

PROJECT PROPOSAL

FOR

DEVELOPMENT

OF

BACKYARD POULTRY IN ORISSA

UNDER

SGSY INFRASTRUCTURE

**DIRECTORATE OF ANIMAL HUSBANDRY AND VETERINARY SERVICES, ORISSA,
MANGALABAG, CUTTACK**

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THE PROJECT BRIEF

Objectives of the Project	:	Livelihood through of Backyard Poultry in Orissa
State	:	Orissa
Districts	:	All 30 districts
Target Families	:	3, 00,000 Nos.
Total Project Cost in Rs.	:	Rs. 100 lakhs
Implementing Agency	:	District Livestock Resources Development Society

BACKGROUND:

Poultry development plays a crucial role in increasing egg and chicken meat production. Poultry rearing provides income and employment to large number of people in rural areas. The backyard poultry contributes a lot towards the over all production of egg and chicken. The most preferred quality chicken and egg come from this sector, which is sold at a premium market price. Besides, the increase in over all egg and chicken production this sector can play an important role in socio-economic up-liftment of the rural mass. Backyard Poultry can act as an engine for economic growth through eradication of rural poverty. On the other hand development of backyard poultry can reduce the high infant and mother mortality rate through restoration of nutritional status of the rural population.

In Orissa, about 30 % of rural households are involved in poultry rearing and the flock size ranges from 5- 20. The small holder poultry production is not capital intensive and requires minimal use of land, labour and capital. The local breeds available are, Dhinki, Vezaguda, Gujuri, Dumasil, kalahandi, Phulbani, MotiHansa, Orissa ducks etc. They need conservation for varied reasons.

Poultry development in Orissa has made significant progress over the years. As per 2003 Livestock Census, the total poultry population including duckery in the State was 189.94 lakhs. The egg production in the State during 2003-04 was 931.06 million with per capita availability of 25 eggs per annum against the production of 909.49 million and per capita availability of 25 eggs per annum during 2002-03.

In the primary sector, Agriculture provides about 100 to 120 days employment to the rural poor. Scanty land holding, land fragmentation and seasonal agriculture are not able to provide full employment to the work-force which in turn creates disguise unemployment. Backyard Poultry farming can be a viable option for rural poor to overcome the issue. Introduction of egg in M.D.M programme further increases the scope of poultry farming. The backyard poultry farming with low input technology birds can be taken as a possible intervention.

The traditional backyard poultry producing 30-40 eggs per annum is less remunerative than modern backyard poultry farming, which encourages rearing of low input technology birds like Vanaraj, Giriraja, Girirani, Atulya, Gramalaxmi, Krishilayer, Gramapria, CARI Gold, Kalinga Brown and Khaki Campbell duck, which grow at a faster rate and produce 120 – 150 eggs per

annum. The organized Backyard poultry will provide an avenue for resource-poor farmers to increase production, improve their livelihoods, reduce malnutrition and thereby, contribute to the goal of overall poverty alleviation. The backyard poultry production will enhance food security at household levels and improve nutritional status.

However, there is need to provide an enabling environment to extend all support to backyard system of production, since this is a means of livelihood of poorer sections of the society and will help in food production, food security, gender equity and providing employment to women. Improvement of local breeds and their conservation for future use also should be the joint responsibility of the Government and farming community.

The critical input in poultry farming is availability of quality chicks which will be ensured by establishing hatcheries at selected 50 places to produce and meet the demand of the day old chicks.

CURRENT STATUS OF POULTRY IN ORISSA:

Production & Consumption:

It is the fastest growing sector, which registered an average growth rate of 15 % per annum in Orissa during last 3 years. This has led to the increase in production of eggs, which grew at 20 percent rate per annum. (Table- 1). The egg availability per year per head in Orissa is 33 eggs compared to national average of 40 eggs.

Table- 1

Year-wise Production and Per capita Availability of Milk, Meat and Eggs in Orissa

Year	Production of eggs (in millions)	Per capita availability of eggs (nos/annum)
1998-99	762.79	22
1999-00	648.31	18
2000-01	730.10	20
2001-02	858.02	24
2002-03	909.49	25
2003-04	931.06	25
2004-05	12159.61	33
2005-06	1278.70	34

Source: Directorate of Animal Husbandry & Veterinary Services, Orissa, Cuttack.

The present production of egg is 32 lakhs egg per day against the requirement of 62 lakhs egg per day. Present population of commercial layers in organized sector is about 20 lakh confined to only 5 districts of the state viz. Ganjam, Sambalpur, Khurda, Bolangir, Kalahandi. The production level can be increased through more commercial layer farms and mass production of eggs in backyard sector through low input technology birds.

The Department has prepared an action plan to produce 100 lakh eggs per day during the next 5 years period. Many incentive packages are given to promote commercial poultry farming.

The Department has taken steps for strengthening of 10 departmental poultry & duck farms under CSP Scheme in order to promote backyard poultry in the State. The day-old chicks will be available for backyard rearing by the farmers. Through this, the State expects to have self-sufficiency in the production of eggs and meat. The eggs available from such production process can be made available under the mid-day meal programme.

The demand for organic egg and meat is increasing over the years especially in the industrially developed Western countries even though they cost more and cut through the wallet. Small holder backyard poultry production utilizing local breeds, therefore, is expected to increase the profitability of this system of production, but the super markets will benefit.

Duck farming should be promoted in Southern & Eastern region of the state as demand of egg & meet of duck is there. The breed like Muscovi, which gains 3 Kg. body weight within a period of 5-6 month, and also hatches eggs itself is suitable in those areas.

Backyard poultry development suffers due to 80% mortality. It would be prudent to take up simple vaccination against RD and also de-worming to increase the bird population.

Departmental Poultry and Duck Farms in the State:

Sl. No.	Name of the Farms	Layer Capacity
1.	Poultry Breeding and Research Farm, Angul	3000
2.	Regional Poultry Farm, Sundargarh	1500
3.	District Poultry Farm, Bhanjanagar	500
4.	District Poultry Farm, Harichandanpur, Keonjhar	550
5.	District Poultry Farm, Bolangir	500
6.	Poultry Breeding Farm (IPDP), Bhubaneswar	1500
7.	Special Poultry Unit, Chipilima, Sambalpur	500

8.	Duck Breeding Farm, Chipilima, Sambalpur	250
9.	Regional Poultry Farm, Koraput	500
10.	District Poultry Breeding Farm, Similiguda	1000
11.	Duck Breeding Farm, Khapuria, Cuttack	1000

POTENTIALS IN BACKYARD POULTRY FARMING:

Raising of local poultry breeds in backyard is an important source of Livelihood for the rural people of Orissa. 63% of the owners of the backyard poultry are Scheduled Tribes, 17% Scheduled Castes and rest 20% owned by OBCs and other communities. Main interest of the poultry farmers having backyard poultry is not production of eggs as returns are very low from sale of eggs. They hatch all their eggs and sell them as birds. Poultry keeping in backyard gives very high return as the investment is very low.

- The local breeds of Poultry / indigenous poultry genetic resources are held in high esteem even after 50 years of industrial poultry production.
- Local poultry breeds exhibit superior adaptability in their habitat and possess the ability to survive, produce and reproduce on low plane of nutrition and sub-optimal management.
- The inputs required are very small as they scavenge their feed requirements and are raised with little veterinary care.
- They possess the ability to protect themselves from predators.
- All the local breeds show broodiness and hatch their own chicks making the system auto-generating.
- People have a preference for eggs and meat of indigenous poultry compared to those realized from farm-bred chickens consequently eggs and meat from local breeds are sold at a premium price.
- Cock fighting is a popular sport for the ethnic tribes and the local breeds are superior to exotic breeds in fighting.
- Use of coloured bird for socio-religious use.

The average annual income from backyard poultry is Rs. 2200 per household although the variation across households is very large. Studies reveal, when mortality is reduced, income per household increases by 18.1 %.

The sector has great potential for raising rural incomes because egg production is presently very low and has to be increased by ten times to reach the recommended level of requirement of half an egg per day per individual for half of the Indian population considered as vegetarians.

The merit of backyard poultry lies in its ability to contribute a substantial proportion of income of those who are otherwise poor. For the nutritiously starved poor, backyard poultry brings in little pleasures of life within their easy reach - it enables them to indulge in the consumption of the much cherished food.

The poultry birds reared in the backyard are also important from the biodiversity point of view as they act as a natural scavenger. The droplets of the birds also increase the soil fertility.

RATIONALE OF THE PROJECT: LINKAGE WITH SGSY AND

CONVERGENCE ISSUES:

The growing demand for egg and low investment in backyard sector provides opportunity for the rural poor particularly, women for more gainful employment opportunities. Mass production of eggs in backyard sector will facilitate scale economy in rural areas.

In order to realize the action plan to produce 100 lakh eggs per day, in addition to commercial layer farming, the egg production in the backyard sector is very much essential. The Government will facilitate in promoting the backyard poultry farming through individuals/ SHGs by ensuring availability of the critical input, i.e., day old chicks nearer to them at an affordable price. This requires massive awareness campaigns/ training at different levels to attract and encourage rural farmers from the State. The training and awareness programme can be dovetailed from other ongoing programmes like SGSY. The Hatchery establishment at suitable locations in the State will ensure the supply side of the day old chicks. It is, therefore, necessary to avail assistance from Special SGSY fund for establishing 50 Hatcheries in the State.

It has been envisaged to dovetail funds from Woman & Child Development Department (including under STEP), P. R. Department, S.T. & S.C. Department, State Employment Mission for taking up training programme in different locations of the State.

SGSY is a holistic programme covering all aspects of identification of activities, skill development, infrastructure, technology upgradation and marketing. The present project proposal aims to supplement the resources available under SGSY. This envisages more focused and specialized attention on the special needs for developing backyard poultry through availability of day old chicks, which is currently proposed to pursue under SGSY infrastructure. In view of this, it is required to establish Poultry Hatchery at the Sub – Division level to ensure availability of day old chicks at an affordable price.

OBJECTIVES:

- Promotion of alternate/ supplement income generation opportunities through out the year and stop migration (the target families should have an increase of at least 100% in income of the present level and reaching to Rs. 2000/-).
- To federate individuals and groups, activity-wise and to strengthen the enterprises and collective bargaining power of the community.
- To transfer appropriate technology (Low input technology) to the community to increase the environment friendly productivity.
- To facilitate backyard poultry development

STRATEGY:

- 1) Improve productivity and production in small scale poultry farming system by ensuring availability of quality day old chicks.
- 2) Public private partnership for backward and forward integration.

ECONOMICS OF THE BENEFICIARY UNIT OF 20 BIRDS:

As mentioned earlier, the beneficiaries will be supplied at a time with 20 chicks, which are one day old. The economics of a beneficiary unit having 20 birds is worked out here.

- 1) The initial fixed expenditure to be incurred is Rs. 1500 (Rs. 1300 for night shelter and Rs. 200 for the feeders and drinkers).
- 2) The first batch of 20 chicks will cost Rs. 200 at the rate of Rs. 10 per one month old chick.

- 3) The cost of feed required (at the rate of 40 grams per day per bird for 10 weeks) feed @ Rs.10.75 per Kg feed worth Rs. 600 for 10 weeks, medicines @ Rs. 100/- in total comes to Rs.2600.

The beneficiary will rear the birds and he/ she will sell the male birds 50 % of total (about 7 in numbers) @ Rs.150/- each when they are 24 weeks old; this is expected to fetch about Rs. 1050. The female birds will start laying eggs when they are 28 weeks old till the 80th week. It is expected that each bird will lay on an average 3 eggs per week during a laying cycle. The eggs of these low input technology birds are expected to fetch a minimum price of Rs. 3.00 each. The income from sale of eggs from 7 hens will be about 3750 per batch. At the end of the 80th week, the beneficiary will sell the culled female birds for meat purposes earning an income of about Rs. 560 (@Rs.70/- per bird of 8 birds).

The beneficiary will get approximately an amount of Rs. 2500 per batch with free animal protein to the family in shape of egg and chicken. With this cycle, the beneficiary rearing two batches of bird in a year will get about Rs. 5000.

LOCATION AND AREA OF OPERATION

The hatcheries will be established preferably in the Departmental lands/ farms available in various places. The location will be chosen as per the requirement. The Hatcheries will be operated by the some experienced private personals/ S.H.Gs/ N.G.Os or Govt. professionals on contractual (MOU) basis. The minimum capacity of the Hatchery will be of 17136 no. of eggs in Setter & 5712 no. of eggs in Hatcher.

It is proposed to establish 50 Hatcheries in suitable locations in Sub divisions, where the Department hatcheries are not available. The detail list is given below.

Sl. No.	Name of the District	Name of the Sub-division	Location of Hatchery
1.	Angul	Talcher	Talcher
2.		Athamallick	Athamallick
3.		Pallahara	Pallahara
4.	Balasore	Balasore	Remuna
5.		Nilagiri	Nilagiri

6.	Bargarh	Bargarh	Bargarh
7.		Padmapur	Sohela
8.	Bhadrak	Bhadrak	Bahudarda / Hqtr.
9.	Bolangir	Titilagarh	Titilagarh
10.		Patnagarh	Patnagarh
11.	Boudh	Boudh	Boudh
12.	Cuttack	Banki	Banki
13.		Athagarh	Athagarh
14.	Deogarh	Deogarh	Deogarh
15.	Dhenkanal	Dhenkanal	Dhenkanal
16.		Kamakshyanagar	Kamakshyanagar
17.		Hindol	Hindol
18.	Gajapati	Gajapati	Gajapati
19.	Ganjam	Berhampur	Berhampur
20.		Chhatrapur	Chhatrapur
21.	Jagatsinghpur	Jagatsinghpur	Jagatsinghpur
22.	Jajpur	Jajpur	Jajpur
23.	Jharsuguda	Jharsuguda	Jharsuguda
24.	Kalahandi	Bhawanipatna	Bhawanipatna
25.		Dharmagarh	Junagarh
26.	Kendrapara	Kendrapara	Kendrapara
27.	Keonjhar	Keonjhar	Harichandanpur
28.		Champua	Champua
29.		Anandpur	Anandpur
30.	Khurda	Khurda	Khurda
31.	Malkangiri	Malkangiri	Malkangiri
32.	Mayurbhanj	Mayurbhanj Sadar	Mayurbhanj Sadar
33.		Karanjia	Karanjia
34.		Udala	Udala
35.		Kaptipada	Kaptipada
36.	Nayagarh	Nayagarh	Nayagarh
37.	Nawarangpur	Nawarangpur	Nawarangpur
38.	Nuapara	Nuapara	Nuapara
39.	Phulbani	Phulbani	Dadipaju / Phulbani
40.		Balliguda	Nuagaon / Balliguda
41.	Puri	Puri	Puri
42.	Rayagada	Rayagada	Rayagada
43.		Gunupur	Gunupur
44.	Sambalpur	Sambalpur	Sambalpur
45.	Sonepur	Sonepur	Hqtr. / Gadia
46.		Biramaharajpur	Biramaharajpur
47.	Sundargarh	Bonei	Bonei
48.		Panposh	Panposh
		TOTAL:	48

INSTITUTIONAL ARRANGEMENT:

The District level hatchery will be run by selected private party/ NGO with technical assistance/ guidance by the department or CARI/ CPDO, Bhubaneswar. The land, buildings and hatchery will be established by Government and the maintenance and operative expenses will be borne by the private party. There will be open advertisement for inviting entrepreneurs having experience in poultry farming and hatchery management. The private party will produce day old chicks on regular basis and market the chicks to farmers at a rate approved by the Government.

At the village level, existing & interested Self Help Groups (SHGs) will be involved. The SHG will have common arrangements for getting chicks, feed, de-worming, disease control, marketing of eggs, male birds and cull birds. This will enable the poor to build their own organizations, in which they participate fully and take decisions on all the related issues.

The Day Old Chicks of low input technology birds will be provided to farmers with the intention that there will be a close involvement of the farmers during the growing stages to take care of the chicks. The training on poultry will be more intensive and services will be provided at the doorstep of the beneficiaries.

PROJECT COST:

The cost for establishing one hatchery along with building = Rs. 20.00 lakhs (hatchery etc. Rs.6.00 lakhs + buildings Rs.14 lakhs) (Cost estimates given below).

The total cost for establishing 50 such hatcheries = Rs. 1000.00 lakhs.

1. Capital investment for one Hatchery:

1.	Cost of one setter of 17136 nos. of egg setting capacity	Rs. 2,22,000.00
2.	Cost of one automatic Hatcher of 5712 nos. of egg capacity	Rs. 1,93,000.00
3.	Cost of essential spare kit	Rs. 50,000.00
4.	Provision of bore-well with motor fittings	Rs. 80,000.00
5.	One Generator set 7.5 KV	Rs. 50,000.00
6.	Egg candling system	Rs. 5,000.00
	Total :	Rs. 6,00,000.00

2. Detailed Estimate for construction of Hatchery Building:

1.	<p>Excavation of foundation in hard soil including dressing & leveling the bed and depositing the soil away from walling area</p> <p>Column - 21 X 4'.6" X 4'.6" X 5'.00" = 2126.25 Cft. Exterior Walling - 140'.8" X 1'.6" X 1'.6" = <u>316.48 Cft.</u> 2442.73 Cft.</p> <p style="text-align: right;">Or Say 69.12 Cum.</p> <p>@ Rs. 4200/Cum.</p>	Rs. 2,903.00
2.	<p>Filling Foundation with sand well watered and rammed</p> <p>21 x 4'.6" X 4'.6" X 0'.6" = 212.62 Cft. 140'.8" X 1'.6" X 0'.4" = <u>69.62 Cft.</u> 282.24 Cft.</p> <p style="text-align: right;">Or Say 7.98 Cum.</p> <p>@ Rs. 180/Cum.</p>	Rs. 1,436.00
3.	<p>CC (1:3:6) using GCM size HG metal in F & P</p> <p>21 x 4'.6" X 4'.6" X 0'.6" = 212.62 Cft. 140'.8" X 1'.6" X 0'.4" = <u>69.62 Cft.</u> 282.24 Cft.</p> <p style="text-align: right;">Or Say 7.98 Cum.</p> <p>@ Rs. 2100/Cum.</p>	Rs. 16,758.00
4.	<p>R.C.C. (1:2:4) using 12 mm. size H.G. chips</p> <p>A. Column Base:</p> <p>21 x 4'.3" X 4'.3" X 0'.9" = 284.48 Cft. 21 x 3'.00" X 3'.00" X 1'.00" = 189.00 Cft. 21 x 2'.00" X 2'.00" X 1'.00" = <u>84.00 Cft.</u> 557.48 Cft.</p> <p style="text-align: right;">Or Say 15.77 Cum.</p> <p>@ Rs. 3500/Cum.</p>	Rs. 55,195.00
5.	<p>1st class K. B. brick masonry in C.M. (1:6) in F & P</p> <p>140'.8" X 1'.3" X 1'.3" = 219.78 Cft. 140'.8" X 0'.10" X 1'.10" = <u>213.64 Cft.</u> 433.42 Cft.</p> <p style="text-align: right;">Or Say 12.26 Cum.</p> <p>@ Rs. 1800/Cum.</p>	Rs. 22,068.00

<p>6.</p>	<p>1st class K. B. brick masonry in C.M. (1:6) in super structure</p> <p>10 X 10'.00" X 0'.10" X 11'.6" = 954.50 Cft. 5 X 15'.00" X 0'.10" X 11'.6" = 715.87 Cft. 3 X 8'.00" X 0'.10" X 11'.6" = 229.08 Cft. 2 X 7'.00" X 0'.10" X 11'.6" = 113.63 Cft. 2 X 10'.00" X 0'.10" X 11'.6" = 190.90 Cft. 2 X 3'.00" X 0'.10" X 11'.6" = 57.27 Cft. 2 X 13'.00" X 0'.10" X 11'.6" = 248.17 Cft. 2 X 8'.00" X 0'.10" X 11'.6" = 252.72 Cft. 2 X 127'.10" X 0'.10" X 11'.6" = <u>244.92 Cft.</u> 3007.06 Cft.</p> <p>Deduction: D - 2 X 6'.00" X 9'.00" = 108.00 Sft. D1 - 4 X 3'.6" X 7'.00" = 98.00 Sft. D2 - 5 X 3'.00" X 7'.00" = 105.00 Sft. W - 2 X 5'.00" X 4'.6" = 45.00 Sft. W1 - 6 X 3'.00" X 4'.6" = <u>81.00 Sft.</u> 437.00 Sft. X 0'.10" = 362.71 Cft.</p> <p>Opening: 1 X 10'.00" X 4'.6" = 45.00 Sft. 1 X 9'.00" X 4'.6" = 40.50 Sft. 1 X 6'.00" X 7'.00" = 42.00 Sft. 1 X 3'.00" X 4'.6" = <u>81.00 Sft.</u> 141.00 Sft. X 0'.10" = <u>117.03 Cft.</u> 479.74 Cft.</p> <p>Net 3007.06 – 479.74 = 2527.32 Cft. Or Say 71.52 Cum.</p> <p>@ Rs. 1850/Cum.</p>	<p>Rs. 1,32,312.00</p>
<p>7.</p>	<p>R.C.C. (1:2:4) using 12 mm. chips including centering & shuttering etc. complete finished</p> <p>A. Column: 21 x 0'.10" X 0'.10" X 15'.3" = 220.62 Cft. Or Say 6.24 Cum.</p> <p>@ Rs. 5100/Cum.</p> <p>B. Grade Beam: 307'.6" X 0'.10" X 1'.00" = 255.22 Cft. Or Say 7.22 Cum.</p> <p>@ Rs. 3800/Cum.</p>	<p>Rs. 31,824.00</p> <p>Rs. 27,436.00</p>

	<p>C. Lintel:</p> <p>292'.6" X 0'.10" X 0'.6" = 121.38 Cft.</p> <p style="text-align: right;">Or Say 3.43 Cum.</p> <p>@ Rs. 5000/Cum.</p>	Rs. 17,150.00
	<p>D. Roof Beam:</p> <p>292'.6" X 0'.10" X 0'.9" = 294.08 Cft.</p> <p>65'.00" X 0'.10" X 1'.00" = <u>53.95 Cft.</u></p> <p style="text-align: right;">348.03 Cft.</p> <p style="text-align: right;">Or Say 9.84 Cum.</p> <p>@ Rs. 5100/Cum.</p> <p>E. Roof Slab:</p> <p>39'.4" X 38'.2" = 1500.83 Sft.</p> <p>3'.10" X 28'.6" = 109.15 Sft.</p> <p>10'.10" X 17'.8" = <u>191.25 Sft.</u></p> <p style="text-align: right;">1801.23 Sft. X 4½" = 684.46 Cft.</p> <p style="text-align: right;">Or Say 19.37 Cum.</p> <p>@ Rs. 4800/Cum.</p> <p>F. Chajja:</p> <p>W – 2 X 6'.00" X 2'.00" = 24.00 Sft.</p> <p>W1 – 6 X 4'.00" X 2'.00" = 48.00 Sft.</p> <p>Back – 27'.6" X 2'.00" = <u>55.00 Sft.</u></p> <p style="text-align: right;">127.00 Sft.</p> <p style="text-align: right;">Or Say 11.80 Sqm.</p> <p>@ Rs. 420/Sqm.</p>	Rs. 50,184.00
	<p>E. Roof Slab:</p> <p>39'.4" X 38'.2" = 1500.83 Sft.</p> <p>3'.10" X 28'.6" = 109.15 Sft.</p> <p>10'.10" X 17'.8" = <u>191.25 Sft.</u></p> <p style="text-align: right;">1801.23 Sft. X 4½" = 684.46 Cft.</p> <p style="text-align: right;">Or Say 19.37 Cum.</p> <p>@ Rs. 4800/Cum.</p> <p>F. Chajja:</p> <p>W – 2 X 6'.00" X 2'.00" = 24.00 Sft.</p> <p>W1 – 6 X 4'.00" X 2'.00" = 48.00 Sft.</p> <p>Back – 27'.6" X 2'.00" = <u>55.00 Sft.</u></p> <p style="text-align: right;">127.00 Sft.</p> <p style="text-align: right;">Or Say 11.80 Sqm.</p> <p>@ Rs. 420/Sqm.</p>	Rs. 92,946.00
8.	<p>Labour charges for cutting, bending, binding of M.S. Rod with cost of M.S. Rod and binding wire</p> <p>Quantity of R.C.C. as in Item No. 7 = 62.63 Cum.</p> <p>@ 1.20 Qntl./Cum. = 75 Qntl.</p> <p>@ Rs. 3500/Qntl.</p>	Rs. 2,62,500.00
9.	<p>Supplying fitting, fixing Sal Wood Chaukatha in frames of D & W</p> <p>D - 2 X 24'.00" = 48'.00"</p> <p>D1 - 4 X 17'.6" = 70'.00"</p> <p>D2 - 5 X 17'.00" = 85'.00"</p>	

	<p>W - 2 X 28'.00" = 56'.00" W1 - 6 X 15'.00" = <u>90'.00"</u> 349'.00" X 5" X 3" = 36.64 Cft. Or Say 1.03 Sqm. @ Rs. 35,000/Cum.</p>	Rs. 36,050.00
10.	<p>32 mm. thick Piasal Wood paneled shutter in D & W</p> <p>D - 2 X 8'.2" X 5'.8" = 92.37 Sft. D1 - 4 X 6'.10" X 3'.2" = 86.33 Sft. D2 - 5 X 6'.10" X 2'.8" = 90.83 Sft. W - 2 X 4'.2" X 4'.6" = 37.44 Sft. W1 - 6 X 4'.2" X 2'.8" = <u>66.39 Sft.</u> 373.36 Sft. Or Say 34.68 Sqm. @ Rs. 2300/Sqm.</p>	Rs. 79,764.00
11.	<p>12 mm. & 16 mm. thick cement plaster in C.M. (1:6)</p> <p>Inside: 2 X (8' + 10') X 12'.00" = 432.00 Sft. 1 X (7' + 10') X 12'.00" = 204.00 Sft. 1 X (10' + 10') X 12'.00" = 240.00 Sft. 1 X (20' + 15') X 12'.00" = 420.00 Sft. 1 X (13' + 10') X 12'.00" = 276.00 Sft. 1 X (8' + 10') X 12'.00" = 216.00 Sft. 1 X (10' + 12'.10") X 12'.00" = 273.96 Sft. 2 X 8'.00" X 12'.00" = 192.00 Sft. 1 X 15'.00" X 12'.00" = 180.00 Sft. 1 X 6'.8" X 12'.00" = 79.92 Sft. 1 X 9'.8" X 12'.00" = 115.92 Sft. 1 X 3'.00" X 12'.00" = 36.00 Sft. 1 X 25'.10" X 12'.00" = <u>309.96 Sft.</u> 2975.76 Sft.</p> <p>Deduction: D - 2 X 6'.00" X 9'.00" = 108.00 Sft. D1 - 4 X 3'.6" X 7'.00" = 98.00 Sft. D2 - 5 X 3'.00" X 7'.00" = 105.00 Sft.</p> <p>Back V - 1 X 10'.00" X 4'.6" = 45.00 Sft. 1 X 3'.00" X 4'.6" = 13.50 Sft. 1 X 9'.00" X 4'.6" = 40.50 Sft. 1 X 6'.00" X 7'.00" = <u>42.00 Sft.</u> 452.00 Sft.</p>	

	<p>Net Inside = 2975.76 – 452.00 = 2523.76 Sft. (A)</p> <p>Outside: 2 X 38'.4" X 14'.00" = 1073.24 Sft. 2 X 41'.00" X 14'.00" = <u>1148.00 Sft.</u> 2221.24 Sft.</p> <p>Deduction: W - 2 X 5'.00" X 4'.6" = 45.00 Sft. W1 – 6 X 3'.00" X 4'.6" = 81.00 Sft. Openj – 1 X 15'.00" X 12'.00" = <u>180.00 Sft.</u> 306.00 Sft.</p> <p>Net outside = 2221.24 – 306.00 = 1915.24 Sft. (B)</p> <p>A. 12 mm. thick C.P. (1:6)</p> <p>$\frac{A + B}{2} = \frac{2523.76 + 1915.24}{2} = 2219.50$ Sft.</p> <p style="text-align: right;">Or Say 206.19 Sqm.</p> <p>@ Rs. 45/Sqm.</p> <p>B. 16 mm. thick C.P. (1:6) Quantity same as above = 206.19 Sqm.</p> <p>@ Rs. 55/Sqm.</p>	<p style="text-align: right;">Rs. 9,279.00</p> <p style="text-align: right;">Rs. 11,340.00</p>
12.	<p>Filling sand inside the rooms with sand well watered and rammed</p> <p>1 X 15'.00" X 8'.00" = 120.00 Sft. 1 X 20'.00" X 15'.00" = 300.00 Sft. 2 X 8'.00" X 10'.00" = 160.00 Sft. 1 X 7'.00" X 10'.00" = 70.00 Sft. 1 X 10'.00" X 10'.00" = 100.00 Sft. 1 X 13'.00" X 10'.00" = 130.00 Sft. 1 X 10'.00" X 8'.00" = 80.00 Sft. 1 X 12'.10" X 10'.00" = 128.30 Sft. 1 X 9'.80" X 15'.00" = 144.90 Sft. 1 X 10'.10" X 3'.00" = <u>32.49 Sft.</u> 1265.69 Sft. X 1'.8" = 2101.04 Cft. Or Say 59.45Cum.</p> <p>@ Rs. 180/Cum.</p>	<p style="text-align: right;">Rs. 10,701.00</p>
13.	<p>C.C (1:3:6) using 4 CM size HG metal below flooring</p> <p>Area as above 1265.69 X 0'.4" = 417.67 Cft. Portico - 1 X 15'.00" X 10'.00" X 4" = <u>49.50 Cft.</u> 467.17 Cft. Or Say 13.22 Cum.</p>	

	@ Rs. 2100/Cum.	Rs. 27,762.00
14.	Fixing Marble tile on 25 mm. thick bed of CM (1:3) Area as in Item No. 12 = 1265.69 Sft. Or Say 117.58 Sqm. @ Rs. 900/Sqm.	Rs. 1,05,822.00
15.	Fixing Glazed tile in walling in 12 mm. thick C.P. (1:6) Appx. Area 50% of Inside Plaster = 50% Item No. 11 A. = 2523.76/2 = 1261.88 Sft. Or Say 117.22 Sqm. @ Rs. 650/Sqm.	Rs. 76,193.00
16.	Fixing M.S. Grill & Grill Gate FV - 15'.00" X 12'.00" = 180.00 Sft. Back - 9'.00" X 4'.6" = 40.50 Sft. 10'.00" X 4'.6" = 45.00 Sft. 3'.00" X 4'.6" = 13.50 Sft. 6'.00" X 7'.00" = 42.00 Sft. Window Grill: W - 2 X 4'.2" X 4'.4" = 36.02 Sft. W1 - 6 X 4'.2" X 2'.84" = <u>66.39 Sft.</u> 423.41 Sft. @ 2.75 Kg./Sft. = 1165 Kg. @ Rs. 38/Kg.	Rs. 44,270.00
17.	Painting two coat over a coat of primer 50% Grill area = 50% of 423.41 = 211.70 Sft. 2.25 times of openj of D & W = 2.25 X 437 = <u>983.25 Sft.</u> 1194.95 Sft. Or Say 111.01 Sqm. @ Rs. 60/Sqm.	Rs. 6,661.00
18.	2.5 C.M. grading concrete in C.C. (1:2:2) using 6 mm. chips Roof area as in Item No. 7 (E) = 1801.23 Sft. Or Say 167.33 Sqm. @ Rs. 120/Sqm.	Rs. 20,080.00
19.	12 mm. thick C.P. (1:4) for finishing Chajja, Beams & Column Appx. Quantity 40.00 Sqm. @ Rs. 55/Sqm.	Rs. 2,200.00

20.	Water proofing cement paint two coat over a coat of cement wash Quantity as in Item Nio. 11 (A), (B), 19 & 14 = 206.19 + 206.19 + 40 + 117.58 = 569.96 Sqm. @ Rs. 19/Sqm.	Rs. 10,829.00
21.	2.5 C.M. A.S. flooring in C.C. (1:2:4) with punning Portico – 1 X 16'.8" X 10'.10" = 180.42 Sft. Or Say 16.76 Sqm. @ Rs. 100/Sqm.	Rs. 1,676.00
	Total :	Rs. 11,60,295.00
22.	Provision for Electrification & service line connection 10%	Rs. 1,16,030.00
23.	Provision for water supply 5%	Rs. 58,015.00
24.	Provision for installation of A.C. and its accessories	Rs. 40,000.00
25.	Provision for plinth protection and drainage system	Rs. 25,000.00
	Grand Total :	Rs. 13,99,440.00
	Or Say :	Rs. 14,00,000.00

The working capital will be arranged by the entrepreneur/ SHG/NGO/Private body who will run the hatchery on lease basis.