

Fostering Climate Resilient Upland Farming in the North East
(FOCUS) Mizoram



Operational Guidelines

Rural Backyard Poultry Unit

Project Management Unit

2019



Poultry Value Chain Development

BACKYARD POULTRY VALUE CHAIN

Most backyard poultry production systems have little in the way of linkages with formal value chains. But with retailing undergoing rapid transformation in large number of developing countries, especially in the state of Mizoram, there is potential and opportunity for linking these small backyard producers to larger markets via more formal value chains. However, that would also bring small producers and industrial poultry into more overlapping competitive space, raising questions about cost competitiveness and sustainability. This would also perhaps raise costs of complying and competing in the increasingly safety- and quality conscious market. In such a context, as noted above, the big policy question pertains to the integration of small-scale commercial poultry production systems into expanding value chains and the required policy interventions – such as promotion of farmer organizations (cooperatives, producer companies, contract growers, etc) – to increase opportunities for small producers and to minimize pains during transition to large-scale poultry production. The state government department of AHV has initiated developing new model through establishment of parent stock farm cum hatchery to integrate small producers into the value chain instead of displacing them.

The main challenge for small-scale/rural poultry is, therefore, organizational not technical. It is important to continue to promote village poultry to contribute to household nutrition security and livelihood support, but concerted efforts must be made to find organizational solutions to minimize public-health risks and provide appropriate extension support on issues like disease prevention, predation and improving hatchability. Unfortunately, most of the state government extension programmes in Mizoram focussed on crops (livestock extension programmes are almost non-existent) and are not oriented towards addressing the needs of poor households. Further, although there are large number of NGOs that are much closer to the people, development of household poultry enterprise does not appear to be on the agenda of many of these organizations. Similarly, some private-sector integrators have invested significantly in the development of fast-growing broiler birds that require significant additional inputs. However, extension and public health support systems continue to be a weak point, increasing vulnerability to exogenous shocks.

In this context, significant investment in capacity-building and empowerment of village communities can promote change and technology adoption, and establish the foundation for village-based, farmer-to-farmer, livestock extension mechanisms. Many minor services like vaccination of day-old chicks and timely protection against poultry diseases are inaccessible to the poorest groups (especially in marginal areas); several rounds of vaccinations during the year are possible only if the relevant skills are available among farmers themselves. It would therefore be essential to impart skill training to Community Animal Health Workers for individual and community benefit. Thus, the real challenge appears to be to develop functioning partnerships between community-based animal health workers, NGOs, private-sector enterprises and government animal health support systems.

The bigger question, of course, is how does one promote small-scale poultry, and what sort of policy and organizational support may be necessary to nurture these enterprises? In areas where there is already a good tradition of backyard poultry, the requirement may be to systematically identify constraints and facilitate provision of support services. This, in turn, requires study of the entire production system, market chain, profitability and suitability of resources. It is also important to focus research on the aspects of the market and institutional environment that are changing, and on how these changes are likely to affect the poor. Once some understanding is established in this respect, it will be necessary to initiate a dialogue with influential agencies to put in place the required support mechanisms while ensuring that the

process is interactive and inclusive. It is important that small-scale poultry is seen as an integral item in the menu of livelihood options, both by practitioners and policy-makers.

Role of the government and other stakeholders: There is poor awareness among governments of the potential of smallholder poultry in supporting poor peoples' livelihoods. That is one reason why government support for promotion of this activity is often poor. It is, therefore, necessary to raise awareness about this option while ensuring that the government does not overwhelm and crowd out others. In this context it is also necessary to identify organizations, like DRDA, NEIDA, that have already established some trust and credibility with local communities, and use these organizations as a catalyst for promoting action. At the same time, it is necessary to nurture powerful alliances, including academia, which can discuss smallholder poultry activities and can influence the opinion of government and the political establishment. International agencies such as FAO, and the United Kingdom's Department for International Development (DFID), can aid in this process by providing credibility to activities such as those promoted by BRAC and Keggfarms.

Need for a common platform: There is a need to organize a series of meetings and workshops to sensitize decision-makers, politicians, bureaucrats, technocrats, policy-makers and planners of pro-poor programmes. This sensitization must be based on hard data. It is also necessary to involve people who write Poverty Reduction Strategy Papers, Human Development Reports, policy documents, etc. International organizations such as FAO with a mandate to promote global exchange of information, collection, analysis, interpretation and dissemination of data, and national and international technological, social and economic research, can play a significant role in this context.

Capacity-building: Organization of support services and input supply is a critical element of any model that attempts to link smallholders with output markets. This requires support from people with strong organizational skills. Thus, appropriate capacity-building measures must become an integral part of interventions that design and implement livelihood-support options such as backyard poultry. Successful projects such as those implemented by BRAC and Keggfarms can be a resource for this training. Similarly, government and NGOs can provide technical training.

Linking with microcredit: Microfinance organizations and self-help groups may help with credit to finance important expenditures. Establishment of strong linkages with microcredit organizations must, therefore, be seen as an integral component of all livelihood support interventions, including household poultry. Besides facilitating access to credit, credible microcredit organizations and self-help groups can also help rationalize interest rates.

Data and analytics: Finally, the database pertaining to poultry production is extremely weak and seriously hampers the analytical work necessary to support decision-making. There are significant discrepancies even in the basic production and price data put out by the government, private agencies, and international organizations. Generation of accurate data is critical for informed policy decisions, and concerned agencies should seriously deliberate the possibility of creating a common information system for livestock products, including poultry.

Against this backdrop the FOCUS project will provide brooded Rainbow Rooster chicks to about 8000 farmers to set up small backyard poultry units, targeted at the poorest women, with the aim of improving household food security and generating income from sale of eggs and meat. The project would provide the birds and equipment with the household/entrepreneur for constructing a house of an improved type, where the farmers would have to bear the 50% cost. Birds (Rainbow Rooster) for these units would be supplied from the DAHV hatchery in Aizawl and the project would facilitate the state DAHV to rear day-old chicks in each district by establishing brooding units at district level in all the project districts.

IMPLEMENTATION ARRANGEMENTS:

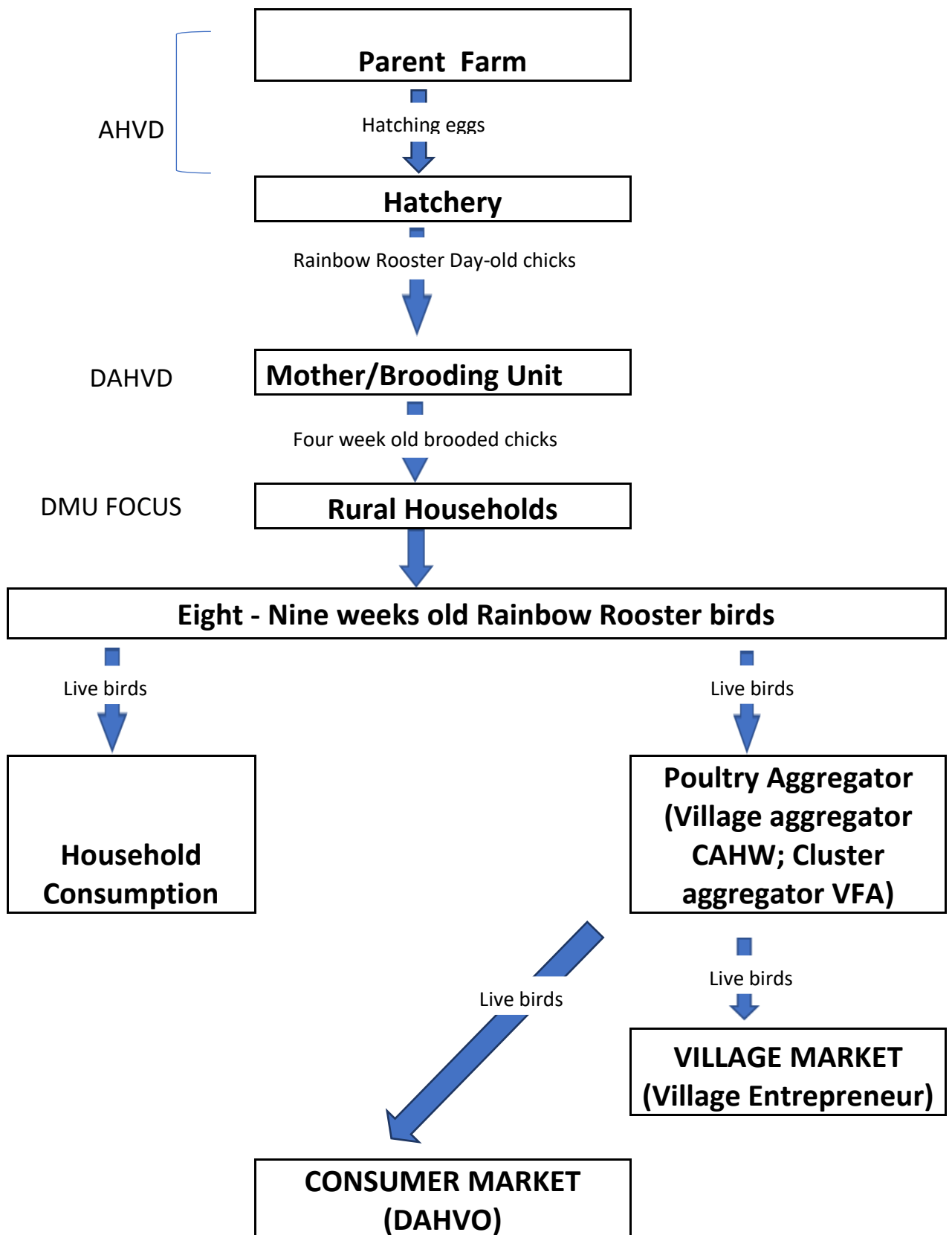
1. The project is proposed to be implemented in selected villages adopting cluster approach covering 8000 households in the project districts namely, Champhai, Kolasib, Serchhip and Mamit, with 5 (five) villages forming one cluster. There will be 52 (eighty) clusters covering 272 (two hundred seventy two) villages in total.
2. Clustering and selection of villages for backyard poultry would be done by District Animal Husbandry and veterinary officer supported by AHM, VFA and CAHW.
3. 100% beneficiaries for backyard poultry will be women, preferably youth between 18-40 years of age.
4. 30 (thirty) farmers will be selected for backyard poultry by CAHW in each selected villages. These farmers will be linked to Jhum FIG as associate members. However, if Jhum FIG has not been formed in the village, the farmers will be linked to Settled Agriculture/Upland Farming FIG as associate members.
5. There will be 3000 (three thousand) birds in each cluster out of which 60% will be consumed in the village and 40% will be available for market outside village. There will be increase in production of poultry meat in each cluster by about 6.60 MT per year (2.2X3000) after implementation of the project. Marketable surplus of birds will be collected by community animal health workers (CAHW) at village level and bring them to cluster aggregators, in this case VFAs, who will in turn bring them to market in district headquarters in order to link them to formal value chain.
6. Vaccination and veterinary service and technical training to backyard poultry farmers would be provided by the project staff.
7. District AHVD will facilitate access to bank credit for backyard poultry farmers under NLM-EDEG scheme.
8. In order to minimise mortality during brooding period AHVD will establish Brooding Unit in each project district. District AHVD will procure Rainbow Rooster day-old chicks from ZPDS Hatchery, Tanhril and rear for four week before distributing to farmers. FOCUS project will provide support to AHVD for establishment of Brooder Unit.

INVESTMENT COSTS FOR BACKYARD UNIT

SI No	Particulars	Rate (in Rupees)	Quantity	IFAD Loan	Beneficiary	CSS	Amount (in Rupees)
A	Fixed costs						
	Night Shelter	560	1	0	560	-	560
	Waterer and feeder	400	2	800	-	-	800
	Sub Total (A)			800	560	0	1360
B	Variable costs						
	Cost of 28 day old Rainbow Rooster chicks	70	20	1400	-	-	1400
	Vaccine and medicines	1	20	-	-	20	20
	Cost of feed @ 52 gram/day/birds for 62 days; 3.5 kg/bird	112	20	300	1940		2240
	Sub Total (B)			1700	1940	20	3660
	Grand total (A+B)			2500	2500	20	5020

BUSINESS PLAN

Rainbow Rooster distribution channel under FOCUS Project



SI No	Particulars	Total	District			
			Champhai	Kolasib	Serchhip	Mamit
1	Number of Villages	272	104	52	42	74
2	Number of Households	8000	3040	1600	1280	2080
3	Average number of Household/ village	30				
4	Average number of villages/cluster	5				
5	Number of cluster	52	20	10	8	14
6	Number of birds/Household	20				
7	Average Number of birds/village	600				
8	Average number of birds/cluster	3000				
9	Total number of birds/cycle	160000	60000	30000	24000	42000
10	Total numbers of birds/ year @ 5 cycle /year	800000	300000	150000	120000	210000
11	Number of birds for Village consumption (60%)	480000	180000	90000	72000	126000
12	Number of birds- Marketable surplus (40%)	320000	120000	60000	48000	84000
13	Average weight of birds at 90 days is 2.2 kg	1760000	660000	330000	264000	462000
14	Village consumption (60%) in Kg	1056000	396000	198000	158400	277200
15	Marketable surplus (40%) in Kg	704000	264000	132000	105600	184800

1. There will be 52 (fifty two) clusters covering 272 (two hundred seventy two) villages in total. There will be about 3000 birds per cluster per cycle; there will be 5 cycles of 8-9 weeks old birds ready for market in a year.
2. 60% of birds will be consumed in the village; 40% will be available for market outside village; these surplus birds will be linked to formal value chain. CAHWs will be made responsible to collect these birds from farmers in the village and bring them to Cluster aggregator, VFA who will in turn bring them to District AHVO in order to link them to formal value chain. CAHWs will be allowed to charge Rs 5 per bird for their service. DAHVO will facilitate promotion of Entrepreneurs for poultry slaughtering and packaging at district level.
3. The prevailing market price of dressed poultry in all the project district can be averaged at Rs 250/kg. Suppose live birds reach district aggregators at the rate of Rs 165/kg, inclusive of transport and other expenses, there is still huge margin for poultry meat entrepreneurs.

INVESTMENT OF A MOTHER UNIT

SI No	Particulars	Rate(Rs)	Amount (Rs)
I	CIVIL WORKS FOR BROODER SHED		
1	Brooder shed area of 3000 Sq ft (60'X25'X2). Civil works with brick masonry, CC (1:2:4) flooring, CGI sheet roofing, pipes for tubular trusses, wooden door, plastic mesh etc	LS	₹ 67,800.00
II	EQUIPMENT		
1	Poultry equipment Chick feeder and chick waterer; adult feeder and drinker; 50 each total 200	₹ 350.00	₹ 70,000.00
2	Chick guard 125 ft long and 1.5 ft height made of aluminium sheet	LS	₹ 5,000.00
3	Electric Brooders 20 Nos (1 brooder for 250 chicks)	₹ 1,000.00	₹ 20,000.00
4	1KWp Off Grid Solar PV Power Plant	₹ 1,00,000.00	₹ 1,00,000.00
5	Flame gun		₹ 2,000.00
6	Digital weighing balance		₹ 2,000.00
7	Spray machine		₹ 2,500.00
8	Plastic sheet		₹ 3,000.00
9	Water tank		₹ 10,000.00
10	Farm cleaning equipment		₹ 2,500.00
11	Sign Board (8'X3')	LS	₹ 3,000.00
	Sub-total		₹ 2,20,000.00
	Total Fixed Costs		₹ 2,87,800.00
III	WORKING CAPITAL		
1	Day-old chicks (Rainbow Rooster)	₹ 40.00	₹ 2,10,000.00
2	Chick feed @ 0.75kg/bird; feed cost Rs 35/kg	₹ 44.00	₹ 1,65,000.00
3	Vaccines and medicine		
4	Miscellaneous expenses (litter, lime, electricity, water etc. Rs 0.50/bird)	₹ 0.50	₹ 2,500.00
	Sub-total		₹ 3,77,500.00
	Total Cost (Fixed costs + working Capital)		₹ 6,65,300.00

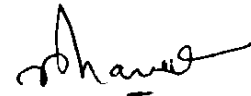
(Rupees six lakhs sixty five thousand three hundred only)

Countersigned by




(R.N.NITHANGA)
State Project Director
FOCUS, Mizoram

Prepared by



(Dr. LALMINGTHANGA)
Deputy Director (AHVD)
FOCUS, Mizoram

Approved by



(LALMINGTHANGA)
Co-Chairman
FOCUS, Mizoram

INCOME FROM A MOTHER UNIT (5000 BIRDS CAPACITY)

SI No	Particular	yr 1	Yr 2	Yr 3	Yr 4
1	Total birds	5000	5000	5000	5000
	COSTS				
	Day-old chicks cost	₹ 1,75,000	₹ 1,75,000	₹ 1,75,000	₹ 1,75,000
	Feed Cost @ 0.75kg/bird; cost Rs 44/kg	₹ 1,65,000	₹ 1,65,000	₹ 1,65,000	₹ 1,65,000
	Medicine and vaccine (to be provided by AHVD)				
	Other miscellaneous costs @ Rs 0.50/bird	₹ 2,500	₹ 2,500	₹ 2,500	₹ 2,500
	Total costs	₹ 3,42,500	₹ 3,42,500	₹ 3,42,500	₹ 3,42,500
	SALES				
	Total birds (2% additional mortality excluding 3% supplied by the farm)	4900	4900	4900	4900
	Sale price Rs/chick (28 days old)	₹ 70	₹ 70	₹ 70	₹ 70
	Total sales (in Rs)	₹ 3,43,000	₹ 3,43,000	₹ 3,43,000	₹ 3,43,000
	Profit per batch	₹ 500	₹ 500	₹ 500	₹ 500
	Profit per Year (8 batches per year)	₹ 4,000	₹ 4,000	₹ 4,000	₹ 4,000

Economic of Rural Backyard Poultry Unit for Dual Purpose (20 birds under scavenging condition) to be reared by one farmer under FOCUS Project

SI No	Particulars	Rate (in Rs)	Quantity	Amount (in Rs)
A	Fixed Costs			
1	Cost of low cost Night Shelter (8'X5')	560	1	560
2	Adult feeder 8 kg capacity and 5 lit capacity drinker	400	2	800
	Sub-total			1360
B	Variable costs			
1	Cost of 28 day old Rainbow Rooster chicks	70	20	1400
2	Vaccine and medicines	1	20	20
3	Cost of feed @ 52 gram/day/birds for 62 days; 3.5 kg/bird	112	20	2240
	Total			3660
	Grand total (A+B)			5020
C	Benefit			
	Sale of birds at 3 month of age of body weight 2.2 kg at the rate of Rs 150/kg i.e Rs 300/bird. Assuming 5% mortality	300	19	5700
	Total			5700
	Net Benefit (Benefit-Variable costs)			2040
	Number of batches reared per annum			5
	Benefit per annum per beneficiary			10200

(Rupees ten thousand two hundred only)

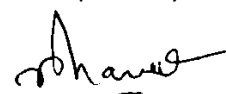
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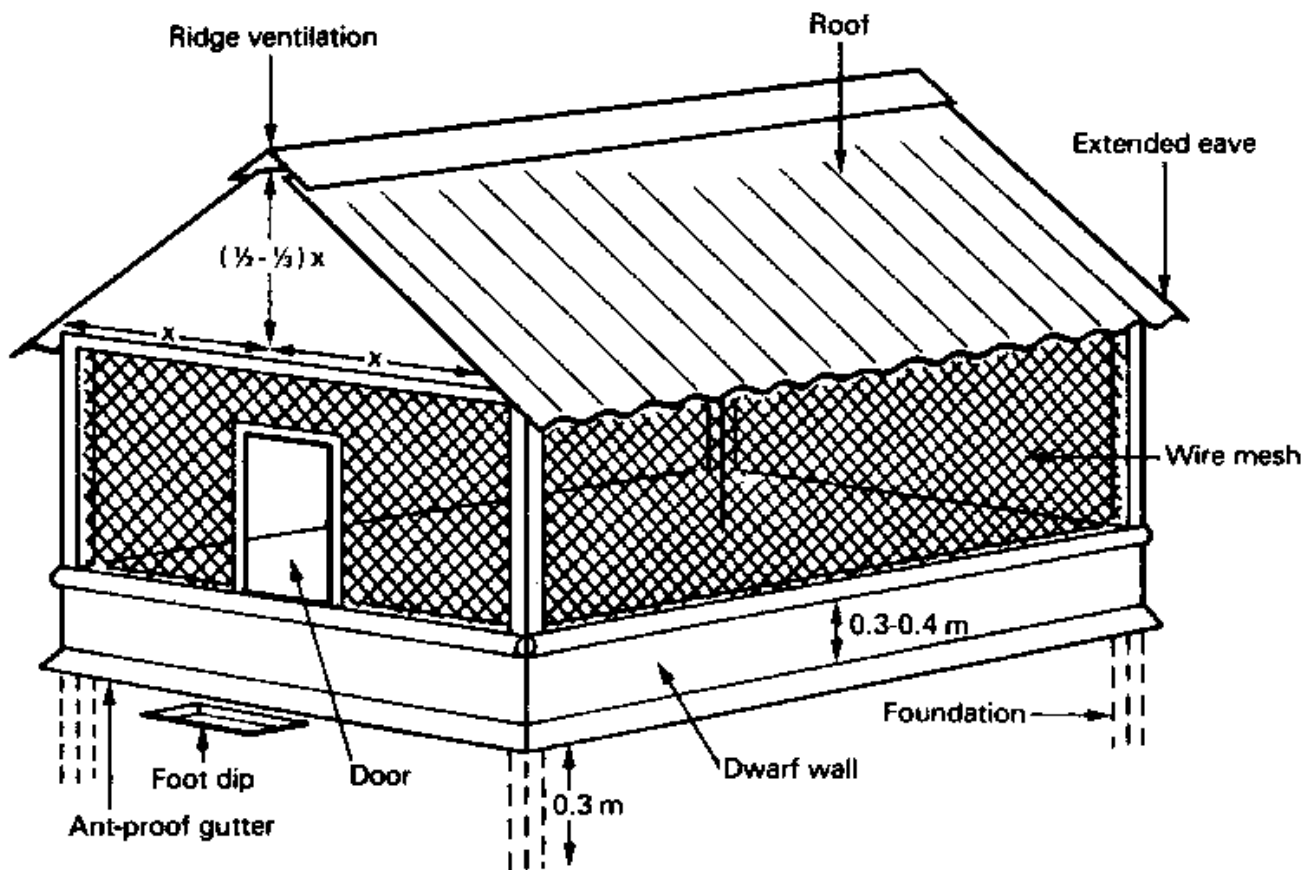
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(LALHMINGTHANGA)

Co-Chairman
FOCUS, Mizoram

Ideal Design for Night Shelter





FOCUS

Rural
Backyard
Poultry

SI No	INVESTMENT OF MOTHER UNIT		
	Particulars	Rate (Rs.)	Amount (Rs.)
I.	CIVIL WORKS FOR BROODER SHED		
1.	Brooder shed area of 3000 sq.ft (60"x25"x2). Civil works with brick masonry, CC (1:2:4) flooring, CGI sheet roofing, pipes for tubular trusses, wooden door, plastic mesh etc.	LS	67,800.00
II.	EQUIPMENT		
1.	Poultry equipment Chick feeder and chick waterer; adult feeder and drinker; 50 each total 200.	350	70,000.00
2.	Chick guard 125ft long and 1.5ft height made of aluminium sheet.	LS	5,000.00
3.	Electric Brooders 20 Nos (1 brooder for 250 chicks)	1,000	20,000.00
4.	1KWp Off Grid Solar PV Power Plant	1,00,000	1,00,000.00
5.	Flame gun	2,000	2,000
6.	Digital weighing balance	2,000	2,000
7.	Spray machine	2,500	2,500
8.	Plastic sheet	3,000	3,000
9.	Water tank	10,000	10,000
10.	Farm cleaning equipment	2,500	2,500
11.	Sign Board (8x3")	LS	3,000.00
12.	Sub total		2,20,000.00
13.	Total fixed cost		2,87,800.00
III.	WORKING CAPITAL		
1.	Day old chicks (Rainbow Rooster) of 5,250 no.	40	2,10,000.00
2.	Chick feed @ 0.75kg/bird; feed cost Rs 35/kg	44	1,65,000.00
3.	Vaccines and medicine		
4.	Miscellaneous expenses (litter, lime, electricity, water etc.) Rs.0.50/bird	0.50	2,500.00
5.	Sub total		3,77,500.00
6.	Total cost (Fixed cost + working capital)		6,65,300.00