

**Tamil Nadu Innovation Initiatives (TANII) – Minutes of the State Planning Commission on the appraisal of the Innovative proposals for the year 2020-21 (Round I)**

The “Tamil Nadu Innovation Initiatives” has been established in the State Planning Commission and an “Innovation Fund” has been set up by restructuring the existing Part-II schemes from the financial year 2015-16.

For the year 2020-21 (Round I), proposals that are received from the various Government Departments have been appraised in the State Planning Commission meetings held on 07.01.2020 and 13.01.2020. During the Appraisal discussion, the proposals which were not viable sufficiently were rejected, some proposals were withdrawn by the department and a shelf of recommended proposals has been prepared. The details of the decision/recommendation of the State Planning Commission are as follows:

**I. Agriculture Department**

One proposal was received from Agriculture Department for funding from the Innovative fund.

**1) Minimum assured income for the farmers by harnessing Solar Energy, Rs.363.34 lakh for 3 years.**

This project is proposed for the farmers to get assured income through solar power generation. This proposal was discussed in the light of technical aspects, since Electricity department is inevitable in executing this project, consultation could be made with them for output and further application.

After discussion, the State Planning Commission has **not recommended the project**, as this project objective is away from the core activity of the Department. However the project may be resubmitted with the concurrence from the TANGEDCO for the implementation support, assessment of demand and supply and beneficiaries selection procedure.

**II. Animal Husbandry, Dairying and Fisheries**

Nine proposals were received from the Directorate of Fisheries Department for funding from the Innovative fund. Amongst them, 7 proposals were withdrawn by the department and only two proposals appraised. The details of the recommendation are as below:

**1) Beach life guard and scuba diver training course to Fisher youth of Tamil Nadu, the cost of the project is Rs.111.17 lakh for one year**

This project aims to train collective youth fishermen in various types of rescue carriages support and evacuations at the time of disasters and calamities also train them in Scuba diving for coastal tourism. The Department informed that trained fisher youth will become a self employer in the field of water sports and also it will promote employment opportunities in Public and Private Beach fronts and various services like Coast Guard, Navy, Shipping Industries, Deep Sea mining, etc.,

Accordingly, State Planning Commission has **recommended** the project and the commitment under TANII is Rs.111.17 lakh for one year.

**2) Aquaponics – Integrated Fish and Plant farming System, Rs.30.00 lakh for 3 years**

This proposal was **withdrawn** by the Department.

**3) Innovative Mobile control automatic ornamental Fish Culture, Rs.390.00 for 3 years**

This proposal was **withdrawn** by the Department.

**4) Introduction of short seasonal Fish Species in existing farm ponds with Poly Lines /HDPE Sheets Rs.23.10 lakh for one year**

This project is proposed to utilise the fallow lands for income generating activity by short seasonal fish variety culture. This project, on pilot basis, total area of 3 ha. will be covered with 30 numbers of farmers with 50% subsidy assistance and 50% beneficiary contribution.

After discussion, the State Planning Commission has **recommended** at an outlay of Rs.23.10 lakh for one year with the conditions to submit the revised expenditure breakup details and details of loan interest rates / beneficiary contribution.

**5) Establishment of Re-circulatory Aquaculture System (RAS) Demonstration Complex for genetically improved farmed Tialpia (GIFT) at Veedur and Gomuki in Villupuram District, Rs.450.00 lakh for two years**

This proposal was **withdrawn** by the Department.

**6) Establishment of Vessel tracking system in Thoothukudi District, Rs.38.78 lakh for one year**

This proposal was **withdrawn** by the Department.

**7) Promotion of quality fish marketing and facilitating fish farmers in getting best price for their produce by establishing Modern Mobile Live fish marketing unit in Trichy district, Rs.24.32 lakh for one year**

This proposal was **withdrawn** by the Department.

**8) Providing Financial Assistance to rejuvenate economic activity of Gaja cyclone affected coconut farmers by integrating GIFT (Tilapia) Culture in Pudukottai District, Rs.48.22 lakh for one year**

This proposal was **withdrawn** by the Department.

**9) Establishment of Fisheries By Products (Fish Flakes, Fish sauce and Fish soup powder) unit in Mettur Dam, Salem, Rs.135.00 lakh for one year**

This proposal was **withdrawn** by the Department.

**III. Environment and Forest Department:**

Fourteen proposals have been received from this Department including additional / table agenda for funding from the Innovative fund. The details of recommendations are as below:

**1) On field loop medicated amplification technique development for rapid, sensitive and cost diagnosis of bacterial pathogens in wild life herbivores Rs.49.90 lakhs for 2 years; and**

**2) Development of 'Indigenous ELISA kit' for diagnosis and screening of Mycobacterium avium subspecies paratuberculosis (MAP) infection in Deer and Elephant population of Tamil Nadu, Rs.115.80, lakh for one year.**

The biological aspects of disease spread mechanism and the controlling system and its implication have been discussed in the light of forest environment. The department to consider ensure the following while implementing the project

- What is the present rate of infection (zoonosis) from wild animals to humans and cattle population in areas surrounding the forests?
- What is the death rate due to these zoonotic diseases from cattle population to wild animals inside forest?

- Will a map be prepared for the areas where occurrence of particular zoonotic disease is prevalent in particular season, spreading from cattle population to wildlife?
- Whether this project can help in controlling/detecting the zoonotic diseases in wild animal in RF & NP sanctuaries.

After discussion, State Planning Commission has **recommended** these projects as one, considering the facts of Animal disease and the spreading control with the total restricted outlay of Rs. 100.00 lakh (one year) within which is machinery and equipment cost of Rs.75.00 lakh.

**3) Cadastral level Climate Change Vulnerability on Natural Resources Tamil Nadu, Rs.100.08 lakh for 3 years**

The Directorate of Environment project discussed in the light of existing data that are used for climatic assessment.

After discussion, the State Planning Commission has **not recommended** as the 90% of the project cost is for staff salary and travel.

**4) Identification of modified or altered or degraded meat derivatives of deer species to the species level using high-throughput DNA High Resolution Melt, Rs.65.60 lakh for one year.**

This project proposed to develop a HRM reference library for deer species at AIWC, Chennai to aid judicial system with scientific evidence, empower Wildlife protection- multiple surveillance agencies and minimize threats to biodiversity conservation.

In the Phase I discussion State Planning Commission suggested to resubmit the proposal with the discussion details of the concerned working on this area. In the Phase II discussion, the revised proposal presented by the department was discussed and **recommended** by the State Planning Commission suggested to decrease the duration for the implementation. Therefore, commitment under TANII is Rs. 65.60 lakh for one year.

**5) Re-assessment and digital documentation of Endemic plants of Kalakad Mundanthurai Tiger Reserve, Rs. 50.30 lakh for one year.**

Proposal was **withdrawn** by the Department.

**6) Gift to Nature and evince your nature, 120.53 lakh for one year**

Proposal was **withdrawn** by the Department.

**7) Formation of Cost - Effective EM Solution (Effective Micro Organisms) For Quick and Quality Compositing of Forest Bio-Waste to Mitigate Forest Fire, Rs.14.50 for one year**

The objective of the project is production of cost-effective microbial solution (Effective Micro) that will aid in quick and quality composting of bio-waste and investigate the conversion forest bio-waste into organic compost by EM.

After discussion, the State Planning Commission has asked the department to **resubmit** the project covering the following:

- Area including inside the Forest Area to be covered.
- Arrive the requirement of EM solution based on the forest area to be covered.
- Select area using random sampling and list out the locations.
- Include all the agro climatic zones.
- Test it in natural conditions.

**8) Using treated bamboo splints as reinforcement material in the place of steel for lining the water way around the island at the Forest Genetic Resource Tree Park, Kolapakkam, Chennai, Rs.15.00 lakh for one year.**

The project objective is lining the waterway around the island at Forest Genetic Resources Tree Park using treated bamboo splints as reinforcement material replacing the steel.

After discussion, the State Planning Commission has suggested to **rework and resubmit** as a comprehensive proposal to address the SDG targets to be achieved in 2020 under SDG Goal 15.

**9) Vegetation change and Ecological Resilience of Forest Eco-system vis a vis Fire damage, Rs. 25.00 lakh for one year**

This project is for GIS based multi variable analysis to assess forests' vulnerability to fire.

After discussion, the State Planning Commission has **not recommended** as it is a Study project. But this may be proposed under TN State Land Use Research Board in State Planning Commission for funding.

**10) Standardizing the package for cultivation of endangered medicinal plant Decalepis hamiltonii, Rs.12.90 lakh for one year**

This project is for mapping the endangered Decalepis hamiltonii and standardizing package of practice for cultivating outside the Habitat.

After discussion, the State Planning Commission has **not recommended** the project as there is a direct mention of the Private agency (NGO) involvement in the implementation of the project. The State Planning Commission suggested resubmitting a proposal which would help the farmers implemented by the Forest Department.

**11) Creation Conservation Awareness with augmented reality technology to conserve the marine eco system and to combat illegal marine wildlife trade, Rs. 40.00 lakh, one year**

Objective of the project is to allow people to connect with information in an interactive way that makes the wildlife feel much more real through AR technology.

After discussion, the State Planning Commission has suggested to **rework and resubmit** the comprehensive proposal under TANII in the Second Round of 2020-21 after having discussion with the other agencies who are involved in Conservation of Wildlife, or submit to IDA (Island Development Authority) or other source.

**12) Mitigation Human-wild animals conflict using smart virtual fencing, Rs.234.13 lakh for one year and**

**13) Special barrier through erection of hanging solar fence along reserved forest boundaries of Cauvery north wildlife sanctuary and Hosur forest division to mitigate human-wildlife conflict, Rs.300.42 lakh for one year**

The State Planning Commission asked the department to **rework and resubmit** the comprehensive proposal under TANII in the Second Round of 2020-21 after having discussion with the other agencies who are involved in Conservation of Wildlife, and clear identification of porous areas and strategies.

**14) Special barrier through construction of stone wall fence along reserved forest boundaries of Cauvery north wildlife sanctuary and Hosur forest division to mitigate human-wildlife conflict, Rs.288.84 lakh for one year.**

This proposal has **not recommended** since this is construction of wall.

#### **IV. Higher Education Department**

Eight proposals have been received from this department for funding from the Innovative fund. The details of the recommendation are as below:

**1) Super capacitor assisted 500 Watt DMFC Power Supply for Emergency Response Applications, Rs.258.89 lakh for 3 years.**

This project was proposed by the **Bharathiyar University** which is a portable power pack of 500 Watts of direct methanol fuel cell (DMFC) which can be of greater use for the emergency and disaster management sector. The University informed that the actual cost of project was Rs.5.00 crore, but the 40% of the pilot works has been already completed by the business unit. So far there is no indigenous commercial application in India

After discussion, the State Planning Commission has **not recommended** this project considering the Audit Objection as this project earns profits to the private agency through the Government funding.

**2) Development of thermal plasma technology for safe disposal of municipal solid waste (MSW) with production of energy and value added products, Rs.462.00 lakh for 3 years**

This project outcome expected to be of greater use to public and can be brought into use by all the Municipalities and Corporations in Tamil Nadu. However, this project was not whetted by the Municipal Administration department.

After discussion, the State Planning Commission has **not recommended** the project as this subject requires opinion of the Municipal Administration Department and the clearance from the Pollution Control Board.

**3) Detection of explosives using germanium encapsulated multi walle carbon nanotube arrays, Rs.879.62 lakh for three years.**

This project was proposed by the Anna University, the core purpose of this project deals with explosive technology which has to be permitted by Defence Research and Development Organisation is an agency of the Government of India, charged with the military's research and development.

After discussion, the State Planning Commission has **not recommended** as the proto type for this project is not developed.

**4) Development of Semi and Fully Automated Intelligent Exo-Skeletal and Prosthetics for Disabled communities, Rs.1782.42 lakh for 3 years.**

This project proposed by the Anna University aims to design and fabricate powered prosthetic limb and exoskeleton for amputated and patients affected by paralysis at an economical cost. The design and fingered functional prosthetic hand in simple, easy to use, robust design exoskeleton. Through biological signals generated by human beings the prosthetics & exoskeleton will be controlled. The explained five types of paralytic attack may be treated with EMG and EEG signals fixed from the lesser weight battery in the body.

The Anna University has agreed to provide space and permission for the establishment of the centre and implementation of the project. The following issues needs to be considered while implementation:

- (i) Suggested to develop a wireless electronic model/ multiple models and to produce maximum number of bionic device models with a moderate cost
- (ii) Ensure periodic maintenance
- (iii) Send periodical status report to State Planning Commission once starts implementation
- (iv) Production will start in the first year itself.
- (v) Activity time line details have to be mentioned in the Government order.
- (vi) The beneficiary has to be as per the Government data source priority.

After discussion, the State Planning Commission has **recommended** the project and also asked the department to adhere the above on implementation. Therefore, commitment under TANII is Rs. 1782.42 lakh for three years.

**5) Technology for Converting Inert Wastes into Bioamendments/ Biofertilizers - Pilo Projects at Legacy Wastes Dumpling Site in Tamil Nadu Rs. 45.76 lakh for 2 years.**

This project proposed by the Anna University aims to identify sustainable technological options for the conversion of inert waste generated at the legacy waste dumping sites after bio mining into commercial product with higher applicability in the agricultural sector. Considering the Socio Economic benefits to the public through the development of **sound**



**technological options for managing dumpsite inert waste** as demanded by Chennai Corporation and in order to reduce the expansion of landfill areas in the state

The State Planning Commission has **recommended** this proposal which was whetted through Municipal Administration department under TANII for Rs. 45.76 lakh for two years.

**6) Energy Recovery from Microwave Plasma Pyrolyzed Gases of Biomedical Waste Rs.160.05 lakh for 3 years.**

This project proposed by the Annamalai University with a objective to demonstrate the plasma pyrolysis technology there by address the problem of localizing disposal of biomedical waste safely.

After discussion on the technical aspects of biomedical waste process and its composite nature, the State Planning Commission has accepted in principle to fund for the development of prototype. Therefore, the proposal returned to scale it down, for **rework and resubmission** of a working small scale model.

**7) Biofouling Studies on Metal Oxide-Alloy Antifouling Nanoparticles Coatings on Glass exposed to Marine Environment, Rs.38.54 for 3 years**

This project proposed by the Annamalai University. The objective of the project is to develop a newly synthesised Metal/Meal Oxide – Alloy nano particles based new antifouling paint compound coatings to be effective against some bacterial growth and attachments.

After sequence of discussion about the process and methodology of the objective, the State Planning Commission has **not recommended** the project since this is study nature.

**8) A study on education and Employment opportunities for scheduled tribes' people in Rural Area in Tamil Nadu, Rs.57.80 lakh for 3 years.**

The study project to analyze the transforming ideas into education and employment opportunities and its impact on tribal's area was proposed by the Thiruvalluvar University.

The State Planning Commission has **not recommended** as this is a study project could not be funded under TANII.

## **V. Industries Department:**

Three proposals have been received from Industries Department for funding from the Innovative fund. The details of recommendations are as below:

### **1) Establishment of operationalization of SIPCOT Industrial Innovation Centres in Sriperumbadur and Hosur Industrial Parks, Rs.1920.00 lakh for 3 years**

The aim of the project to establish SIPCOT Industrial Innovation Centres (SIIC) with self-sufficient ecosystem for promoting Industrial Open Innovation activities by adoption of technology relevant to the needs of the local cluster. Plan to establish the centre at Sriperumbadur and Hosur from the funding sources - CSR, Partner Incubator and TANII. Industrial workers and students from the nearby college will be enabled to learn, practice and to innovate through this Centre in different challenges from industries. Innovation Centre will facilitate entrepreneurship, lead to higher salaried employment and innovative products for Industrial problems.

After discussion, the State Planning Commission has **recommended** with a condition to ensure the sustainability of the project after five years also and to submit the periodical status of KPI and any patent rights that result. Therefore, out of total project cost of Rs.5344.00 lakh, the commitment under TANII is Rs.1920.00 lakh for 3 years and balance amount met from the CSR funds.

### **2) MVR Treatment for Fiber line/Pulp Mill Effluent (Hard Wood and Bagasse), Rs.2370.00 lakh for 3 years**

This project proposed by the Tamil Nadu News Print and Papers Ltd, aims to meet the water demand for running the plant during water crisis by adopting MVR treatment to minimize fresh water consumption by maximizing recycling water.

Recovering water from effluent water can help TNPL to sustain the mill operations during summer period when there is no river water flow in Cauvery.

After complete analysis of both technical and financial aspects of paper mill function, the State Planning Commission **not Recommended** and informed that the fund could not be consider under TANII hence, it could be sought from the Board since the operational cost is regular and pertaining to TNPL.

The TNPL may dovetail other sources of funding and comeback for the State Planning Commission if necessary.

**3) Recovering Sulphates and removal of chlorides from TNPL's Chemical recovery boiler ESP ash Rs.2245 lakhs for 3 years**

This project aims to explore the possibility for recovery of sulphates and removal of chlorides from the ESP fly ash, as the sulphate is being reused by TNPL for its process.

The formation of sulphates from ESP as fly ash technical aspects in the process of paper pulp, boiler process, and the discharge of water into the effluent treatment which are to be adhere as per the pollution control Board parameter of 0 % discharge. The State Planning Commission has **not recommended** and informed that the TNPL may dovetail other sources of funding and comeback to the State Planning Commission if necessary.

**VI. INFORMATION TECHNOLOGY DEPARTMENT:**

Four proposals have been presented by this Department for funding from the Innovative fund including one table agenda presented by the TNeGA in phase II discussion. The details of recommendations are as below:

**1) Tamil Search Engine, Rs.129.80 lakh for two years**

This project aims to develop a search engine that could give details and answers particularly related to Tamil literatures, Tamils culture and its associated information etc., in videos, pictures, definitions, vocabularies. Since, many tamil search engines are already available, State Planning Commission has **not recommended** this proposal.

**2) Graph Database for Artificial Intelligence, Rs.88.00 lakh for two years.**

This project aims to simulate human intelligence in machines that are programmed to think and act like humans in Tamil language for domains like education, agriculture, religion, astrology, health-care etc.

The State Planning Commission has **not recommended** this project. This project may be resubmitted with the remarks of Secretary to Government and TNeGA as they are already working on this area.

### **3) E-asiriyar to learn Tamil, Rs.60.00 lakh for one year.**

This project focused to develop the method of e-Asiriyar to teach through modern technology constituting 3D animations and virtual reality in Tamil language.

The present flash contents developed by TVA in the year 2000 are not supporting the flash files. The State Planning Commission has **recommended** this project at an outlay of Rs. 60.00 lakh for one year.

### **4) Use of Artificial Intelligence (AI) in Governance, Rs. 1950.00 lakh for two years**

This proposal aims to establish and operationalise Artificial Intelligence Lab for Governance problem solving using AI. To facilitate the Government Department's financial/ services through AI by developing the following:

1. Developing and Deploying AI solutions for Government - Rs.1500 lakh
2. Setting up of Lab - Rs.250 lakh
3. Capacity building - AI/ML academy - Rs.200 lakh.

The key imperatives of the proposed solution are to offer one stop low cost solution for all Artificial Intelligence and Analytics Projects.

After having discussion on this project, State Planning Commission has **recommended** this project at a cost of Rs.1950.00 lakh for two years with the following to be ensured by the Information & Technology Department and informed to State Planning Commission.

- Breakup details of each category.
- Software and hardware requirement for establishment.
- Details of machinery and equipment required.
- In-house study/ other source needs to be clarified.
- Modules for capacity building.
- Calendar for Training
- Content for Training

## **VII. Youth Welfare and Sports Development Department**

One proposal has been received from the NCC for funding from the Innovative fund was withdrawn by the Department.

**1) Procurement and installation of 22 mm Rifle Firing Simulators under Modernization of NCC Training Infrastructure, Rs.12.00 lakh for one year**

This proposal was **withdrawn** by the Department.

The details of schemes recommended and not recommended by the State Planning Commission have been given as Annexure-I to these Minute. The Government is requested to sanction the implementation of the schemes as recommended by the State Planning Commission as in Annexure-I duly following the procedure prescribed in G.O.Ms.No.124/PD & SI Department, dated: 24.10.2014. The Government after approval may consider issuing a detailed order for the schemes sanctioned, so that the order will indicate all the scheme details like period of funding, staff component, implementing agency mandatory / statutory approvals required to be obtained, the specific innovation of the project, the public issue to be addressed by the project etc.

Tmt. Jayashree Raghunandan  
Additional Chief Secretary to Government,  
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// Forwarded by Order //

Head of Division  
(Plan Co-ordination)