Potentiality of Backyard Poultry Farming to Enhance the Income of Farm Women- A Case Study

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ABSTRACT
Backyard poultry production forms the basis for transforming the rural poultry sector from subsistence to a more economically productive base. Also, increased backyard poultry production would result in a positive impact on household food security both in terms of increased dietary intake as well as income generation. Hence, increasing meat and egg production from backyard poultry has been a major concern of Government of India for many years and supported by various programmes to improve backyard poultry production. In this study a case was taken from Wanaparthy district to study the economic improvement of farm women through backyard poultry farming. These women were supplied with poultry chick (Srinidhi, Vanaraja and Gramapriya) from Youth For Action- Krishi Vigyan Kendra under Scheduled Caste Subplan. Survey was conducted in Wanaparthy district and selected two villages viz., Kothapalli and Venkatapuram which is having highest number of SC households compared to other villages in the district. 110 farm women were selected purposively from both the villages. The results for the year 2019-2020, with the mortality rate for the bird supplied was 12.5 per cent depicted that the backyard poultry had the potentiality to increase the average income per farm women per annum was Rs. 10,300. With a Benefit to Cost ratio 8.15: 1 for the selected villages.

Keywords: Backyard Poultry, YFA-KVK, ICAR, SC subplan and Farm women.

INTRODUCTION
Wanaparthy district has the total area of 199464 acres under cultivation during Kharif 2018 and 124128 Acres under Rabi 2018-19 for different crops. Agriculture is the main occupation of the people in the district. About 75% of the total workers are engaged in agriculture. The district comes under Southern Telangana Zone which receive normal rainfall of 579.60 mm per Year.

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Agriculture is mostly rain-fed. As per 2011 censuses, the total population of Wanaparthy district is 577,758 out of which the SC population includes 93,182. Most SC people are small farmers practicing either rainfed agriculture or work as landless agricultural labourers. Fragmented land holding, poor productivity in agriculture leads to poor income generation made them to migrate for their livelihood. Lack of knowledge and awareness on sustainable income generation activities in according to their resource availability, this SC population became too weak to sustain their livelihood in their district (Wanaparthy.telangana.gov.in)

Livestock plays an important role in improvement of rural Livelihood. Wanaparthy district is endowed with rich livestock resources with specialized poultry farming. Backyard farming fulfill a wide range of functions e.g. the provision of meat and eggs, food for special festivals, chicken for traditional ceremonies, pest control and petty cash, utilizing minimum inputs, minimum human attention, and causing less environmental pollution, and on the other hand, there exists a wide gap between the urban and rural areas in the availability and consumption patterns of poultry produce (Poultry Punch, 2019). This gap provides greater potential to develop the rich backyard poultry farming in the district. In the rural areas, the backyard poultry is the rice source of natural food base (fallen grains, insects, earthworms, kitchen waste, green grass etc.) (Dhillon et al., 2018). The waste food materials can be recycled back into human food chain by converting them into nutritionally balanced and delicious egg and chicken meat. Adopting this backyard rural poultry farming can alleviate the protein hunger besides providing subsidiary income. Keeping these in view, the YFA-KVK, Wanaparthy, (working under Indian Council of Agricultural Research) decided to promote scientific backyard poultry farming in the district under SC-Sub Plan.

MATERIALS AND METHODS
Survey
The YFA-KVK, Madanapuram-Wanaparthy district, every year benchmark survey would be conducted in the month of April and May for new villages adoption, while implementing Scheduled Caste Sub Plan (SCSP) Since 2019, YFA-KVK, Madanapuram, benefited 110 SC women farmers under SCSP. For this study the beneficiaries were purposively selected under SC subplan. Diversified information was collected through structured personal interviews in the village. Secondary information was collected from local Village Panchayat Secretary, Mandal Veterinary Officers and other from key informants of the village. Based on the problems identified, sample selection was done and provided intervention from KVK, the data was presented in Table 1

Sample selection
Consent was obtained from villagers with the help of village sarpanch to select 55 beneficiaries from each high SC populated village (2) having 110 households based on their socio-economic conditions selected purposively. With an objective to make backyard poultry farming as sustainable livelihood option for SC farmers, YFA-KVK under SCSP, a project of the Indian Council of Agricultural Research (ICAR), supplied improved breeds (Srinidhi, Vanaraja & Gramapriya), at 25 chicks for each selected SC farm women and also supplied vaccines to enhance subsidiary income of SC population in the villages. The objective of the study is to examine the economics of beneficiaries under SC subplan with backyard poultry in the selected villages of Wanaparthy district.
Table 1: KVK interventions on backyard poultry based on identified problems

| Year     | Problems identified in the selected villages                                                   | Major Interventions by KVK                                                                 |
|----------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| 2017-18  | Low income from Desi breeds                                                                    | Demonstration cum training on Backyard rearing of poultry for farm women. var.Vanaraja    |
| 2018-19  | Low egg production in Deshi birds and high mortality due to disease incidence                  | Demonstration cum training on Dual purpose, high egg production under backyard poultry rearing. var. Gramapriya. |
| 2019-20  | Low meat production in Desi birds and high mortality due to disease incidence                  | Demonstration cum training on Dual purpose high yielding backyard poultry rearing. var. Srinidhi. |

Table 2: Important characteristics of Srinidhi, Gramapriya, Vanaraja poultry birds

| s.n | Srinidhi                      | Gramapriya                     | Vanaraja                                      |
|-----|-------------------------------|-------------------------------|-----------------------------------------------|
| 1   | Attractive multi coloured plumage | Attractive feather pattern    | High general immune competence               |
| 2   | Longer shanks                 | Moderate in body weight       | Low cost of production                        |
| 3   | High general immune competence | Low predator threat           | Perform on low plane of nutrition             |
| 4   | Performs on low plane of nutrition | Produce brown shell eggs     | Produce brown shell eggs                      |
| 5   | Grow faster than Desi hen     |                               |                                               |
| 6   | Produce more eggs which are brown in colour                                                  |                               |                                               |
RESULT AND DISCUSSION

Trainings (on and off campus)
YFA-KVK, Madanapuram, organised 5 off and on campus training explaining the importance of backyard poultry farming and nursery management (brooding, feed and health care).

Distribution of chicks
Each beneficiary was given 25 chicks worth of Rs. 500 (@Rs. 20 for a chick) and a few supplementary medicines and vaccines worth Rs. 1,000 was supplied per beneficiary. A total of 2,750 chicks worth of Rs. 55000 were distributed among 110 SC women farmers in the two villages of the district. To sustain the backyard poultry farm and to enhance income, the observations like body weight, egg production, mortality rate, feed quantity and quality and number of birds sold in the market were recorded.

Economic benefit due to technology intervention
Backyard farming created substantial wealth for the SC farm women and ensured regular cash flow in every season. 2.5 kg birds were sold in the market after 22 weeks at Rs 400/per bird. Backyard poultry farming also ensured regular egg supply for both income generation and family consumption. The data shown in Table 3, revealed that beneficiaries of Kothapalli and Venkatapuram villages have enhanced the number of egg and chick production during 2019-20. The average income earned by each beneficiary by selling eggs and birds from 2019-2020 is Rs.10,300. The total initial investment by YFA-KVK - backyard poultry intervention was (Rs 45 per bird) including feed and medicine was 1,23,750 during 2019-20. In the figure 1, the Income generation from backyard poultry during 2019-2020 by beneficiaries of selected villages were given.

Table 3: Economics of beneficiaries with backyard poultry in different villages from 2019-2020

| S.No | Performance parameter | Economics of beneficiaries with backyard poultry |
|------|------------------------|-----------------------------------------------|
| 1    | Total number of beneficiaries | 110 SC farm women |
| 2    | Number of birds distributed | 2750 |
| 3    | Mortality rate (as per data taken) in percentage | 12.5% |
| 4    | Average number of male birds sold in the market | 3.6 |
| 5    | Average income generated by SC farm women for selling bird (Rs. 400 each with weight 2.5 kg) | 1500-2400 |
| 6    | Number of eggs laid per annum per bird | 120-130 |
| 7    | Minimum expected income from eggs per annum per farm women (Rs. 6 per egg ) | 7200 |
| 8    | Minimum chicks produced from (120-130) eggs per farm women per bird (As per data taken) per annum | 7-8 |
| 9    | Mortality rate in chicks produced (as per data taken ) in per centage | 10% |
| 10   | Average expected income from the existing birds per farm women | 1600 |
| 11   | Total average income per far women per annum | 10,300 |
| 12   | Total initial investment by YFA-KVK - backyard poultry intervention was (Rs 45 per bird) | 1,23,750 |
| 13   | Total average income produced by 110 SC farm women per annum | 11,33,000 |
| 14   | Benefit to cost ratio (B/C Ratio) | 1: 8.15 |
Output
Backyard poultry enhanced the female income in the family without disturbing the other farm activities of the women in the rural villages. Through backyard poultry farming, every beneficiary farm women ensured regular egg supply for family consumption, besides income generation, which is highly nutritious mainly for vulnerable groups like pregnant women, lactating mothers and children. The results in these backyard farming efforts leads to a sustainable and regular to the women families there by increasing the rural economy. This kind of enterprise paves the way for the up-liftment of a section of the community in the state besides it facilitate production of adequate quality egg and meat in the state.

Illustration 4. Rearing of backyard poultry by selected farm women
CONCLUSION
Backyard poultry farming is one of the best unique livelihood opportunities for farm women besides other income generated activities in the village with low investment and easy maintenance. It can generate year-round nutritious eggs and meat to the family. It also aids in enhancing the soil fertility in backyards (15 chickens produce 1-1.2 kg of manure/day) (Dhillon et al., 2018). It can pave the way for Doubling of Farmers Income (DFI). The emphasis should be on small livestock such as chicken, sheep and goat that can provide regular income. This would enable farmers to enhance their productivity, income as it is cost effective. Our backyard poultry farming under SC sub plan is on the lines of objectives of State government’s poultry development initiatives, can be implemented on a large scale, especially for farm women in Mahabubnagar and Wanaparthy districts of Telangana state as they are interested and is best suitable livelihood option at their level for regular income generation. This women can get benefited by the state government in the form of small level backyard poultry unit at village level. The SC farm women in the village conveyed that there is no immediate access to information regarding brooding and vaccines required for poultry maintenance that can reduce the mortality rates. Hence therefore, the further studies need to be conducted on nursery and freerange management practices at village level under poultry farming.

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