

NATIVE CHICKEN PRODUCTION OF TRIBAL COMMUNITY OF NICOBAR ISLANDS

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The Andaman & Nicobar Islands are a group of 572 big and small Islands and Islets in the South Eastern part of Bay of Bengal. The total geographical area is about 8249 sq. km, out of which about 86 % (7094 kms²) is covered by forest. The total area of Andaman covers 6340 sq. kms and Nicobar group covers 1841 sq. kms. Only about 53,734 ha of land are available for habitation and agriculture. The Nicobar district of A&N Islands comprises of 12 inhabited islands scattered in Bay of Bengal between 6°-10° N latitude and 92°- 94° E longitude separated from Andaman group of Islands by 10° Channel. These islands are having 63 percent ST population and the predominant feature of the demography is 'Nicobarese'. Livestock farming is the backbone to ensure nutritional security for tribal farming community of Nicobar group of Islands. Rural poultry among livestock farming is considered to be an important primary source of meeting out egg requirement and constitutes meager portion of meat consumption of tribal population of these Islands.

Major constraints associated with commercial poultry production at the level of tribal farming community are adaptability of farming system of commercial poultry and practical difficulties with establishment of commercial farms in Nicobar Islands due to transportation problems. Hence, household native chicken production

in Nicobar group of Islands is the sole option for tribal farming community. Desi including Nicobari fowls form the native chicken production at backyard level contribute significantly in nutritional security of Nicobari tribes. The traditional indigenous poultry production, being integral component in balancing nutrients could be improved by studying the various bottlenecks present in the rural poultry production system of tribal farmers. Very little is known about these traditional rural poultry production system of tribal farming community. Few reports on tribal poultry production system describe them as having a very low productivity, high mortality rates and suffering from inefficient management. The study investigated the present status of indigenous native chicken production at Nicobari tribal farming community with an aim of formulating strategies to improve its production level by addressing the problems associated with the rural poultry production in tribal farming community of Nicobar Islands.

The study was conducted using the census method of complete enumeration of tribal houses in the 15 tribal tuhets located in Nicobar Islands. A pre tested well structured interview schedule was developed. The interview schedule was prepared in English since the letters of Nicobari language are similar to English and moreover, the Nicobari tribals understand well the

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English language. Data were collected on production system of rural poultry including feeding, housing and health management by Nicobari tribal farming community. The respondents were personally contacted and rapport was established to get unbiased information.

The result of the study indicated that there was only one kind of native chicken production system in the Nicobar Islands. More than eighty percent of Tribes were having poultry under the free-range low input and backyard system of rearing. It was observed that almost every family in Nicobar Islands is habituated in backyard poultry keeping and the flock size ranged from 6 to 16 chickens. Tribal family poultry comprised of mainly desi birds and Nicobari fowls. Although no definite evidence is available about the origin of this local breeds, ethnic tribal groups seem to have played a significant role for maintaining the uniqueness of the breeds and have been nurtured by Nicobari tribes for years without any introgression from outside. For ethnic Nicobari tribal groups and communities, native Nicobari fowls are of special interest because of their socio-religious use. It was recorded that the indigenous native Nicobari fowls are held in high esteem by the tribal farming community even after establishment of industrial poultry production in these Islands since native Nicobari fowl exhibit superior adaptability in their habitat and possess the ability to survive, produce and reproduce on low plane of nutrition and sub-optimal management and they possess comparatively higher immunity. Further, cock fighting is a popular sport for the Nicobari tribes and the desi birds are superior to exotic breeds in fighting. As per the 19th

census (DAHVS, 2012), the total indigenous poultry population in A&N Islands has been estimated to 10,58,400 that is 98% of the total 10,80,000 poultry population of these Islands. The study indicated that the native chicken is the only source to supply 100% of the total chicken meat requirement of tribal farming community. The present study is also concurrent with the report that 80% of poultry meat come from local scavenging chicken (Paul and Islam, 2001 and Paul *et al.*, 2003). Moreover, these native Nicobari chickens are less susceptible to diseases as compared to broiler strains (Sil *et al.*, 2002 and Sunder *et al.*, 2004).

From the data obtained we observed, tribes provide the hen with bamboo basket or waste tin tubs only for laying eggs and keeping the chicks during night time. Rest of the time these birds scavenge and in night the birds rest on the trees. Tribal farmers feed poultry with rice or coconut due to abundant availability of coconuts in Nicobar Islands. These native birds get maximum nutrients by scavenging. The whole tribal farmers depend on scratch feeding for rural poultry due to non availability of commercial feed in the Nicobar Islands and unawareness on balanced feeding. It was also observed, the birds are not being vaccinated; however the percent survivability was 53.06%, which is fairly higher than the earlier reports (Panda and Nanda, 2000).

Information on egg production status in the present study revealed that the average number of eggs laid by a bird per annum is less than 60 eggs; this is much higher to the production levels of desi birds mentioned by Mandal *et al.* (2002) and meets the production levels studies by Sharma *et al.* (2001). Cockerels and Pullets

weighed about 800 to 900 g at the age of sexual maturity of 6 months old that might have attributed to low egg production since the adult body weight plays crucial role to precise more number of eggs in a biological productive life cycle of hen. This lower adult body weight again in-turn might be due to improper feeding and health management. Based on this study we could assume that each family on an average receive a total of 300 eggs from an average flock of five birds; but this is too low to meet the ICAR recommendations of 180 eggs per person per annum. Based on the data collected it is revealed that knowledge on crucial role of eggs and chicken meat in their daily nutrition and awareness on egg as a balanced and nutritious food was negligible among 95% of tribal farmers and suggest for creating awareness on nutritive value of eggs from the point of view on close association between awareness on importance of native chicken meat and egg consumption and its production enhancement.

Ninety eight percent of Nicobari tribes were not well aware of intensive chicken production and management. All the tribal homesteads consumed 80% of the eggs laid while 20% were set for hatching under broody hens as marketing of desi eggs is not practised by tribal farming community. Main interest of the tribal farmers having native indigenous poultry is not in production of eggs as source of returns. The major quantities of native and desi chickens such as cock (Meat Birds) after growing up to moderate size are consumed among tribes. Further, it is estimated that apart from exotic breed (broiler type), desi chicken production adds up to 1 ton of meat per year to meet out the consumers preference for desi bird. Indigenous birds are very

popular poultry meat in these islands. Many consumers prefer desi chicken more than exotic type. Sensory evaluation study revealed that the native Nicobari fowl are harder than the exotic breeds of broiler and the taste, flavour and juiciness are almost similar to the exotic cockerel stocks. Swanson *et al.* (1984) has also advocated the suitability of desi chicks from exotic strains for preparation of chicken delicacies due to its desirable flavour, less abdominal fat and juiciness. Rural poultry at present accounts significantly in daily nutrition of tribal people. Most importantly it was observed that the rural poultry produce were of organic in nature among tribal farmers while the demand for organic egg and meat is increasing over the years in the industrially developed countries even though they cost more.

Base on the baseline survey and study, the following major constraints for the development of native chickens among tribal farming community should be given due concern:

1. No shelters for rural poultry and hence birds are vulnerable to predators and the extreme weather conditions.
2. Slow body weight gain, late sexual maturity and low egg production due to failure in supplemental feeding.
3. Risks of high mortality to Newcastle disease due to absence of vaccination
4. Lack of information to upgrade their knowledge on native chicken production

5. Lack of incubation technique for mass production of chicks
6. Lack of brooding technical know-how
7. Lack of medication and vaccination health programme

The native chicken production is an established component and has a crucial role to sustain the nutritional security of Nicobari tribal farming community. For this reason, the necessity for its development has always been recognised but insufficiently pursued. Based on the study on impact of interventions made at rural poultry farming practices, the following strategies are recommended for management of native chickens under improved conditions:

- Elevated housing : Floor made up of wooden planks and one feet raised from the ground level
- Feeding management using locally made feeder and waterer from wooden material, bamboo and used plastic cans, bottles and waste plates.
- Vaccination: Regularly can be done by themselves as a group to prevent the mortality.
- Low cost supplemental feeding using rice, wheat, coconut, fish, fish bone, egg shell and waste vegetables
- Brooding : Confining chicks in an area and providing warmth of broody hen with bulb protects chicks from predators

- Artificial Hatching: Hatching with mini incubator help to increase the number of table eggs and chicks from hen

It is concluded that the desi and native indigenous chicken dominates poultry production at the Nicobar group of Islands. The growing number of affluent tribal population in Nicobar Islands most likely will demand a richer desi poultry produce. Further, small holding backyard poultry production utilizing native poultry breeds therefore is expected to improve its production; if not well planned the genetic resources of native indigenous Nicobari fowl poultry shall be lost, as it has already happened in most of the Nicobar group of Islands. Conservation of native poultry germplasm should be strengthened through interventions in rural poultry production system among tribal farming community to sustain the socio-religious use of native poultry breeds and their superior adaptability in their habitat. Production improvement of native poultry breeds and their conservation for future use should be on community basis since the Nicobari tribes are living as community.

Further, production of desi meat and eggs can be enhanced by improving the present management system of rural poultry production at Nicobari tribes. Improved rural poultry farming practices including development of diets based on locally available feedstuffs, design of cheap housing units and establishment of regular vaccination program will be appropriate systems and approach to native chicken development among Nicoari tribal farming community.

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