



**Concept Note on
Establishment of a State of Art
State Veterinary Referral Hospital
Phulnakhara, Cuttack, Odisha
(30 Large Animal + 70 Small Animal + Avian Care Facility)**

1. Executive Summary

The F&ARD Dept. proposes establishment of a State Veterinary Referral Hospital at Phulnakhara, Cuttack to strengthen tertiary veterinary healthcare infrastructure in the state. The facility will provide advanced diagnostics, surgery, emergency care and specialized treatment for livestock, pets and birds.

The hospital will have indoor capacity for 50 large animals and 50 small animals along with an avian treatment facility. The proposed hospital will function as a referral centre for district veterinary hospitals across the State, TVCC of College of Veterinary Sc. & Animal Husbandry & a center of research.

2. Background and Rationale

Odisha has a livestock population of 181 lakh & 274 Poultry population contributing to rural livelihood and nutritional security. Rapid urbanization in the Bhubaneswar–Cuttack region has also led to growth in pet ownership and demand for specialized veterinary services.

The existing livestock aid centers and veterinary dispensaries primarily provide primary and secondary veterinary health care. Complex medical and surgical cases require a tertiary referral hospital with modern diagnostics and specialist facilities with in-patient facilities.

3. Objectives

- To establish a modern, state-of-the-art veterinary referral hospital equipped with advanced infrastructure and technologies to serve as a centre of excellence in animal healthcare.
- To provide comprehensive diagnostic and advanced surgical services, ensuring accurate diagnosis and effective treatment of complex animal health conditions.
- To strengthen disease diagnosis, monitoring and surveillance systems for early detection, prevention and control of animal diseases.
- To deliver specialized veterinary care for companion animals, including pets and avian species, addressing the growing demand for quality clinical services.
- To provide quality in-patient (hospitalization) facilities for intensive care, post-operative management and long-term treatment of animals.

4. Location Justification

- Phulnakhara is strategically located between Bhubaneswar and Cuttack and has good connectivity with major districts of Odisha. The site will enable easy



access for livestock farmers, pet owners and referral cases from district veterinary hospitals.

- Added advantage is the availability of departmental land.
- Presence of State level disease diagnostic Laboratory i.e. Animal Disease Research Institute.

5. Scope of the Project:

- **Indoor Capacity:**
Large Animal Ward – 30
Small Animal Ward – 70
Avian Facility – 20 cages
- **Expected Service Load:**
OPD – 300 cases/day
Diagnostic Samples – 300 tests/day
Surgical Cases – 10–20/day
- **Rationale of Patient Load**

Sl. No.	Institutions/ areas for patient reference	No. of patients treated at present	Projected referral cases to proposed Hospital as outpatients	Projected daily in-patients
1	Average no. of animals treated daily in 7 districts (Cuttack, Jagatsingpur, Jajpur, Kendrapada, Puri, Khordha & Dhenkanal) within 50-80 km of Phulnakhara	8822	175 (2% of daily patient at 7 districts)	25 (assuming 10% of out-patients)
2	Average no. of animals treated daily at TVCC of College of Vety. Sc. & AH	59	12 (20% of daily patient at TVCC)	
3	Average Daily samples tested at ADRI, Phulnakhara	70	70	
	Total	8951	257	25

* It is assumed that an average 4 days of recovery period is required for one in- patient. Thus, inpatient ward for 100 animals is required (30 for large animal & 30 for small animal, 40 for pets & 20 for birds)

6. Departments Proposed

- Large Animal Medicine
- Large Animal Surgery
- Small Animal Medicine



- Small Animal Surgery
- Gynaecology & Obstetrics
- Dermatology
- Orthopedics
- Veterinary Ophthalmology
- Cardiology
- Nephrology
- Avian diseases
- Exotic Animal Medicine
- Toxicology- Forensic & Toxicology
- Physiotherapy & Rehabilitation
- Animal Nutrition care
- Post mortem ward

7. Diagnostic Laboratory Complex

- The existing laboratory at ADRI will be converged with the proposed referral hospital for diagnosis purpose.

8. Surgical and Critical Care Facilities

- Modular Operation Theatres for Companion animals
- Operation Theatres for Ruminants
- Orthopedic Surgery Unit
- Intensive Care Units (ICU)
- High Dependency Units (HDU)
- Neonatal ICU for pets
- Avian ICU
- Post-operative recovery ward
- Advanced Imaging and Radiology (CT, MRI, X-Ray, ECG, 2-D ECHO, Ultrasound)
- Physiotherapy & Rehabilitation
- Blood Transfusion
- Hemodialysis

9. Pet Care and Grooming Centre



A dedicated pet grooming and wellness facility will provide grooming, Spa, boarding and preventive healthcare services. This unit can generate revenue for hospital sustainability.

10. Land Requirement

Estimated Land Requirement will be around: 6 acres.

Land Allocation:

- Hospital complex – 2 acres including in-patient wards
- Diagnostic laboratory – 0.5 acre
- Large animal paddock – 0.5 acres
- Pet care and grooming – 0.5 acre
- Staff quarters – 1 acre
- Utilities and parking – 1 acre

11. Manpower Requirement (Indicative)

- Veterinary Specialists – 18
- Veterinary Officers – 20
- Avian Specialist – 2
- Laboratory Staff – 17
- Technical Staff (X ray assistant, Para-vets, Lab/ Ward Attendants)– 45
- Administrative Staff – 14

Total Estimated Manpower – ~125

12. Equipment

- Digital X-ray
- CT Scan
- MRI
- 2- D ECHO
- ECG
- Ultrasound scanner
- Dialysis Units
- Transfusion Units
- TENS
- Urine analyzer



- Hematology analyzer
- Biochemistry analyzer
- PCR machine
- Major & Minor Surgical equipment
- ICU monitoring systems
- Veterinary ambulances
- Oxygen support systems
- Emergency crash cart
- Ventilator Assistance
- Laser therapy unit
- Physiotherapy unit
- Radiation therapy machines
- Chemotherapy infusion tools
- Advanced imaging systems
- Multiparameter Patient Monitoring devices.

A detailed list is enclosed at Annexure-I.

13. Indicative Cost Estimate (Indicative)

Civil Infrastructure – Rs. 75 Crore

Equipment/ Lab Infrastructure etc – Rs. 15 Crore

Furniture & IT – Rs. 5 Crore

Contingency & Miscellaneous expenses– Rs. 5 Crore

Total Estimated Project Cost – **Rs.100 Crore**

14. Implementation Timeline

- DPR Approval – 2 months
- Tender & Contractor Selection – 2 months
- Construction – 18 months
- Equipment Installation – 2 months
- Total Implementation Period – ~24 months

15. Proposed Campus Layout Plan

Campus Components:

- i. Main Hospital Building



- ii. Large Animal Treatment Block
- iii. Small Animal Hospital Block
- iv. Avian and Exotic Animal Unit
- v. Diagnostic Laboratory Complex
- vi. Pet Grooming and Wellness Centre
- vii. Animal Ambulance Bay
- viii. Training Hall and Conference Facility
- ix. Postmortem ward
- x. Isolation shed
- xi. Staff Quarters
- xii. Parking and Utility Services



Annexure -I

Suggested equipment for State Referral Hospital				
Sl. No.	Name Of the Equipment	Quantity in Numbers for one lab	Tentative Unit cost in lakh	Total Cost
A. Diagnostics & OT				
1	Shadow less Lamp	1	2.4	2.40
2	Hydraulic Operation Table	2	0.35	0.70
3	Large Animal restrain bed	1	0.8	0.80
4	Large Animal Operation Table	1	14	14.00
5	Pully operated sling machine for large animal	2	0.4	0.80
6	Electric Hoist for lifting of Large animal	1	1.2	1.20
7	Thermoregulatory hydraulic OT Table	2	2	4.00
8	OT U.V Light sterilisation system	1	9.5	9.50
9	Small Animal Anaesthetic work Station	1	8	8.00
10	Portable Ultra sonography Machine with two probe including rectal probe	1	5.5	5.50
11	Multi Para monitor (Vety Specific)	5	0.8	4.00
12	Nebuliser	5	0.12	0.60
13	Digital X Ray Unit with CR System 500/600 mA	1	30	30.00
14	Pulse Doppler Ultrasonic Machine Portable	1	12	12.00
15	Table for ultrasound examination	1	1.35	1.35
16	Lithotripsy unit	1	3.5	3.50
17	Boyles Apparatus (Gaseous anaesthetic machine with isoflurane vaporiser)	1	3	3.00
18	Autoclave (Small size)	1	0.2	0.20
19	Vacuum Autoclave horizontal (Big size)	1	1	1.00



Suggested equipment for State Referral Hospital				
Sl. No.	Name Of the Equipment	Quantity in Numbers for one lab	Tentative Unit cost In lakh	Total Cost
20	ECG Machine 12 lead	1	1	1.00
21	Blood Pressure Oxygen Saturation Monitor Veterinary	5	0.2	1.00
22	Bipolar Cauterisation Machine	1	0.8	0.80
23	Suction device	1	0.1	0.10
24	Glucose Monitor	2	0.1	0.20
25	Oxygen Unit (Oxygenator)	1	1.5	1.50
26	Oxygen Cylinder with mask	4	0.15	0.60
27	IR Lamp	2	0.1	0.20
28	Xray Viewer	2	0.02	0.04
29	Hair clipper	2	0.07	0.14
30	C ARM Machine with fluoroscopy	1	15	15.00
31	Instrument Trolley	5	0.15	0.75
32	Veterinary Hormone Analyser	1	5	5.00
33	Vet urine Analyser	1	0.5	0.50
34	Vet Haematology Analyser	1	5	5.00
35	Serum Analyser	1	4	4.00
36	Vet ECG Machine with 12 leads	1	0.8	0.80
37	Vet Blood pressure machine with Doppler Technology	1	1.1	1.10
38	Vet Blood pressure machine with Oscillometer Technology	1	1.3	1.30
39	Veterinary Incubator for puppies	1	2	2.00
40	Veterinary Fluid Warmer	1	0.35	0.35
		Sub Total		143.93



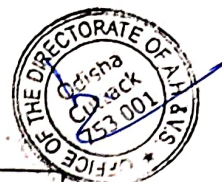
Suggested equipment for State Referral Hospital				
Sl. No.	Name Of the Equipment	Quantity in Numbers for one lab	Tentative Unit cost In lakh	Total Cost
B. OT Accessories				
1	Electronic Weighing Balance Pet	1	0.2	0.20
2	Steriliser	2	0.05	0.10
3	Almirah with glass window	5	0.15	0.75
4	Geysers	2	0.2	0.40
5	Washing Machine for (drape cleaning)	1	0.4	0.40
6	Vacuum cleaner	1	0.15	0.15
7	Fogging Machine	2	0.3	0.60
		Sub Total		2.60
C. LABORATORY DIAGNOSTICS				
1	Laminar Air Flow	1	0.7	0.70
2	Incubator(for primary culture)	1	0.6	0.60
3	Incubator (for ABST)	1	0.6	0.60
4	Distilled water Plant (for media & Lab reagent preparation)	1	0.45	0.45
5	Hot Air oven	1	0.35	0.35
6	Binocular Microscope with video monitor	1	2	2.00
		Sub Total		4.70
D. OPHTHALMIC INSTRUMENTS				
1	Ophthalmoscope (Direct)	1	2	2.00
2	Ophthalmoscope (Indirect)	1	3.5	3.50
3	Tonopen (Digital)	1	0.6	0.60



Suggested equipment for State Referral Hospital				
Sl. No.	Name Of the Equipment	Quantity In Numbers for one lab	Tentative Unit cost in lakh	Total Cost
4	Eye speculum	2	0.01	0.02
		sub Total		6.12
E. TEAT SURGERY INSTRUMENTS				
1	Teat Endoscope set	1	0.3	0.30
		sub Total		0.30
F. LARGE ANIMAL INSTRUMENTS				
1	Foetal Calf extractor	1	0.5	0.50
2	Frick's Speculum	3	0.05	0.15
3	Spiral Metallic probing for cattle	1	0.2	0.20
		sub Total		0.85
G. ORTHOPEDIC INSTRUMENTS				
1	Orthopaedic drill with oscillating saw	2	1.1	2.20
2	Orthopaedic drill bit full set	3	0.05	0.15
3	Automatic Bone Driller (Battery Operated)	1	0.8	0.80
4	Plate Bender	4	0.01	0.04
5	Pin Cutter	4	0.03	0.12
6	Lowman Bone Clamp	10	0.015	0.15
7	Osteotome	2	0.13	0.26
8	Periosteal elevator	2	0.03	0.06
9	SS wire- 18G to 22G (set)	5	0.1	0.50
10	Orthopaedic screw box	1	0.6	0.60



Suggested equipment for State Referral Hospital				
Sl. No.	Name Of the Equipment	Quantity in Numbers for one lab	Tentative Unit cost In lakh	Total Cost
11	Bone chisel	2	0.01	0.02
12	Tubular rod(6",8",10",12")	4	0.14	0.56
13	Transfer clamp	20	0.005	0.10
14	Tube to tube clamp	20	0.003	0.06
15	Open clamp	20	0.003	0.06
16	Connecting clamp	20	0.003	0.06
17	Single pin clamp	20	0.003	0.06
18	Schanz pin	30	0.002	0.06
19	Connecting rod	30	0.001	0.03
20	Small clamp	20	0.002	0.04
21	Bone hammer	2	0.008	0.02
22	Gilpi retaining forcep (6",8")	2	0.03	0.06
23	Self retaining forcep (6",8")	2	0.03	0.06
24	Plate bender	1	0.01	0.01
25	Reduction forcep (6",8")	1	0.03	0.03
26	Bone plate holding forcep (6",8")	2	0.03	0.06
27	Depth gauge	1	0.01	0.01
28	Drill guide	1	0.02	0.02
29	Drill sleeve	2	0.005	0.01
30	Screw driver (3.5mm)	2	0.005	0.01
31	Wire Passer (small and medium,)	1	0.005	0.01
32	Pin cutter (18")	1	0.1	0.10
33	Steinmann Pin (both end pointed,trocar and threaded end) (2.5 mm to 6 mm x 12") (Set)	5	0.15	0.75



Suggested equipment for State Referral Hospital				
Sl. No.	Name Of the Equipment	Quantity In Numbers for one lab	Tentative Unit cost In lakh	Total Cost
34	k-Wire (1.5 mm to 2.5 mm x 9")(Set)	5	0.0005	0.00
35	SS wire spool(16G,18G,20G,22G,24G) (Set)	2	0.005	0.01
36	3.5mm locking cortex screw (10mm to 36mm) (Set)	10	0.002	0.02
37	3.5 mm LC DCP (Plate-4 hole to 10 hole) (Set)	5	0.025	0.13
38	3.5mm T Locking plate	5	0.005	0.03
39	Plier cum wire twister	2	0.01	0.02
40	Wire cutter	1	0.05	0.05
41	Bone curette(double ended)	2	0.004	0.01
41	Plaster cutting saw	2	0.004	0.01
43	Plaster shear	2	0.004	0.01
44	Small screw box with screw tray & screw holding forceps for 3.5 and 4 mm cortical and cancellous screw	2	0.06	0.12
45	Sterilisation box for implant with two tray (SS, L-210mm,W-155mm,H-60mm)	2	0.07	0.14
H. DENTAL INSTRUMENT				
1	Veterinary ultrasonic Dental scalar	1	0.3	0.30
		Sub Total		7.91
I. OTOLARYNGEAL INSTRUMENTS				
1	Laryngoscope	4	0.03	0.12
2	Otoscope	1	0.05	0.05
3	Laryngeal Dilator	4	0.005	0.02



Suggested equipment for State Referral Hospital				
Sl. No.	Name Of the Equipment	Quantity In Numbers for one lab	Tentative Unit cost in lakh	Total Cost
4	Tongue forceps	4	0.006	0.02
5	Tongue depressor	2	0.006	0.01
6	Oesophagoscope	2	0.04	0.08
7	Aural Speculum	2	0.05	0.10
8	Auroscope	2	0.08	0.16
9	Endotracheal Tube	4	0.1	0.40
		Sub Total		0.97
J. Minimal invasive unit				
1	Endoscopic retrieval system	1	30	30.00
		Sub Total		30.00
	Total Cost of Equipment			197.37
	Installation/ Minor partitions/ AC/ Consumables for 1 Year/ AMC etc		LS	10.00
	GRAND TOTAL			207.37