

2019

PROJECT MANAGEMENT CONSULTANCY FOR IMPLEMENTATION OF SMART CITY MISSION PROJECTS FOR MANGALURU CITY

DETAILED PROJECT REPORT – SKILL DEVELOPMENT CENTER

The purpose of the DPR is to ideate the elements proposed for the project as mentioned in the title above. It aims to give a basic design idea to all the stakeholders before proceeding for final design and estimates.



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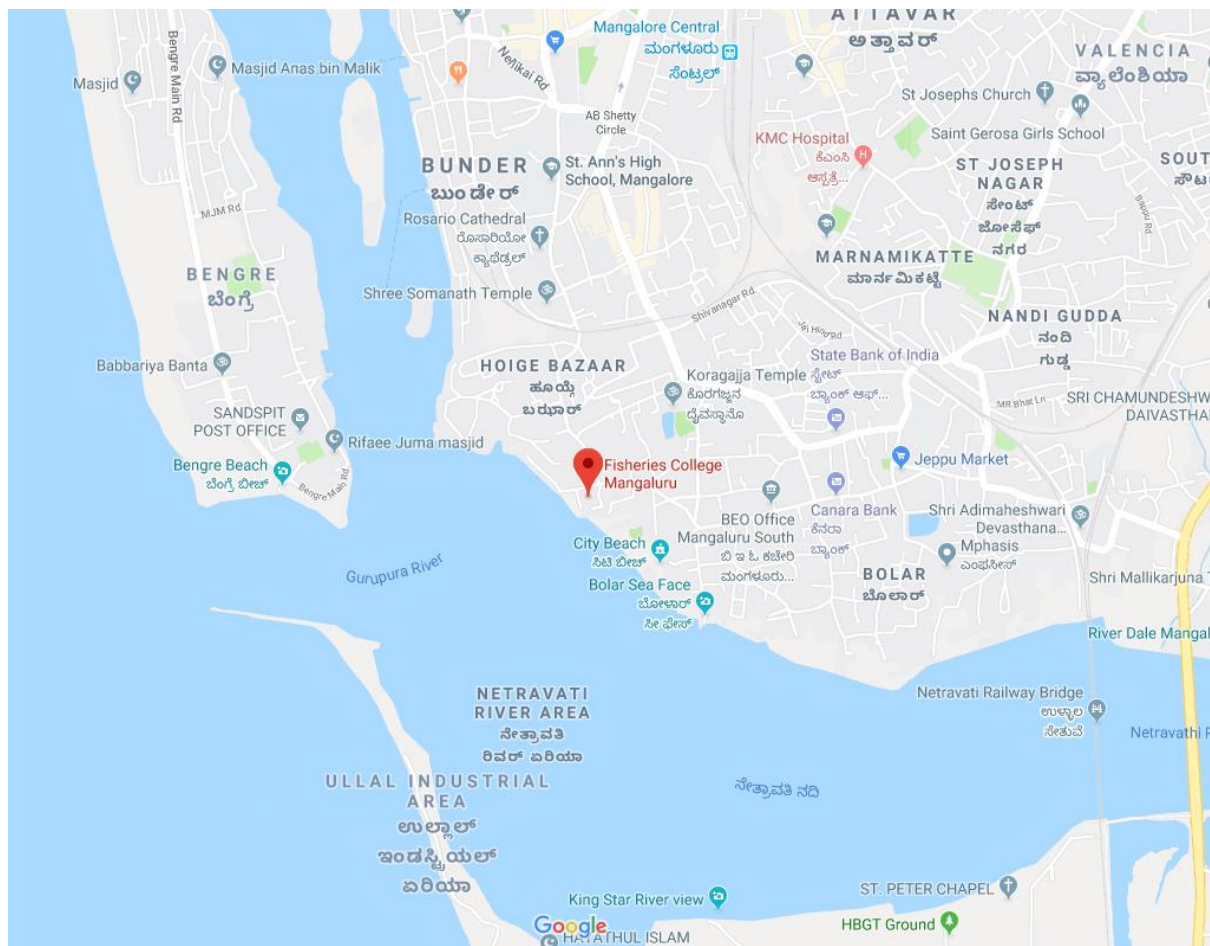
1. RE - DEVELOPMENT OF THE SKILL DEVELOPMENT CENTER

1.1. Current Scenario

1.1.1. Site Location

The Skill Development Center building project site is located at Hoige Bazaar Road, Bolar in Mangaluru. The project site is easily accessible from all parts of the city and has excellent connectivity from the existing public transport routes. The site is strategically located within the central business district of Mangaluru and is in close proximity to all the important places such as mangaluru central railway station and other government landmarks. The site is within the Bunder area selected for Area Based Development (ABD) under the Smart City Mission.

Figure 1: Location Map for SKILL DEVELOPMENT CENTER Project Site



1.1.2. Characteristics of site

The present premises where the Skill Development Center building is established in central marine and fisheries research institute in mangalore. The project site is located at the junction of the Hoige bazaar road and Bolar road and has access from Bunder Road at the junction.

The overall complete site is about 2.71 acres of which the redevelopment is being taken up for about 10% of the site area including the heritage structures and undeveloped zones.

Figure 2: Satellite Image of the project site



Areas marked in yellow are the existing buildings on the site.

Areas marked in Red are to be redeveloped.

Views of the project site

Figure 3: images showing existing structure and its surroundings



Figure 4: Survey Drawing of the Project Site and adjacent road network



Figure 5: existing interior of the building



1.2. Need for Proposed Intervention

To demolish existing building and reconstruct the current structure

The overall objective of the project is to provide skill development, hands on training in and to enhance employment opportunities. The Building has been formerly used and now vacant. The rest of the built form is lying vacant and needs to be demolished and reconstructed as it is now in state of neglect. Along with the skill development center the building can also function as an alternative public space for city residents to enjoy the scenic view of coastal region of mangalore by providing decks, etc.

The preliminary visual survey of the site suggests reconstruction of the building expanding to upper floors. This would require detail mapping of the entire structure in 3d and relevant drawings to be prepared for reconstruction restoring and adaptive use of the building.

Potentials:

1. Centrally located within the fabric of Mangaluru to attract footfall and have an impactful presence.
2. Considerable covered as well as open, semi open spaces for varied capacity of events.
3. Seamless Accessibility within the city

Constraints:

1. Compatibility in material and design
2. Avoid incongruous material interventions
3. Services designs needs to be carefully planned and executed to avoid damages

1.3. Proposed Interventions

1.3.1. Objective

The proposed intervention aims to achieve the following:

- To DE-congest the area around site
- Creation of avenues and public viewing spaces
- Creating public spaces along with skill development center for city residents
- Creating Outdoor spaces for workshops
- Beautification of the surroundings

1.3.2. Assumptions/ prerequisites

The assumptions for implementation of the Skill Development Centre Building are:

- The project site has significant potential to enable the implementation of the skill development centre.
- Mangaluru City Corporation will facilitate the development of this project in a planned manner as it is completely under the ownership and control of this site.

1.3.3. Concept Design

Yellow represents the built form to be constructed as skill development centre

Green represents the outdoor workshop space – it can further use the spill over for outdoor seating



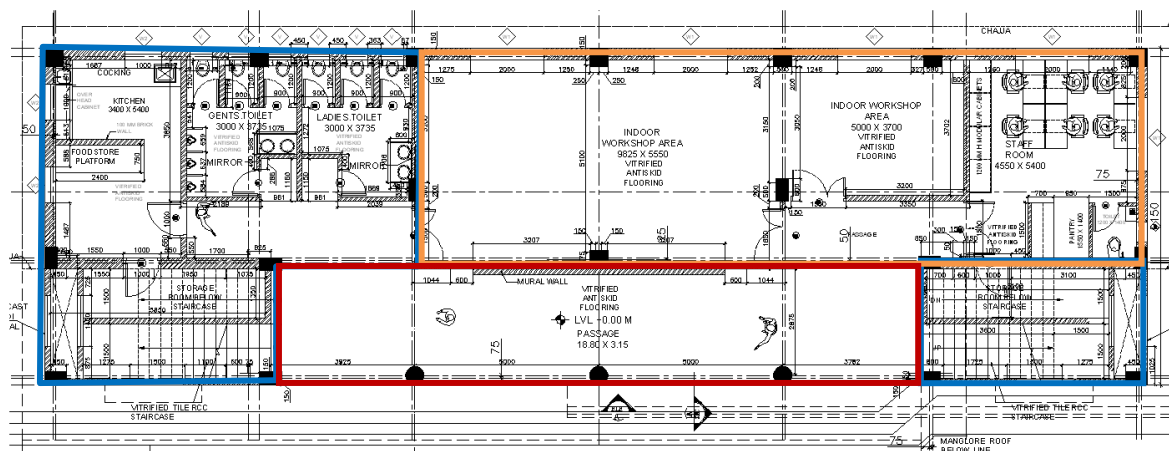
Figure 6: Layout Plan with allocation of Proposed Functions within the project site

Developed project site

Figure 7: Layout Plan with developed project site

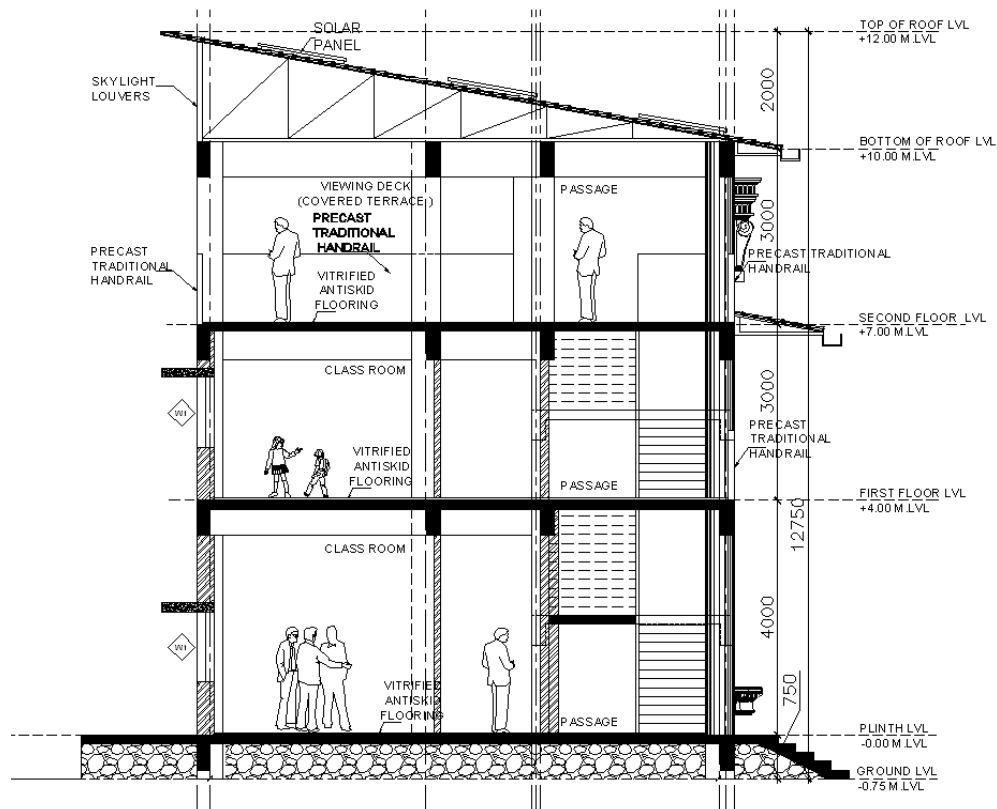


Ground floor plan of developed Skill Development Center



[illegible]

Section of developed Skill Development Center showing viewing deck



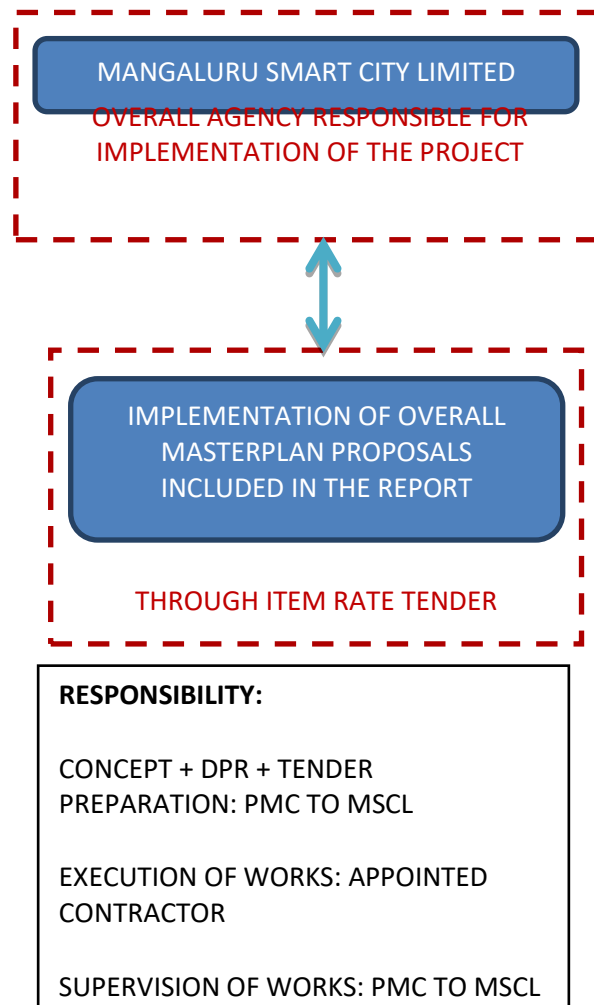
1. Building aesthetics represent the local style such as local homes and temples of Mangaluru city.
2. Local materials like Laterite and Mangaluru tiles for roof are pre used for the building to strengthen and merge with existing skyline.
3. Laterite cladding is used to reduce the carbon emission.
4. Plinth of the built form is raised as a protection method from water logging as it is next to the coast. Raised common plinth used is inspired by the plinths of the temples as a common space to give it a complete look.
5. Open terraces and viewing decks are provided for visitors to enjoy the scenic view of coast.
6. Flora and fauna in nearby areas is used as inspiration for the carving and molding of the openings.

Overview 3D perspective showing the Skill Development center



1.4. Proposed Scoping and Implementation Strategies

The proposed Scoping and Implementation Strategy is as demonstrated below



1.5. Expected Benefits

The intention is to train the local population in specialized sector

1.6. Target Beneficiaries

Local population and fisheries department

1.7. Stakeholders/ Organizations involved

MSCL and fisheries department

1.8. Training Programmes and Syllabus

The following are top 9 areas identified to impart skill development training programmes in the field of Fisheries for the benefit of fishermen, fisherwomen, unemployed youth, school dropouts etc of Mangalore region.

- Aquarium fabrication, maintenance and propagation of ornamental fish.
- Aquaponics/Hydroponics integration with kitchen gardening
- 3. Production of value added fish products and promotion
- 4 .Advanced technology of fish preservation and its reward
- 5 .Utilization of fish waste for manure
- SCUBA diving and Snorkeling
- 7 .Modernization and safeguarding of fishing boats
- 8.Manual fish net making and mending

In addition to long term trainings, short term and vocational training should be imparted to the desirable beneficiaries. The College of Fisheries, Mangaluru which is affiliated under Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar has two major campuses viz one at Ekkur and another at Hoige Bazar. The proposed center is recommended at Hoige Bazar campus in the old unused building (partially collapsed building earlier used for CFTRI work) This old building requires complete repair, renovations, additional furniture and other infrastructure facilities, which needs to be developed under the proposed project The proposed centre will be developed with 100% funding support from MSCL (at no cost to the University). The College of Fisheries, Mangaluru has capability to manage the training center. In addition to the college faculty guest faculty will serve as resource persons for skill development programmes.

Hence under MSCL the Skill Development and Safety Training Center could be established under the proposed ABD programme for the benefit of fishermen, fisherwomen, unemployed youth, school dropouts, fish farmers and other desirable participants The College of Fisheries will be immensely benefitted through infrastructures to be created in the project.

For effective implementation of this proposal the Officials submitted the proposal are responsible for management of the centre and the proposed programmes.

Following are the tentative training course syllabus for 8 skill development programmes to be initiated in the field of Fisheries for the benefit of fishermen of Mangalore region.

1. Aquarium fabrication, maintenance and propagation of ornamental fish:

Fabrication, setting up and maintenance of freshwater and marine aquarium, Water quality management, Water filtration system biological, mechanical and chemical; Aquarium plants

and their propagation: Lighting and aeration, Aquarium accessories and decorative Aquarium fish feeds-dry, wet and live feed, Breeding and rearing of ornamental fishes Brood stock management Management practices of ornamental fish farms, Common diseases and their control; Conditioning, packing transport and quarantine methods, Trade regulations and wild life act in relation to ornamental fishes

2. Aquaponics/Hydroponics integration with kitchen gardening

Design and construct a basic Aquaponic grow-out technologies, Apply best aquaculture practices (BAP) for culturing fishes in an Aquaponic setting: Water quality parameters and management to maximize fish, plant and microbial outputs in an Aquaponic setting Use best agricultural practices (BAP) for plant crop production in Aquaponic setting Seedlings for planting, harvest produce, stagger production of both plant and fish and apply food safety procedures.

Horticultural crops Vs greenhouse management Assessment of water quality, Principal factors involving EC and pH, Assessment of plant structure, photosynthesis, nutrition Common pests and control: spider mites, whitefly, thrips, fungus gnats, aphid, russet mite, broad mite, caterpillars, etc. Plant health, harvesting, grading,marketing.

3. Preparation of value added fish products and promotion

Preparation of salted fish, dried fish and smoked fish, Quality assessment of salted, dried and smoked fish; Preparation of prawn,squid and fish pickles, fish fingers; fish cutlet, fish roll; fish chutney, fish wafers, fish nuggets, fish samosa; fish sandwich; fish pakora, fish papad: fish sausage; fish cakes burgers; fish noodles; fish-soup powder, fish flakes fermented fish sauce and marinated products: Surimi and Surimi based products; diversified and value added fish products: Quality assessment of market samples of dried and fermented fish products

4 Advanced technology of fish preservation and its reward

Different models and capacities for hygienic drying of fish, Hybrid model Solar dryers Eco-friendly and hygienic drying by harnessing solar energy during favorable weather conditions without changing its colour and flavor, Improved shelf life and value addition to fish products for higher income generation, preservation of fishes preservation of fishes, chilling methods, smoking of fishes, sun drying of fishes; wet and dry salting of fishes, salt curing techniques, other preservatives to improve shelf life of fish, packaging technology,

5. Utilization of fish waste for manure:

Preparation of fish meal, fish oil, fish liver oil, fish maw, isinglass, fish silage; ensilage fish glue, fish gelatin, chitin, chitosan and fish manure; preparation of acid and fermented silage, preparation of fish protein concentrate and fish hydrolysate, utilization of fish wastes like scales, fins, skin, vertebrae, viscera etc for extraction of fish oil, cosmetics and production of fertilizers for plantation crops underutilized fishes like discards and by-catch for production of fish meal and animal feed; utilization of crustaceans shells for production of chitin and chitosan for pharmaceutical industries, extraction of seaweeds for agar and gelatin production

6 SCUBA diving and Snorkeling:

Training for SCUBA divers and Snorkelers will skills needed to manage risks and effectively handle surface and in water problems and diving emergencies including assists transports, surface rescue, depth rescues and using shore/ boat based personnel to assist in the rescue; Beneficiaries to be exposed to search and recovery, Light salvage and full face masks with underwater communications

7 Modernization and safeguarding of fishing boats:

Traditional boat building modern wooden boat building, fiber reinforced plastic (FRP) boat building; instruction in outboard engines, fuel systems, diesel engines, inboard engine propulsion systems and hull design diagnose, repair and maintenance of various boat components including motors, transmissions and stern drive engines, opportunities for off site training at local boat repair yards and ship building yards, various materials used for boat making, shipping industry as a means of entrepreneurship development

8 Manual fish net making and meanings

Study of net making tools, knots and hitches used in net making methods of net making hand braiding chain mesh method and loop methods of net making, shaping of webbing baiting, creasing and reducing mesh size step by step, tailoring method: T and N direction of webbing, T-cuts, N-cuts, B-cuts and their combination joining of net pieces; net mounting hanging coefficient, hung depth and their calculation methods of net mounting reeving stapling and norselling, mending and net shooter techniques.

1.9. Training Cost

(Detailed Estimate Ref. 1.11.2)

Sl No.	Component	Eligibility amount per head per Training (Rs.)	Amount per Training (Rs.)	Total amount for 12 Trainings (Rs.)
1	Training Expenditure	5,000.00	1,50,000.00	18,00,000.00
2	Handholding based on expenditure:	10,000.00	3,00,000.00	36,00,000.00
3	Honorarium	2,500.00	75,000.00	9,00,000.00
4	Accommodation	300/-per day for 30 days = 9,000.00	2,70,000.00	32,40,000.00
5	Food	300/-per day for 30 days = 9,000.00	2,70,000.00	32,40,000.00
6	a. Transportation(TA/POL)	300/-per day for 30 days = 9,000.00	2,70,000.00	32,40,000.00
	b. Training demo mobile lab	-	-	5,00,000.00
7	Manpower	7,20,000.00	-	15,60,000.00
	a. Training Associate	4,80,000.00	-	
	b. Assistant cum Felicitator:		-	
	c. Messenger cum Caretaker	3,60,000.00	-	
8	a. Amenities			22,40,000.00
	b. Machineries & small equipment's			20,00,000.00
9	Miscellaneous	500.00	15,000.00	1,80,000.00
	Total (Rs.) -			2,35,00,000.00

1.10. Timeline

The proposed timeline for overall master plan proposals envisaged in this report are as mentioned below

- Concept Submission : September 2019
- DPR Submission: 02.10.2019
- Final DPR: 15.10.2019
- Tendering: 16.10.2019

1.11. Budget

The Budget available for the project under SCM Category is INR 3.30 Cr

1.11.1. Budget as per SCP

The approved list of Smart City proposals for Mangaluru includes the following project cost and capital structure for Skill Development and Safety Centre Project.

Grand Summary (Cost of Construction of Building + Training Cost)

Sr. No.	Description	Cost In INR
1	Civil Work	1,56,46,704
2	UG Tank Civil Work	4,89,008
3	Electrical Work	15,98,525
4	Fire Fighting Work	33,516
5	Plumbing Work	9,19,261
6	HVAC Work	5,94,050
	Construction Cost Sub Total	1,92,81,064
	GST @ 12% on Construction Cost(Electrical Cost Excluded)	21,21,905
	Escalation and Tender Premium @10%	19,28,106
	Add 3% Contingency	5,78,432
	Miscellaneous and Rounding off	90,493
	Construction of Building - Total Cost	2,40,00,000
	Training Programme and Facilities Cost	2,35,00,000
	Grand Total (Building + Training) =	4,75,00,000

1.11.2. Cost Estimate (Budget allocation to impart Training Programme and Facilities)

Table: Budget allocation to impart Training programmes and Facilities to be created under Skill Development and Safety Centre

(1. No. of Trainees per batch: 30 2. No. of days of training program: 30 days 3. No. of Trainings: 12)

ANNEXURE - II

Sl. No.	Component	Eligibility amount per head per Training (Rs.)	Amount for 30 Trainees per Training (Rs.)	Total amount for 12 Trainings (Rs.)
A. Duties of College of Fisheries, Mangaluru				
1	Training Expenditure: Training kit, Bag, File, Writing pad, Pen, Badge, Program schedule, Training manual, Brochure, Leaflets, Folders, Books, Practical manual, Certificate, Caps, etc.	5,000.00	1,50,000.00	18,00,000.00
2	Handholding based on expenditure: a. Digital Camera (Big, Small); Video camera (Big, Small-Handicam), Pen drives, External hard discs, Stationeries, Photos prints, Posters, Display boards, Sign boards, Name plates, Xerox machine, Communication charges, Practical demonstrations, etc. b. Launching of training c. Training materials d. Training machines e. Raw materials f. Utensils g. Press & publicity etc.	10,000.00	3,00,000.00	36,00,000.00
3	Honorarium: Resource persons (Internal and External), Subject experts, Guest Lectures, Special Invitees, Special visitors, Invited guests, Coordinators fees, Practical demonstrators fees, etc.	2,500.00	75,000.00	9,00,000.00
4	Accommodation: a. External Resource persons, Invitees, Experts, Guests etc. b. Trainees	300/- per day for 30 days=9,000.00	2,70,000.00	32,40,000.00
5	Food: a. Launching program, Inaugurations, Valedictory function etc. b. Trainees- Breakfast, Lunch, Refreshments, Dinner, Tea/ Coffee	300/- per day for 30 days=9,000.00	2,70,000.00	32,40,000.00
6	Transportation (TA/ POL): Vehicle hire charges for a. Resource persons, Experts, Visitors, Guests, Invitees, Coordinators, Officers from University, Trainees, etc. b. Field exposure, Industry visits, Visits to: Fish landing centre, Fish net making yard, Boat building yard, Fish drying/ salting area, Fish processing plant, Commercial aquarium centre, Port trust, Aquaponic/ Hydroponic centers, Fish farms, Feed industries, Fisheries research stations, Krishi Vigyan Kendra, Fish food production factories, Private farms, Demo units, Model units etc. c. Exposure trainings for Coordinators (PI & Co-PI) d. Training demo mobile lab	300/- per day for 30 days=9,000.00	2,70,000.00	32,40,000.00 15,00,000.00
7	Manpower: a. Training Associate (Technical): 01 @ Rs. 30,000/- per month for 2 years b. Assistant cum Felicitator : 01 @ Rs. 20,000/- per month for 2 years c. Messenger cum Caretaker : 01 @ Rs. 15,000/- per month for 2 years	1,20,000.00 4,80,000.00 3,60,000.00	- - -	15,60,000.00

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8	<p>a. Amenities: Furniture (Chairs, Tables), Generator, Desktops (Accessories, Printers, Speakers), Laptops, LCD projectors, Display screens, Interactive smart boards, Photocopying machine, CC cameras, WiFi connection (Internet), Basic Telephone (Intercom systems), Almirhas, Cup-boards, Calling bell, etc</p> <p>b. Machineries & small equipments: Aquarium fabrication unit, Aquaponic and Hydrponic model, Fish cutter, Heat sealing machine, Hot air oven, Analytical balance, Digital balance, Deep freezer, Vertical freezer, Cooking line, Processing table set, Perforated stainless trays, Trolley, Shovels, Knives and Hose pipes, Solar dryer, Flake ice machine, Steel tray, Cement cisterns, Circular FRP tanks, Diving mask, Drysuit/ Wetsuit fins, Scuba gloves, Scuba tank, Regulator, Depth gauge, Submersible pressure gauge, Compass dive, Computer, Buoyancy, Compensator Snorkel, Underwater camera, Tank bangers, Defogger Dive knives, Writing slates, Underwater lights, First aid kit, Dive logbook</p>	22,40,000.00
9	Miscellaneous: Based on over and above the actual expenditure	20,00,000.00
		15,000.00
		A = Total (Rs.)
		2,35,00,000.00
The College of Fisheries, Mangaluru as Nodal centre will look after the implementation of Skill Development training programmes as per the ANNEXURE – I and ANNEXURE – II upon sanction of budget from MSCL		
B. Works of MSCL		
10	Training Centre: Construction of Skill Development and Safety Centre inclusive of Air Conditions, Lightings, Solar power supply and Audio-visuals (Sound systems, Mike sets, Caller ID etc)	2,55,00,000.00
		B = Total (Rs.)
		2,55,00,000.00
		A + B = Grand Total (Rs.)
		4,90,00,000.00
MSCL will look after the construction of Skill Development and Safety Centre as per the MoU with KVAFSU		

(Rupees in words: Four Crores Ninety Lakhs Only)

Coordinator/s of the Training:

Principal Investigator
& Nodal Officer

; Dr. A.T. Ramachandra Naik

Dr. A.T. RAMACHANDRA NAIK
M.F.Sc., Ph.D., F-CDR (USA)

PROFESSOR

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