

**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 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. 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 rear 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

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

45 (Add current status of poultry production in MH and India)

46 MATERIAL AND METHODS

47 The present study was undertaken in the Thane district of Maharashtra in 2018.
48 Thane district is having 7 blocks, out of which three blocks namely Bhiwandi,
49 Murbad, and Shahapur blocks were purposively selected. From each block, four
50 villages were selected randomly and from each village, 10 farm women were
51 selected who had at least two poultry birds with minimum 1-3 years of experience in
52 poultry rearing. Time utilization pattern of women was measured by developing a
53 schedule. The respondents were asked to specify the time spent per day on various
54 poultry farming activities performed by them. The respondents were classified
55 according to different time schedules developed by equidistance method. The
56 SWOT analysis was done by the Garrett ranking technique.

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

$$58 \quad \text{Percent Position} = 100 (R-0.5) \div N$$

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

60 N is the number of individual items ranked.

61 The score for each of the strength, weakness, opportunity, and threat after
62 transmutation of the order of merit as per Garrett (1981) was found out separately.
63 To obtain the final order of merit, the score for all the respondents for each of the
64 strength, weakness, opportunity, and threat were summated separately and the

65 mean value was calculated. In findings out the mean values, the sum of the scores
 66 for each item was divided by its frequency of response.

67

68 RESULTS AND DISCUSSION

69 TIME UTILISATION FOR ROUTINE POULTRY FARMING ACTIVITIES

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

80 **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

81

82 MANAGEMENT OF POULTRY

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

89 **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

90

91

92 FEEDING MANAGEMENT

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

98 **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

99

100 LITTER MANAGEMENT

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

103 **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

104

105 EGG/MEAT MANAGEMENT

106 Table 5 shows that the majority (83.33%) spent 01 to 05 minutes in the collection of
 107 eggs daily. Poultry birds used to lay eggs anywhere so for some farm women i.e.

108 12.50 and 04.17 per cent farm women time used to spend was 06 to 10 minutes and
 109 11 to 15 minutes respectively in searching and collecting eggs.

110 **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

111

112 **ANIMAL HEALTH-CARE AND MANAGEMENT**

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

118 **TABLE No. 6 TIME SPENT PER MINUTE IN ANIMAL HEALTH-CARE AND**
 119 **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

120

121 **MARKETING OF POULTRY PRODUCTS**

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

125 **TABLE No. 7 TIME SPENT PER MINUTE IN MARKETING OF POULTRY**
 126 **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 and breeder birds	00	00.00
5	Money collection	00	00.00

127

128 **SPENDING TIME IN MISCELLANEOUS ACTIVITIES**

129 Table 8 shows that 21.67 per cent spent 120 minutes in going to the bank regarding
 130 financial activities. A majority (54.17%) of the farm women revealed that they spent
 131 61 to 120 minutes in attending training programs. Various training programs were
 132 conducted throughout the year by Government/private organisation regarding poultry
 133 and various allied sectors depending upon farm women's need and interest.

134 **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

135

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

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

151 option it can build certain entrepreneurship quality in them where they felt confident
152 about taking their own decisions regarding poultry activities.

153 **WEAKNESS**

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

166 **OPPORTUNITIES**

167 Table 9 depicts "Source of self-employment and additional livelihood" as the first
168 opportunity for farm women with a mean score as 16.68. The poultry value chain is
169 perceived as an additional livelihood option for farm women as she can sell eggs and
170 birds according to their family's needs and economic purpose. It provides a platform
171 for farm women where they can earn my own self and can support their families
172 economically. "Scientific training" is ranked as the second opportunity with a mean
173 score as 11.79. Majority of the farm women were a member of SHGs where various
174 training was conducted with current topics. As farm women had their own poultry
175 birds, they attended training programmes conducted by SHGs with their interest and
176 positive attitude to update themselves about poultry farming. But some scientific
177 training is needed to be organised for all farm women as the above training
178 programmes organised were for beneficiaries of Swayam schemes only where they
179 learned more about the management of layer birds. Scientific training is an essential
180 need of the hour as farm women lack various scientific knowledge which indirectly
181 leads to the mortality of birds and loss to farm women. With a mean score of 06.12
182 "Provides cheapest protein source and can be used during occasions" was
183 perceived as the third opportunity for farm women. According to NECC (National Egg
184 Coordination Committee) egg is nature's most perfectly balanced food, it is cheaper

185 as compared to other protein sources and it has the highest nutritive density. Farm
 186 women and her family members get this protein source in the cheapest way at
 187 almost negligible expenses. Farm women generally used some male poultry birds
 188 during occasions/festivals where birds were slaughtered and cooked as a delicious
 189 dish. Therefore, they do not need to buy birds during such time. Rank IV was given
 190 to "Quality assurance and storage facilities of poultry products" with a mean score as
 191 06.03. A mechanism for efficient marketing networks particularly for small and
 192 medium poultry farmers as well as quality assurance of poultry products along the
 193 value-chain with adequate facilities such as cold chain, storage, semi-automatic
 194 processing is essential. An opportunity should be given where women can store their
 195 products and later they can sell them in a better market where they can fetch higher
 196 prices.

197 **THREATS**

198 "Attacks by predators" was perceived as the first weakness with a mean
 199 score as 16.16. During that time they were most vulnerable to several predators
 200 such as dogs, mongoose or snakes that attack poultry birds leading to loss of birds.
 201 With a mean score of 14.69 farm women perceived "Emerging and re-emerging
 202 diseases" as a second weakness. Lack of knowledge about diseases and
 203 vaccination and as no vaccination was used therefore, emerging and re-emerging
 204 diseases in the surroundings can be a threat due to which heavy mortality can be
 205 seen. The third weakness perceived by farm women was "Theft/stolen" with mean
 206 score 08.10. Birds get stolen in the study area a lot of times. Lack of proper housing
 207 should be implemented as it was the root cause for predators attack and the stealing
 208 of poultry birds. Extension workers should focus on the training regarding the
 209 housing of these birds with very low inputs. Also, the light should be given about
 210 vaccination and health care management aspect of the poultry birds.

211 **TABLE No. 9 STRENGTH, WEAKNESS, OPPORTUNITIES AND THREATS**
 212 **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	10.90	II

	support		
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

213 **CONCLUSION CONCLUSIONS**

214

215 Farm women of the study area had a constructive approach towards poultry
216 farming as it provides supplementary monetary sustain to their families. Farm
217 women used to spent minimal time on poultry farming activities along with their
218 regular activities as Poultry is very easy to rear and manage in the backyard of the
219 home without any specific inputs on feeding and additionally, it is the cheapest
220 source of protein. Further, lack of micro-finance facilities was limited which lowered
221 the development of poultry activities including constructing sheds, buying breed
222 specific birds, quality and balanced feeds. Therefore, constructive funds should be
223 given for poultry farming so that poultry production can be enhanced. An increasing

224 level of investment in the poultry infrastructure such as cold chain, storage, semi-
225 automatic processing, and providing incentives in the form of subsidy to the poultry
226 farmers should be considered. Extension worker should work as the linkage between
227 these farm women and research institute to reduce the information gap.

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229 **Add policy implication if any**

230 **REFERENCES**

231 **Add some recent references with uniformity in all with journal style.**

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