



Frontline Demonstration on Budgerigar (*Melopsittacus undulatus*) Rearing to Enhance the Farmer's Income

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ABSTRACT

Front Line Demonstration (FLD) is one of the most powerful tools for transfer of technology. The present study was conducted to assess the impact of front line demonstration on the yield and economics of pet bird farming in Kancheepuram district of Tamil Nadu by Krishi Vigyan Kendra (KVK), the farm science center of Indian Council of Agricultural Research for Kancheepuram district of Tamil Nadu state, India. The KVK demonstrated the improved methods of pet bird rearing in selected farmer's field to scale up the practice in the locality by proving their potential over the existing practice of pet bird rearing by the farmers at micro farming situation. The improved technologies in pet bird farming include improved variety of birds, proper deworming and feeding. FLD recorded higher yield as compared to farmer's practice. The average results revealed that the front line demonstration on pet bird farming recorded an average yield under demonstration as compared to farmers practice. The implications of the study are that the improved technology provides higher gross return, net return with higher benefit cost ratio than the farmers practice. FLD practices created greater awareness and motivated the other farmers to adopt appropriate lovebird's production technologies.

Key Words: Extension gap, Front Line Demonstration, Yield, Bird rearing.

INTRODUCTION

The villages are considered as backbone of India because most of the food crops are in villages. In rural India, backyard poultry rearing finds an important role to fulfill the need of stress free and harmful residues free birds (Chaturvedani *et al*, 2017). Although the demand of eggs and meat in rural areas has to be met by backyard poultry rearing (Adeyemo and Onikoyi, 2012), the revenue generated through this mode is not sufficient for building rural economy. Hence, an alternative farming method such as backyard pet bird rearing was identified and popularized among the rural farmers of Kancheepuram district of Tamil Nadu, India.

Pet bird rearing business is a great income opportunity that can produce a great return either as a part-time or full-time venture not only for rural

and urban youth, but also for women residing at or near town areas. The common pet birds used for rearing include budgerigars, cockatiels, zebra finches and African lovebirds (Toft *et al*, 2015). Now-a-days most of the youth are venturing into this farming activity as these types of birds will be bred throughout the year. The wild green Budgerigar (*Melopsittacus undulatus*) is a native of Australia and inhabits the salt bush flats and feeds upon seeding grasses, covering great distances in search of food and water (Weston, 2016). When the farmers understand the breeding cycle *i.e.*, they reach sexual maturity between four and eight months and can be bred between three and ten years, they develop a regular cycle of breeding (Van der Zwan *et al*, 2019)

Each bird will lay about 4-5 eggs/clutch (Wang and Beissinger, 2011) with 4-6 clutches per

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year (Collias and Collias, 2014). The young ones can be sold as early as 6-12 weeks of age (Schnegg *et al*, 2007). These facts also contribute to the ease in starting a backyard pet bird business by the farmers. As each breeding pair raises their own young, pet farmers essentially need nesting boxes, food sources and temperature control in order to launch a backyard pet bird business. Pet bird farmers do not even need a backyard, as a storeroom or spare space is sufficient during the initial startup phase (Polverino *et al*, 2015). This opens up a huge market for small bird breeding operations.

The majority of pet stores in the nation are supplied with pet birds by small local or regional breeders and this means farmers can also get into the action. The profit margin is great as the birds they breed would be sold when they are still very young. There is no specific climate that is required as the breeding rooms would be in a temperature controlled environment created in a room or other indoor space.

Although pet bird farming is in primitive stage as far as Tamil Nadu is concerned, several farmers in rural areas are willing to take up this venture as an option for getting more output with less input. In this context, front line demonstration was carried out at Chengalpattu and Kancheepuram districts of Tamil Nadu, India for the benefit of farming community with the specific objective to show the supremacy of scientific rearing of lovebirds than farmers practice.

MATERIALS AND METHODS

Under ICAR-FLD, five villages namely Karanaipuducheri, Kattankolathur, Pondur, Karunguzhi and Sithalapakkam were selected for the study. From each village, one farmer was selected for the demonstration. KVK, Kattupakkam identified the beneficiaries under ICAR, FLD and had given training on scientific package of practices of pet bird farming and provided two pairs of pet birds along with feed and cage and accessories such as cuttlefish, breeding pots, pet bird feeder and

waterer as base stock. This provoked their interest in pet bird farming and bought few pairs of pet birds along with the birds given by KVK, Kattupakkam. They started rearing budgerigar pet birds. In order to save the labour cost, all the farm works are being performed by the family members. Every day morning they clean all the cages and monitored the pet birds for any disease incidences. They found that cleaning and disinfection would reduce the disease incidences. Since, Boyes and Perrin (2013) studied the use of arthropods in the feeding of Meyer's Parrot, hence use of animal proteins was suggested for the lovebirds. The pet birds were provided with B-complex vitamins daily through drinking water. Prior to conducting demonstration, the beneficiary farmers were educated and demonstrated on the various technological interventions to be followed in the demonstration. The data on birth weight, clutch size, hatchability and mortality rate were recorded and analysed using simple statistical tools. The traditional practices were adopted in case of local checks. The data were collected from both demonstration plot as well as control (local check) plots and finally the extension gap, percentage increase in yield and the benefit cost ratio were worked out (Chauhan *et al*, 2020 : Rajput *et al*, 2016) as given below:

RESULTS AND DISCUSSION

The recorded pet bird parameters such as average number of eggs laid, mortality rate, hatchability, number of chicks hatched out in 1st clutch, number of pet birds sold in 1st clutch and economic parameters were tabulated and given in Table 1 and 2, respectively. In order to reduce the feather destructive behaviour among the budgerigars, providing enrichment through foraging can be as simple as the provision of relatively complicated food items such as corn on the cob, pineapples, or pomegranates were practiced (Rubinstein and Lightfoot, 2012).

It was found (Table 1) that pet birds as demonstration under backyard rearing had laid 32

Table 1. Results of the interventions on pet bird farming.

Sr. No.	Parameter	Local Check (Farmer's Practice)	Demonstration
1	Average number of eggs laid (in 1 st Clutch)	20	32
2	Mortality rate (%)	60	37.5
3	Hatchability (%)	25	50
4	Number of chicks hatched out in 1st clutch	5	16
5	Number of pet birds sold in 1 st Clutch	2	10

eggs in 1st clutch, with 37.5 per cent mortality rate and 50 per cent hatchability. Besides 16 chicks were hatched out in 1st clutch and around 10 number of pet birds sold in 1st Clutch. The FLD farmers marketed the pet birds using social media platform such as WhatsApp groups, Facebook groups and SMS to other farmers and sold at the farm gate to the pet lovers and farmers and interested new entrepreneurs. As the pair of birds increase, the income would be increased in the successive clutches. The study also revealed that benefit/cost ratio in demonstration plots was comparatively higher than control. Similar findings were reported by Phukon and Bordoloi (2020).

The economic parameters revealed that pet bird rearing provide a great income opportunity to rural youth and farm women with less or no investment that can produce a great return either as a part-time or full-time venture. Rearing of birds by the women-folks and youth were adjudged as the potential solution by the KVK to help the women and youth

to earn additional income with almost no resources.

The gap between the existing and recommended technologies of pet bird farming in the district was presented in Table 3. In general, farmers rear pet birds without scientific intervention. Unavailability of veterinary advice in time and lack of awareness were the main reasons. The recorded extension gap in pet bird rearing emphasized the need to educate the farmers through various means of adoption of improved production and protection technologies to reverse this trend of wide extension gap. More and more use of latest scientific technologies to rear pet birds will subsequently change this alarming trend of galloping extension gap. This finding is in corroboration with the findings of Kassem (2014) and Kant (2017). The percentage increase in the yield shows the feasibility of the evolved technology at the farmers' field. Higher percentage increase reflected the sufficient extension services for transfer of technology (Singh *et al*, 2020). The higher value of percentage increase shows

Table 2. Economic analysis of Pet Bird Farm

Sr. No.	Parameter	Detail
1	Number of pet birds	10 pairs
2	Number of chicks hatched out	26 Nos.
3	Chick mortality	4 Nos.
4	Sale price of pet birds	Rs. 300
5	Number of pet birds sold per month	22 Nos.
6	Expenditure incurred	Rs. 1200
7	Total output/gains per month	Rs. 6600
8	Net profit per month	Rs. 5400

Table 3. Effect of pet bird farming on extension gap and percentage increase in yield

Under FLD Programme		Average egg yield (in first clutch)		Extension gap	Percent increase yield
No. of Demon	Total no. of birds	Demo	Farmers practice		
5	20	32	20	12	60 %

the efficacy of good performance of technological interventions (Soni *et al*, 2017). The average percentage yield observed in this FLD on pet bird rearing was 60.0 per cent (Table 3). This variation indicates that the FLD proves to be a profitable one than the existing farmers practice. Similar findings were reported by Kapadiya *et al* (2019) and Kumar *et al* (2014).

Horizontal spread

One of the FLD farmers, Farmer 1 motivated her village farmers for adoption of pet bird farming to improve their livelihood status. She shared her experience with the fellow farmers who visited her farm and promoted pet bird farming. Four of them had ventured into pet bird farming on her advice and they regularly market their birds in nearby pet shops and through WhatsApp group members. KVK also created a market channel for sale of birds to farmers by linking with popular pet shops in the city. Being a progressive pet bird farmer, she is invited to KVK during training programmes to share her experience to the trainees. Similar horizontal spread was noticed among the tribal farmers of Ri-Bhoi District of Meghalaya (Islam *et al*, 2020).

The higher additional returns obtained under demonstrations could be due to improved technology. The results were in conformity with the findings of different front line demonstrations by Gauttam *et al* (2011), Meena and Dudi (2018) and Bezbaruah and Deka (2020). High mortality in day old chicks, less availability of chicks and its feed, economic problems were the major constraints perceived by the pet bird farmers in adoption of pet bird farming in these areas. Similar constraints were observed by Singh *et al* (2016) among the

backyard poultry farmers of Bageshwar District of Uttarakhand state of India.

Observed impact of the FLD on pet bird rearing among rural youth

Farmer1 is a successful pet bird farmer. The reason for her success in this enterprise was that she does not depend on external inputs for his farm. Everything is sourced from her place itself and that she regularly markets the pet birds in the nearby pet shop at Guduvancheri (nearby town) and entire family is involved in the work so that she need not spend anything extra charge on labourers. The new enterprise offers the potential of contributing to more resilient and diverse rural economies by fetching a steady income for the rural family. Hence, pet bird farming provided the advantage such as providing regular income to the farmers, creating employment generation, higher market demand in urban areas and direct marketing fetches higher return to farmers.

Pet bird rearing is profitable for rural women and landless and small farmers and rural youth and graduates to serve as supplementary income source and can be taken on commercial basis with suitable marketing tie-up with pet breeders, pet shops and retail outlets. Similar impact was recorded by Sarma *et al* (2018) in poultry birds among tribal community of Assam. The study also revealed that benefit/cost ratio in demonstration plots was comparatively higher than control.

CONCLUSION

It can be concluded that use of recommended scientific packages and practices of pet bird rearing can reduce the technology gap to a considerable

extent thus leading to increased productivity of pet birds in the district. Therefore, KVK scientists need to provide proper technical support to the farmers through different training programmes and extension methods to reduce the extension gap for better pet bird production. This would sustainably increase the income as well as the livelihood of the farmers of this district.

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