G.O.(Rt)No.643/2023/AGRI

GOVERNMENT OF KERALA

Abstract

Agriculture Department – Techno Commercial Proposal for the Integrated platform for hosting Agri-Stack solutions – Administrative Sanction for the implementation Kerala Integrated Agriculture Data Hub and Digital Farmer Service Platform – Orders issued.

AGRICULTURE (FARMS) DEPARTMENT

G.O.(Rt)No.643/2023/AGRI   Dated,Thiruvananthapuram, 03-07-2023

Read   1. F No. Z-11021/09/202l-Digital (Part l), dated: 22.11.2021 of Shri.Vivek Aggarwal, IAS, Additional Secretary, Ministry of Agriculture and Farmers Welfare, GoI.

2. D.O. No. Z-11021/1/2022-DA, Dated: 02.12.2022 of Shri.Manoj Ahuja Secretary, Ministry of Agriculture and Farmers Welfare, Gol.

3. D.O. No. Z-11021/60/2022-DA, Dated 06.04.2023 of Dr.Pramod Kumar Meherda, Additional Secretary, Ministry of Agriculture and Farmers Welfare, GoI.

4. Letter No. NABCONS (Kerala) NABCONS-31/27S/2022-23, Dated: 19.05.2023 of the Vice President, NABARD Consultancy Services Private Limited.

5. G.O.(Rt) No.515/2023/AGRI., dated 26.05.2023.

6. Letter No. ADFW/10940/2022/IT2 dated 11.06.2023 from the Director, Agriculture Department.

ORDER

The Ministry of Agriculture, Government of India had, as per letter read as 1st paper above, directed the States to digitize digital agricultural technologies to increase the income of farmers by reducing inputs improving their yields and enable them get better prices etc. The following 3 major initiatives form the foundational framework of the Digital agriculture Architecture were advised:

1. Supporting State Governments for adopting new & emerging technologies through the NeGPA Scheme.

2. Creating a framework for the proposed Agristack by finalizing the architecture in line with INDIA Digital Eco–system for Agriculture (IDEA) and developing a

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comprehensive and Federated Farmers Database ; the FDB would serve as the core of Agristack.

3. Initiating Proof of Concepts (PoCs) across the country in collaboration with leading Agritech & Tech companies.

2. Government of India also launched a Digital Agriculture Mission and encouraged State Governments to undertake projects involve the use of new and emerging digital technologies and have requested the state governments for using the opportunity to develop digital agriculture in the State.

3. Through 2nd reference GoI have also positioned nodal officers in the States in Agriculture and Revenue departments to take the Agristack project forward involving crop, farmer and land registries. GoI have also rolled out a Digital Crop survey as a Centrally Sponsored Scheme in four states including Kerala using Digital Technologies and the same is being launched in the State. Kerala State has a moderately advanced digital agricultural database called AIMS implemented from 2019 which is the present legacy system along the ReLIS (Revenue Land Information System) of the Revenue Department and PEARL Suite of the Registration Dept, Govt. of Kerala. In Addition a limited farmer database has also been developed for the Farmer Welfare Fund Board. Semi-digitised Databases are available for soil testing in the departments of Agriculture and Soil Survey and Soil Conservation. Various Agricultural University databases and applications also contain crucial laboratory analysis data such as pesticide residue data. These need effective collation, searchability and structuring to cater to the requirements of the ambitious Agristack model mooted by GoI.

4. The Department of Agriculture has also implemented e-Office architecture in all its offices from the Secretariat to the Sub Divisional level and has already established inbuilt internet based file transfer protocol which can transfer data held in various databases seamlessly.

5. As sufficient domain capacity and technical support was desired and noting the pioneering venturing of NABARD, a domain leader for active agricultural data in India into a similar large data base in consultation with their consulting wing NABCONS, consultancy services private Ltd., a fully owned subsidiary of NABARD, a detailed proposal was sought and raised to provide domain knowledge and identifying and supplying developers for establishing sufficiently capable, mature and safe and secure database for the essential crop, farmer and land registries and related applications for the department of Agriculture, Soil Survey and Soil Conservation and all participating public sector companies and autonomous agencies who will be the data owners and users of the comprehensive agricultural data base.

6. A Techno Commercial proposal received from NABCONS as fourth reference was discussed in detail with all stakeholders including the NIC, C-DAC, Kerala State IT Mission, and vetted with specific recommendations. The expert committee hosted by Director of Agriculture conducted detailed examination, has recommended to proceed with the proposal with sufficient safeguards.

7. Through 5th reference, the competent authority had sanctioned sum of Rs.1 crore only towards Kerala Krishi Hub: Kerala Integrated Agriculture Data Hub and Digital Farmer Services Platform. Director of Agriculture has through 5th reference submitted a comprehensive multiyear proposal taking into view the requirements of Government of India and the advice of the Technical Committee recommending engaging NABCONS as

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the Consultant (Project Management Advisor) to implement the Kerala Krishi Hub: Kerala Integrated Agriculture Data Hub and Digital Farmer Services Platform as outlined above.

8. NABCONS has made available a total estimation for the project at Rs.29.83 crores to be implemented in about 12 months in 3 phases (Phase-1 to be completed within 6 months from start of project, Phase-2 to be completed within 9 months from the start of the project, Phase 3 to be completed within 12 months from the start of the project) as the component modules are to be made available on a progressive and successive manner including foundational modules and regulations. A total of 20 modules are proposed to be developed to achieve the comprehensive solution required by the stakeholders and Govt. of India. Post implementation, NABCONS have estimated a per annum operation and revenue expenditure of Rs.4 crores, a substantial part of which will be borne by the user revenue generated by approved users of database.

9. Keeping in view, the successful implementation of various projects by NABCONS and its technical partners such as the Development of Kerala, Andhra Pradesh and Tamil Nadu Water Resources Information and Management Systems and comprehensive agricultural information management systems in Haryana and Andhra Pradesh, GIS and MIS system for implementing Andhra Pradesh Integrated Irrigated and Agriculture Transformation Project, Consultancy for Capacity Building Programme and supporting climate resilience planning for German Development Corporation, Government of West Bengal's agency of the State Government for the preparation of DPR of the projects, Punjab Infrastructure Development Board's empanelment of NABCONS as the special third party independent techno financial auditor in the year 2022, the Director of Agriculture has recommended NABCONS to be nominated as the Project Management Advisor to implement the comprehensive project at a total tentative estimate of Rs.29.83 crores in the next three financial years and operate and maintain the data base at an estimated cost of Rs.4 crores, subject to actuals, mutually agreed at per module cost and availability of finances.

10. NABCONS shall be responsible for the entire stating of specific requirements of modules commissioning/contracting developer vendors sourced on a competitive basis and integrate the architecture to go live within the specified periods and report progress, testing and acceptance, monitoring and evaluating and closure implementation stages with half yearly and annual completion reports to the satisfaction of the Department of Agriculture advised by a Steering Committee constituted for the purpose.

11. The Administrative approval of the project for 2023-2024 is limited to budgeting revenue approved for financial year i.e Rs 1 crore. The funds for the integrated data base is proposed be sourced progressively beyond the Rs.1 crore assumed at present as follows:

(1) From RKVY through suitable project submission which has been initiated.

(2) An amount of Rs.13 crore can also be met from the project already sanctioned to the State by NABARD under RIDF Tranche for the year 2022-23 for the project "Smart Krishi Bhavans".

(3) Plan funds so resolved by Government in the next three financial years for the purpose of streamlining IT Architecture of Departments or Agencies of the Department of Agriculture.

(4) The further financial commitment beyond Rs 1 crore in the project will be contingent on further Administrative Approval secured separately under these proposals.

12. The proposal has also identified some revenue generation potential from the user income of the database and NABCONS has desired a cost and revenue sharing model

whereby the Government investment is reduced to 50%, i.e., 14.92 crores only. The overall financial commitment of Govt. of Kerala is therefore limited for capex as 14.92 crores and Rs.2 crores per annum for operation and maintenance. The operation and maintenance cost would also be shared between department and NABCONS on 50:50 ratio provided any user revenue generated are also shared and adjusted in the same basis. Revenue sourced shall be payable to Department of Agriculture or the successor agency in their nominated account in the first instance and paid quarterly to M/s NABCONS as provided in the schedule.

13. Government have examined the proposal in detail and in acceptance of the recommendations of the Technical Committee and Director of Agriculture are pleased to award NABCONS (NABARD Consultancy Services Private Ltd.), a fully owned subsidiary of NABARD, the Project Management Advisorship on consulting basis for the implementation of Kerala Integrated Data Hub and Digital Farmer Services Platform (K-Agri Stack) on nomination basis subject to the following terms and conditions for 6 years

a) The module wise development of the proposed database and applications will be paid only on certified completion of each module, testing and acceptance into designated servers subject to an overall project size of Rs.29.83 crores (including GST) to be executed in the next 12 months including all taxes. Modular costing shall as recorded in the MoU as annexure.

b) The project shall be co-financed by Department of Agriculture and its agencies (on a subscription or user charge basis) at a ratio of 50:50 both for CAPEX and operational maintenance expenditure adjusted for any revenues from non-partners which also shall be sharable at the same ratio. The Department of Agriculture shall be free to designate a fully owned commercial entity to take over and manage the implementation or operation of the database system as its legal successor in the proposed MoU.

c) The selection process of developers/vendors commissioned by NABCONS shall be on specific contracts and selection shall be done by NABCONS using transparent competitive vendor selection criteria acceptable to Central Vigilance Commission/Government of India norms and the same shall be placed before the Screening Committee of the project.

d) The source codes and all technical data of all the software architecture of the project must be made available to the Director of Agriculture and duly licensed to them before the commissioning of each module in the project. Sufficient Cyber security audit certification shall be provided by the developer /vendor. NABCONS and its developers or vendors should ensure sufficient onsite assistance as desired by the Steering Committee or Director of Agriculture

e) NABCONS and its developers or vendors shall prepare software requirement statements (SRS) in consultation with all stakeholders as advised by the Director of Agriculture.

f) The MoU proposed by NABCONS is approved as stipulated herein and the Director of Agriculture or nominee not below Deputy Director shall be the implementing Officer for this project, who shall execute the MoU.

g) Standard Cyber security and privacy safeguards in vogue in India shall be applied to all modules developed and standard applicable protocols ensured for the security of data retrieved and stored.

h) NABCONS and their developers/vendors shall engage with and integrate with all the legacy systems put in place by the Government of Kerala, NIC, C-DAC, etc. at present in Agriculture, Revenue and Registration databases for the purpose of the integrated data base. Director of agriculture shall facilitate/support this.

i) All payments in pursuit of this contract shall be payable to the PMA(M/s

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NABCONS) only and all liabilities arising from their contracting developers/vendors shall be defrayable only by M/s.NABCONS Private Ltd. and Government of Kerala or any of its agencies or partners shall not be liable to defray any liabilities or payments arising from this order or MoU to any party other than NABCONS subject to achieving verified parameters of completion. No supplementary agreement /orders shall be entered into in favor of any vendor /developer in pursuit of the this project.

j) Any dispute arising from the MoU shall be adjudicated in the first instance by a Committee consisting of Agricultural Production Commissioner, Director of Agriculture and a Senior representative to be nominated by NABCONS.

k) NABCONS shall prepare project financing documents sufficient to meet RKVY/RIDF requirements. Other GoI funded IT/ scheme or other banking criteria on request by GoK and assist effective submission before funding bodies to take the funding proposals to success.

l) All data collected only shall be sole property of Department of Agriculture, Government of Kerala and any sale/transfer/sharing of data coming to possession of NABCONS or its Developers shall be with the written prior clearance of Department of Agriculture and under information of the steering committee only .

m) The project shall be monitored and coordinated by a Empowered Steering Committee (ESC) which shall be empowered to audit and accept the software modules and suggest changes which the PMA shall comply with. The Steering Committee shall also be delegated to effect due payments in the contract subject to the overall framework approved in the MoU. The Steering Committee shall comprise the following officers:

a. Agricultural Production Commissioner(Chairman).
b. Director, Department of Agriculture Development and Farmers Welfare (Convenor)
c. Director, Department of Soil Survey and Conservation
d. CEO, Kerala Farmers Welfare Fund Board
e. A Representative of Finance Department, Government of Kerala
f. A Representative of the Director, Kerala State IT Mission
g. Director of Research /Nominee , Kerala Agricultural University
h. Representatives invited by APC from PSUs/Agencies under the Department of Agriculture Development and Farmers Welfare, having high stake in K-Agri Stack.
i. Special invitee of NABCONS (without voting powers).

14) No Financial Commitment over and above, the scheduled CapEx (14.92 Cr) and estimated OpEx (Rs. 2 Cr per annum) shall be payable by the Government of Kerala to NABCONS within the 6 years of the period of validity of MoU.

15) The legal jurisdiction of the MoU and all instruments shall be Thiruvananthapuram, Kerala. The stage wise payment schedule is appended as annexure.

(By order of the Governor)
DR B ASHOK I A S

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<div align="center">PRINCIPAL SECRETARY & APC</div>

To:

The Director, Agriculture Development & Farmers Welfare Department, Thiruvananthapuram.

The Director, Department of Soil Survey and Conservation

The Director, Kerala State IT Mission.

The Director of Research, Kerala Agricultural University.

The Principal Accountant General (Audit), Kerala, Thiruvananthapuram.

The Accountant General (A&E), Kerala, Thiruvananthapuram.

The Finance Department.

Stock File /Office Copy.

Forwarded /By order

Signed by
Krishna Kumar V
Section Officer
Date: 04-07-2023 18:53:42

Copy to:-

PS to Minister of Agriculture

PA to A.PC & Principal Secretary, Agriculture Department.

A. Payment Milestones for Project Development Period of One Year (CAPEX)

- Total estimated cost of Development of Kerala AgriStack- INR 29.83 Crores (inclusive of GST)
- Government of Kerala (GoK) share of CAPEX (50% of Total cost of Development) - INR 14.92 Crores (inclusive of GST)

Milestone wise Payment terms Payable to NABCONS by the Government of Kerala.

Sl. No.	Phase / Milestones of payment	Payment Percentage	Amount payable by GoK including taxes (INR)
1	Upon Signing of the Memorandum of Understanding	10% of Government of Kerala (GoK) share of CAPEX for Development of Kerala Agristack	1.492 crores
2	Upon Submission of Inception report	10% of Government of Kerala (GoK) share of CAPEX for Development of Kerala Agristack	1.492 crores
3	Upon Submission of Software Requirement Specifications Document	5% of Government of Kerala (GoK) share of CAPEX for Development of Kerala Agristack	0.746 crores
4	Development of Kerala Agristack Platform with Unified agriculture database, Geoportal and Mobile Application, Unified Agriculture database, Farmer and Admin user accessibility	5% of Government of Kerala (GoK) share of CAPEX for Development of Kerala Agristack	0.746 crores
5	(Upon Development and individual Modules going Live only)		

5.1	AI Based farm boundary detection	60 % of Government of Kerala (GoK) share of CAPEX for Development of Kerala Agristack (3% for each Module upon going Live. 3% * 20 Modules = 60%)	8.95 crores
5.2	Farmer database		
5.3	Farmer and Admin user accessibility		
5.4	Crop Classification & acreage estimation via remote sensing		
5.5	Harvesting assessment via remote sensing		
5.6	Farmer Helpdesk		
5.7	Soil Information Module		
5.8	Agro-climatic crop zone planning		
5.9	Near real-time crop health monitoring		
5.10	Crop yield assessment & Production cluster management		
5.11	Soil Moisture based irrigation		
5.12	Extreme event warning and management		
5.13	Crop loss prediction & assessments		
5.14	Farm mechanization		
5.15	Agro advisory services		
5.16	Centralized DBT Management		
5.17	Farming the carbon (GHG emission, carbon sequestration, carbon credit)		
5.18	Crop insurance		
5.19	Integration with e-marketplaces		

5.20	Water resource information for Irrigation potential		
6	Security Audit of the System and Final Go-Live report (After completion, testing and acceptance of all modules)	10% of Government of Kerala (GoK) share of CAPEX for Development of Kerala Agristack	1.4915 crores

B. **Payment Milestones for Operation, Hosting and Support (After Go-Live for a Period of Five (5) years only.**

- Total estimated cost of Operation, Hosting & Maintenance (OPEX) to be borne by the GoK and NABCONS - INR 4 Crores per each Year (inclusive of GST)

Below Quarterly Payments Payable to NABCONS and its Partners by the Government of Kerala during Operation, Hosting and Maintenance Period

Sl. No	Phase / Milestones of payment	Payment Percentage	Amount payable by GoK including taxes (INR)
1	Annual cost of operations, Hosting and support for 5 years after phase A i.e., (Project Development Phase for 1 year)	25% of OPEX Cost every Quarter for four Quarters of 1st Year	50 lakhs only every Quarter to a total of 2 Crores Per Year for a duration of 5 years only

Government of Kerala shall pay the above payables for OPEX from the accrued revenue generated from service charges collected from various users of Kerala Agristack or plan funds in the absence of the above. Rest Rs 2crore shall be met by NABCONS.

Note 1 : the share of GoK payable to NABCONS shall be capped at Rs 2 crores per annum after apportioning the revenue accrued in the previous quarters at 50:50 ratio between GoK and NABCONS for 5 years. The respective shares shall be settled after apportioning revenue earned and after assigning 15% only as the cost of sales or audited actual whichever is lower.

2. All figures assumed are inclusive of all applicable taxes.

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