of industrial poultry production in Nigeria.

According to Academia (2017), local poultry breeds exhibit superior adaptability to their habitat and possess the ability to survive, produce and reproduce on low plane of nutrition and sub-optimal management. The inputs required are very small as they scavenge their feed requirements and are raised with little veterinary care. They possess the ability to protect themselves from predators. All the local

breeds show broodiness and hatch their own chicks making the system auto generating. People have a preference for the eggs and meat of indigenous poultry compared to those realized from exotic breed of chickens.

Also, the meat and eggs are tastier and more nutritious compared to those from hybrids. They also have a higher resistant and tolerance to diseases infestation and harsh weather conditions than the cross breeds. They can also be easily reared without much investment in terms of feeding and housing management compared to the hybrids. Indigenous breeds of poultry are better survivors in natural disasters such as floods, tsunamis and fires as they can fly to safety whereas conventional commercial breed birds are generally all lost. (Alders, 2004) In addition, the ability of indigenous poultry to fly and run enables them to be more likely to escape many of their predators (Alders and Spradbrow, 2001). They are generally owned and managed by women and children and are often essential

elements of female-headed households (Guèye 2000; Bagnol 2001). But small changes in management, for example, regular watering, night enclosures, discouraging broodiness by regular collection of laid eggs, vaccination against common diseases and small amounts of energy and protein supplements can bring about significant improvements in production. Such improvements in production have been reported under experimental and farm conditions in Bangladesh (Jensen, 1996), Burkina Faso (Ouandaogo, 1990), Malaysia (Aini, 1990), Nepal (Smith, 1990), Nicaragua (de Vries, 1995), Niger (Bessei, 1990), Nigeria (Sonaiya, 1990, 1995) and Sri Lanka (Gunaratne *et al.*, 1993)

Nevertheless, with all the aforementioned benefits in the production of indigenous poultry, it also has its own setbacks or shortcomings as well. This ranges from high rate of chick mortality, hatching problems, inadequate monitoring of vaccinations for the chicks, inadequate planning of poultry production in meeting high seasonal demand especially during Muslim and Christian festivals (Ramadan, Salah, Christmas and Easter periods).

According to Alders and Spradbrow (2001), the production of these indigenous breeds is characterized by certain features which are: small body size as a result of low nutritional maintenance requirement, late maturity (up to 36 weeks of age), low performance in egg numbers (20 to 50) and egg size (25 to 45g), small clutch sizes (2 to 10 eggs) and long pauses between laying of clutches and a predominant inclination to broodiness. It is a common knowledge that chick mortality in indigenous backyard poultry production is extremely high. Many of the practitioners regularly experience 70-90% chick mortality. Cases where 1 or 2 out of 10 hatched chicks survive to 6 - 8 weeks of age are common.

These vast losses notwithstanding, backyard poultry production in most parts of Nigeria has continued in this manner for ages. This calls for improved indigenous poultry production. It is in the light of the foregoing that this project was set up to improve the indigenous poultry production through chick survivability in the project area with a view to improving the standard of living of the farmers.

METHODOLOGY

The project was carried out in Rore Village of Irepodun Local Government Area of Kwara State. It was sponsored by Landmark University, Omu-Aran, Kwara State. Ten indigenous backyard poultry farmers were selected based on their willingness to participate in the project and were trained on the rudiments of the projects and improved poultry management practices. Baseline data was collected at the onset of the project on chick survivability. Cages, feeds, medication were supplied while each farmer was asked to provide five laying hens. Upon hatching, the chicks were reared in cages for six weeks without the mother hen with improved management practices.

OPERATIONAL MECHANISM

Each of the 10 participating farmers was mandated to purchase 5 point-of-lay birds. They were also to provide laying hutches for the birds while they will be served by cocks in the neighbourhood as they scavenge on free range. They were to brood and hatch themselves and the chicks were separated from the hens a week after complete hatching. The birds were transferred to brooder cages and were protected from cold and harsh weather conditions. The chicks were vaccinated against common diseases. This was done for the farmers. They were also given multivitamins to improve feed intake. The birds were fed with chick mash for the first 4 weeks and later with grower's mash for the 5th and 6th week before they were released from the cages for scavenging.

RESULTS AND DISCUSSION

As shown in Table 1, the mean survival percentage of the birds was 76 % whereas the baseline study result for chick survivability was 30%, Sonaiya (2005) reported 33% chick survivability in South Western Nigeria. This implies that 8 out of every 10 chicks survived. This study proves that chick survival can be improved in indigenous poultry. This will go a long way towards improved flock size and consequently enhance economic benefits accrued to the farmers. One of the weaknesses of the indigenous system has been the predominant

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inclination to broodiness of the hens. This method has reduced the period of broodiness to two weeks and it has enhanced quick return to laying instead of 5.3 weeks. For instance, the egg brooding which is the incubation period and chick rearing activity increases the reproductive cycle length by 58 days to about 74 days (16 days for egg laying and clutch formation and 21 days

for hatching) plus 37 days for chick rearing equals 74 days. Horst (1990) Also, the growth rate of the chicks improved considerably because they were fed with livestock feed instead of the normal guinea corn and maize as done in the village poultry. During evaluation visits we noted that 60 percent of the farmers have adopted the innovation.

Table 1: Distribution of the farmers according to percentage survivability of the chicks

FARMERS	CHICKS HATCHED	NO SURVIVED	% SURVIVAL	COMMENTS
FARMER 1	19	16	84	High
FARMER 2	13	11	84	High
FARMER 3	27	24	88	High
FARMER 4	12	8	66	High
FARMER 5	16	8	50	Medium
FARMER 6	18	14	77	High
FARMER 7	24	19	79	High
FARMER 8	15	13	86	High
FARMER 9	23	16	69	High
FARMER 10	13	10	76	High
MEAN / %		13.9	75.9%	High

Source: Field Survey, (2015)

Problems encountered

Poor management on the part of some farmers such as placing the cages in open and airy location and low commitment to carrying out recommended practices especially feeding and watering.

Conclusion and recommendation

The project was found to yield 76% chick survival up to 6 weeks of age. Growth rate of the birds improved considerably. Bird mortality was noticed to decline considerably after 6 weeks of age when the birds are turned to scavengers. It is concluded that the innovation is result-oriented and therefore recommended for extension dissemination and farmers` trials.

References

Academia 2017. Project proposal for development of background poultry in Orissa under SGSY Infrastructure Directorate of Animal Husbandry and Veterinary Services, Orissa, Mangalabag, Cuttack.

Alders R. 2004. Poultry for profit and pleasure. FAO Diversification Booklet 3. Food and Agriculture Organization of the United Nations: Rome.

Alders, R. and Spradbrow, P. 2001. Controlling Newcastle disease in village chickens: a field manual. ACIAR Monograph No. 82, Canberra.

Aini, I. 1990. Indigenous chicken production in South-East Asia. World's Poultry Science Journal 46(March), 51– 57.

Bagnol, B. 2001. The social impact of Newcastle disease control. Pp. 69–75 in 'SADC planning workshop on Newcastle disease control in village chickens. Proceedings of an international workshop, Maputo, Mozambique, 6–9 March 2000', ed. by R.G. Alders, R. and P.B. Spradbrow. ACIAR Proceedings No. 103, Canberra.

Bessei, W. 1990. Past experience with poultry development projects. Proceedings: Smallholder rural poultry production—requirements of research and development, 9– 13 October 1990,

- Thessaloniki, Greece, Volume 1: Results and technical papers, 53–60.
- de Vries, H. 1995. Performance of free range hybrids in Nicaragua. Centre for Information on Low External Input and Sustainable Agriculture (ILEIA), March 1995, 28.
- Guèye, E.F. 2000. The role of family poultry in poverty alleviation, food security and the promotion of gender equality in rural Africa. *Outlook on Agriculture* 29 (2), 129–136.
- Gunaratne S.P., Chandrasiri A.D.N., Hemalatha W.A.P.M. and Roberts J.A. 1993. Scavenging chickens in Sri Lanka. *Tropical Animal Health and Production* 20, 249–257.
- Horst, K. 1990. Some results on poultry improvement in Bangladesh as related to socio-economic facts. Paper presented to the FAO expert consultation on rural poultry development in Asia, Dhaka, Bangladesh.
- Jensen, H.A. 1996. Semi-scavenging model for rural poultry holding. *Proceedings XX World's Poultry Congress*, New Delhi, India, 1, 61–70.
- Oluyemi, J.F. and Roberts, F.A. 2007. Poultry production in the warm wet climates, 2nd Edition, Golden Wallets Press, Ibadan.
- Ouandaogo Z.C. 1990. Programme de developpement des animaux villageois (PDAV). *Proceedings: Smallholder rural poultry production—requirements of research and development*, 9–13 October 1990, Thessaloniki, Greece, Volume 2: Country reports, 27– 36.
- Spradbrow, P.B. 1993 Newcastle disease in village chickens. *Poultry Science Reviews* 5, 57–96.
- Sonaiya, E.B. 1990. The context and prospects for development of smallholder rural poultry production in Africa. *Proceedings: Smallholder rural poultry production— requirements of research and development*, 9–13 October 1990, Thessaloniki, Greece, Volume 1:
- Sonaiya, E.B. 2005. Fifteen years of family poultry research and development at Obafemi Awolowo University, Nigeria. *Proceedings of an international conference held in Dar es Salaam, Tanzania*, 5–7 October 2005 Editors: R.G. Results and technical papers, 35–52.