Original Research Article

Time Utilization Pattern and Strength, Weakness, Opportunities, Threats (SWOT) among Poultry Value Chain in Thane district of Maharashtra

ABSTRACT

A study was conducted on 120 poultry farm women in the Thane district of Maharashtra to study time utilization and Strength, Weakness, Opportunities, Threats (SWOT) analysis among Farm Women in poultry farming. Farm women having a minimum of 2 poultry birds with 1 to 3 years of experience were selected. Data were collected personally with the help of a pre-tested structured interview schedule and analyzed with the help of the equidistance method and Garrett ranking.0020Farm women used to spend minimal time on poultry farming activities along with their regular activities as Poultry is very easy to rear and manage in the backyard of the home without any specific inputs on feeding and additionally, it is the cheapest source of protein. Further, lack of micro-finance facilities was limited which lowered the development of poultry activities including constructing sheds, buying breed specific birds, quality and balanced feeds. The majority of the farm women used to spend 1 to 5mins/day in water management, collection of eggs and daily checking of their birds. Easy to read and manage, mortality due to poor health care and management practices, source of self-employment and additional livelihood and attack by predators was perceived as strength, weakness, opportunity, and threats respectively by the poultry farm women.

KEYWORDS: Poultry farming, Farm women, Time, SWOT, Livelihood, Garrett ranking

INTRODUCTION

Gender preferences for livestock and livestock products are generally seen and this was found to be determined by four main economic factors, namely benefits from income; the security of owning the livestock as an asset; marketability of the livestock or product; and labour requirements for production and management of the livestock. A lot of times it is observed that women prefer poultry among different livestock mainly due to the reasons that chickens do not require the owner to be a landowner. Free-range indigenous chickens often survive with minimal supplementation, low maintenance cost, disease resistance, and marketability.

Poultry provides a safety net by helping to keep poor households from falling into poverty. They are often the only asset women can own/control and can be sold to meet emergency and family health needs.

Most women in the rural areas rear the indigenous types of domestic fowl in an extensive system of poultry production. Backyard poultry production serves as a small scale business for generating income controlled by women. The enterprise provides regular income using little inputs and the production can be solely managed by women in the household. Although rural poultry production cannot contribute any large income, it represents a very familiar skill to most of the poor women and it can help them in moving into a positive spiral of events that may lead them for the elevation of their socio-economic status. Though rural backyard poultry is the most potent source for subsidiary incomes for landless poor farmers, it has always been neglected. Keeping this in view, the present study was conducted to analyze utilisation of time being spent on poultry farming activities and strength, weakness, opportunities, and threats faced by farm women in the poultry value chain.

The poultry sector in India is valued at about Rs. 80,000 crore (2015-16) broadly divided into two sub-sectors – one with a highly organized commercial sector with about 80% of the total market share (say, Rs. 64,000 crore) and the other being unorganized with about 20% of the total market share of Rs. 16,000 Crore. Presently, poultry units with fewer than 5,000 birds are an exception with the majority of the farms breeding more than 500,000 birds. Similar is the case with layer poultry farms. Further with increasing demand for quality poultry products, the adoption of better machinery to ensure quality has become very important to the Indian poultry units (Korawar et al., 2018).

MATERIAL AND METHODS

The present study was undertaken in the Thane district of Maharashtra in 2018. Thane district is having 7 blocks, out of which three blocks namely Bhiwandi, Murbad, and Shahapur blocks were purposively selected. From each block, four villages were selected randomly and from each village, 10 farm women were selected who had at least two poultry birds with minimum 1-3 years of experience in poultry rearing. Time utilization pattern of women was measured by developing a schedule. The respondents were asked to specify the time spent per day on various poultry farming activities performed by them. The respondents were classified

according to different time schedules developed by the equidistance method. The SWOT analysis was done by the Garrett ranking technique.

The formula for percent positions as suggested by Garrett (1981) is

$$\text{Percent Position} = 100 (R-0.5) \div N$$

Where R is the rank of the individual item in the series

N is the number of individual items ranked.

The score for each of the strength, weakness, opportunity, and threat after transmutation of the order of merit as per Garrett (1981) was found out separately. To obtain the final order of merit, the score for all the respondents for each of the strength, weakness, opportunity, and threat were summated separately and the mean value was calculated. In findings out the mean values, the sum of the scores for each item was divided by its frequency of response.

RESULTS AND DISCUSSION

TIME UTILISATION FOR ROUTINE POULTRY FARMING ACTIVITIES

Table 1 shows that 41.67 per cent and 42.50 per cent of the farm women used to spent 5 to 10 minutes and 11 to 15 minutes daily for feeding of the poultry birds where either they fed the birds by sprinkling feed 3 to 4 times/day or they use to give feed in certain utensils for poultry at least twice a day. As compared to others they had a number of birds so it required more time. Many of them were beneficiaries of Swayam scheme so they paid more critical attention towards birds given under this scheme. The majority (60.00%) of the farm women spent 01 to 15 minutes in cleaning. About 65.84 per cent of farm women spent 01 to 05 minutes in the watering of poultry birds where they used to place a small container filled with water for birds.

TABLE NO. 1 TIME SPENT PER MINUTE IN POULTRY FARMING ACTIVITIES

Sr. No.	Variables	Respondents (N=120)	
		Frequency	Percentage
1	**Feeding management (minutes)**		
	05 to 10	50	41.67

	11 to 15	51	42.50
	16 to 30	19	15.83
			100.00
2	**Cleaning management (minutes)**		
	01 to 15	72	60.00
	16 to 30	34	28.33
	31 to 60	14	11.67
			100.00
3	**Water Management (minutes)**		
	01 to 05	79	65.84
	06 to 10	31	25.83
	11 to 15	07	05.83
	15 to 20	03	02.50
			100.00

MANAGEMENT OF POULTRY

As birds were reared in a backyard or free-range, therefore, no specific activity for brooding management was done and hence no time was spent on brooding management. A majority (82.50%) spent 01 to 05 minutes daily in checking their birds as the birds used to scavenge in free range so farm women used to spend 01 to 05 minutes in searching birds in her neighbourhood. No specific time was spent in checking the mortality of poultry birds. (Table 2)

TABLE No. 2 TIME SPENT PER MINUTE IN MANAGEMENT OF POULTRY

S.No.	Variables	Respondents (N=120)	
		Frequency	Percentage
1	Brooding management	00	00.00
2	Checking all the birds (minutes)		
	1 to 5	99	82.50
	5 to 10	18	15.00
	10 to 20	03	02.50
3	Checking mortality	00	00.00

4	Water management for Birds	00	00.00
5	Racking	00	00.00

FEEDING MANAGEMENT

As farm women did not buy specific fed for poultry and used household feed for feeding poultry birds hence no time was spent in buying separate feed or poultry from the market. Only 00.83 per cent farm women use to spent 30 minutes/day in feed preparation as she had a feed mixer at home where she used to prepare feed by herself. (Table 3)

TABLE No. 3 TIME SPENT PER MINUTE ON FEEDING MANAGEMENT OF POULTRY

S.No.	Variables	Respondents (N=120)	
		Frequency	Percentage
1	**Offering feed (minutes)**		
	05 to 10	50	41.67
	10 to 15	51	42.50
	15 to 30	19	15.83
2	**Offering water (minutes)**		
	0 to 05	79	65.84
	06 to 10	31	25.83
	11 to 15	07	05.83
	15 to 20	03	02.50
3	**Bringing feed from the market**	00	00.00
4	**Feed preparation (minutes)**		
	0 (none)	119	99.16
	30	01	00.83

LITTER MANAGEMENT

The poultry birds were not reared in deep litter system by the farm women so spending time in litter management was negligible. (Table 4)

TABLE No. 4 TIME SPENT PER MINUTE IN LITTER MANAGEMENT

S.No.	Variables	Respondents (N=120)	
		Frequency	Percentage
1	Collection of litter	00	00.00
2	Preparation and storage of litter	00	00.00
3	Disposal of infected litter material	00	00.00

EGG/MEAT MANAGEMENT

Table 5 shows that the majority (83.33%) spent 01 to 05 minutes in the collection of eggs daily. Poultry birds used to lay eggs anywhere so for some farm women i.e. 12.50 and 04.17 per cent farm women time used to spend was 06 to 10 minutes and 11 to 15 minutes respectively in searching and collecting eggs.

TABLE No. 5 TIME SPENT PER MINUTE IN EGG/MEAT MANAGEMENT

S.No.	Variables	Respondents (N=120)	
		Frequency	Percentage
1	**Collection of eggs (minutes)**		
	0 to 05	100	83.33
	06 to 10	15	12.50
	11 to 15	05	04.17
2	Preservation of eggs/meat	00	00.00
3	Storage of eggs	00	00.00
4	Slaughter of birds	00	00.00

ANIMAL HEALTH-CARE AND MANAGEMENT

Table 6 shows that farm women spent no time in health care management such as care of sick birds, taking birds to vaccination, etc. In the case of care of chicks majority 43.33 per cent of farm women used to spent 06 to 10 minutes in taking care of chicks as these chicks were under swayam scheme, distributed by Government of Maharashtra.

TABLE No. 6 TIME SPENT PER MINUTE IN ANIMAL HEALTH-CARE AND MANAGEMENT

S.No.	Variables	Respondents (N=120)	
		Frequency	Percentage
1	Health care of birds (like debeaking, debudding, detoeing, etc.)	00	00.00
2	Care of sick birds	00	00.00
3	Care of chicks (minutes)		
	0 to 05	47	39.17
	06 to 10	52	43.30
	11 to 15	07	14.17
	16 to 20	04	03.34
4	Feeding of day-old chicks	00	00.00
5	Taking birds to the clinic for vaccination and treatment	00	00.00
6	Getting medicines from veterinary shops	00	00.00

MARKETING OF POULTRY PRODUCTS

Table 7 shows that the majority (74.17%) of the farm women to spent 01 to 15 minutes/day. No different time was given by farm women in maintaining records, purchase of birds, etc.

TABLE No. 7 TIME SPENT PER MINUTE IN MARKETING OF POULTRY PRODUCTS

S.No.	Variables	Respondents (N=120)	
		Frequency	Percentage
1	Selling of egg and meat products (minutes)		
	01 to 15	89	74.17
	16 to 30	23	19.17
	31 to 45	07	05.83
	46 to 60	01	00.83
2	Money collection	00	00.00
3	Sale of egg and broiler birds	00	00.00
4	Purchase of chicks, pullets	00	00.00

	and breeder birds		
5	Money collection	00	00.00

SPENDING TIME IN MISCELLANEOUS ACTIVITIES

Table 8 shows that 21.67 per cent spent 120 minutes in going to the bank regarding financial activities. A majority (54.17%) of the farm women revealed that they spent 61 to 120 minutes in attending training programs. Various training programs were conducted throughout the year by Government/private organisation regarding poultry and various allied sectors depending upon farm women's need and interest.

TABLE No. 8 TIME SPENT PER MINUTE IN MISCELLANEOUS ACTIVITIES

S.No.	Variables	Respondents (N=120)	
		Frequency	Percentage
1	**Going to the bank for finance (minutes)**		
	0 to 30	01	0.83
	31 to 60	23	19.17
	61 to 120	26	21.67
	No time (0 minutes)	70	58.33
2	**Visiting farms for experience (minutes)**		
	30	01	0.83
	60	01	0.83
	No time (0 minutes)	118	98.34
3	**Visiting camps and seminar**	00	00.00
4	**Spending time in SHGs for training (minutes)**		
	0 to 60	23	19.17
	61 to 120	65	54.17
	121 to 180	27	22.50
	No time (0 minutes)	05	04.16

STRENGTH, WEAKNESS, OPPORTUNITIES, AND THREATS (SWOT) FACED BY FARM WOMEN WITH RESPECT TO ACTIVITIES UNDER POULTRY VALUE CHAIN

STRENGTHS

Farm women perceived “Easy to the rear and manage" as the first main strength with mean score 12.86 of the poultry value chain wherein farm women sought that as poultry birds were small in size, so it's easy for them to handle or to lift them at any time without anyone's help. According to them, feeding poultry birds was easy as it requires very less quantity of the feed to suffice their needs. They mostly used to feed on the storage of their kitchen in a way that no different management or buying of feed for poultry was required. "Source of livelihood and economic support" was revealed as second strength with a mean score 10.90. Many farm women used to earn some amount of money from selling eggs and birds which in return helped them to provide their family as economic support. They used to sale birds when they needed financially. "Build entrepreneurship quality" was perceived as the third rank with a mean score of 10.38. As poultry provided farm women with an additional livelihood option it can build certain entrepreneurship quality in them where they felt confident about taking their own decisions regarding poultry activities.

WEAKNESS

Farm women perceived “Mortality due to poor health care and management practices" as the first weakness with a mean score of 14.83 because farm women had low knowledge regarding diseases and health care management. They were not having any brief idea about what has to be done when there is any disease outbreak or how to tackle the situation. "Poor infrastructure and credit facility" was perceived as a second weakness with a mean score as 10.26. In the study area, birds were mostly reared in free range with no specific housing. Therefore, there was a lack of infrastructure for birds due to which birds fell prey to predators."Lack of linkage between research institute and farm women" was perceived as a third weakness with mean score 07.17. As observed in the study area, farm women lack access to a research institute or any other organisation where they can explore themselves to new technologies and ideas.

OPPORTUNITIES

Table 9 depicts "Source of self-employment and additional livelihood" as the first opportunity for farm women with a mean score as 16.68. The poultry value chain is perceived as an additional livelihood option for farm women as she can sell eggs and birds according to their family's needs and economic purpose. It provides a platform for farm women where they can earn my own self and can support their families economically. "Scientific training" is ranked as the second opportunity with a mean

score as 11.79. Majority of the farm women were a member of SHGs where various training was conducted with current topics. As farm women had their own poultry birds, they attended training programmes conducted by SHGs with their interest and positive attitude to update themselves about poultry farming. But some scientific training is needed to be organised for all farm women as the above training programmes organised were for beneficiaries of Swayam schemes only where they learned more about the management of layer birds. Scientific training is an essential need of the hour as farm women lack various scientific knowledge which indirectly leads to the mortality of birds and loss to farm women. With a mean score of 06.12 "Provides cheapest protein source and can be used during occasions" was perceived as the third opportunity for farm women. According to NECC (National Egg Coordination Committee), egg is nature's most perfectly balanced food, it is cheaper as compared to other protein sources and it has the highest nutritive density. Farm women and her family members get this protein source in the cheapest way at almost negligible expenses. Farm women generally used some male poultry birds during occasions/festivals where birds were slaughtered and cooked as a delicious dish. Therefore, they do not need to buy birds during such time. Rank IV was given to "Quality assurance and storage facilities of poultry products" with a mean score as 06.03. A mechanism for efficient marketing networks particularly for small and medium poultry farmers as well as quality assurance of poultry products along the value-chain with adequate facilities such as cold chain, storage, semi-automatic processing is essential. An opportunity should be given where women can store their products and later they can sell them in a better market where they can fetch higher prices.

THREATS

“Attacks by predators" was perceived as the first weakness with a mean score as 16.16. During that time they were most vulnerable to several predators such as dogs, mongoose or snakes that attack poultry birds leading to loss of birds. With a mean score of 14.69 farm women perceived "Emerging and re-emerging diseases" as a second weakness. Lack of knowledge about diseases and vaccination and as no vaccination was used therefore, emerging and re-emerging diseases in the surroundings can be a threat due to which heavy mortality can be seen. The third weakness perceived by farm women was "Theft/stolen” with mean

score 08.10. Birds get stolen in the study area a lot of times. Lack of proper housing should be implemented as it was the root cause for predators attack and the stealing of poultry birds. Extension workers should focus on the training regarding the housing of these birds with very low inputs. Also, the light should be given about vaccination and health care management aspect of the poultry birds.

TABLE No. 9 STRENGTH, WEAKNESS, OPPORTUNITIES AND THREATS IN POULTRY VALUE CHAIN

S. No	Variables	Respondents (N=120)	
		Mean score	Rank
1	**Strength**		
i.	Easy to rear and manage	12.86	I
ii.	Source of livelihood and economic support	10.90	II
iii.	Build entrepreneurship quality	10.38	III
2	**Weakness**		
i.	Mortality due to poor health care and management practices	14.83	I
ii.	Poor infrastructure and credit facility	10.26	II
iii.	Lack of linkage between research institute and farm women	07.17	III
3	**Opportunities**		
i.	Source of self-employment and additional livelihood	16.68	I
ii.	Scientific training	11.79	II
iii.	Provides cheapest protein source and can be used during occasions	06.12	III
Iv	Quality assurance and storage facilities of poultry products	06.03	IV
4	**Threats**		
i.	Attack by predators	16.16	I
ii.	Emerging and re-emerging diseases	14.69	II

iii.	From theft/stolen	8.10	III

CONCLUSIONS

Farm women of the study area had a constructive approach towards poultry farming as it provides supplementary monetary sustain to their families. Farm women used to spent minimal time on poultry farming activities along with their regular activities as Poultry is very easy to rear and manage in the backyard of the home without any specific inputs on feeding and additionally, it is the cheapest source of protein. Further, lack of micro-finance facilities was limited which lowered the development of poultry activities including constructing sheds, buying breed specific birds, quality and balanced feeds. Therefore, constructive funds should be given for poultry farming so that poultry production can be enhanced. An increasing level of investment in the poultry infrastructure such as cold chain, storage, semi-automatic processing, and providing incentives in the form of subsidy to the poultry farmers should be considered. Extension worker should work as the linkage between these farm women and research institute to reduce the information gap.

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