GOVERNMENT OF KERALA
KERALA STATE PLANNING BOARD

FOURTEENTH FIVE-YEAR PLAN
(2022-2027)

WORKING GROUP ON

EASE OF ENTREPRENEURSHIP IN AGRICULTURE: REFORMS IN POLICY AND ADMINISTRATION

REPORT

Agriculture Division
March 2022

FOREWORD

Kerala is the only State in India to formulate and implement Five-Year Plans. The Government of Kerala believes that the planning process is important for promoting economic growth and ensuring social justice in the State. A significant feature of the process of formulation of Plans in the State is its participatory and inclusive nature.

In September 2021, the State Planning Board initiated a programme of consultation and discussion for the formulation of the 14th Five-Year Plan. The State Planning Board constituted 44 Working Groups, with more than 1200 members in order to gain expert opinion on a range of socio-economic issues pertinent to this Plan. The members of the Working Groups represented a wide spectrum of society and include scholars, administrators, social and political activists and other experts. Members of the Working Groups contributed their specialised knowledge in different sectors, best practices in the field, issues of concern, and future strategies required in these sectors. The Report of each Working Group reflects the collective views of the members of the Group and the content of each Report will contribute to the formulation of the 14th Five-Year Plan. The Report has been finalised after several rounds of discussions and consultations held between September to December 2021.

This document is the Report of the Working Group on "Ease of entrepreneurship in agriculture: Reforms in policy and administration". The Co-Chairpersons of Working Group were Dr.K.J.Joseph and Sri.S.Harikishore IAS. Dr.R.Ramakumar, Member of the State Planning Board co-ordinated the activities of the Working Group. Sri.S.S.Nagesh, Chief, Agriculture Division was the Convenor of the Working Group and Smt .G. C. Roshni, Agronomist, Agriculture Division was Co-Convenor. The terms of reference of the Working Group and its members are in Appendix 1 of the Report.

Member Secretary

PREFACE

As part of formulation of the 14th Five Year Plan, the Kerala State Planning Board had constituted working groups of experts in all the major sectors. In Agriculture and Allied Sectors, 6 working groups were constituted viz Agriculture and Cooperation, Animal Husbandry and Dairy, Inland and Marine Fisheries, Forest and Environment, Water Resources and Regional Packages. To discuss and frame policies in each of these sectors, the working groups were further divided into 28 Expert Sub-Groups (ESG) with specific mandates.

Each Expert Subgroup held at least three meetings beside one focused group meeting before finalising the report. We, the Co-Chairs, place our deep appreciation and gratitude to all the esteemed members of the ESG for their valuable contributions in preparing the report. We are extremely grateful to Dr. V. K. Ramachandran, the Honourable Vice-Chairperson, Kerala State Planning Board, Dr. R. Ramakumar, Member, Kerala State Planning Board and Shri. S. S. Nagesh, Chief, Agriculture Division for their consistent guidance and suggestions in preparing the report. The drafting team put in commendable work in bringing together all the views and opinions of the members. We sincerely hope the recommendations in the report can lead to important changes in the public policy on agricultural development in the State.

Dr.K.J.Joseph
Expert co-chairperson

Sri.S.Harikishore IAS
Official co-chairperson

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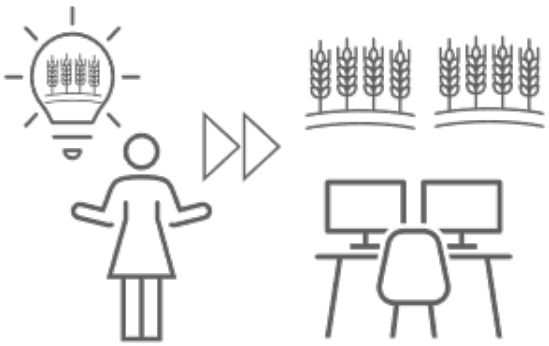

EASE OF ENTREPRENEURSHIP IN AGRICULTURE: REFORMS IN POLICY AND ADMINISTRATION

HIGHLIGHTS

- Report deals with the constraints to the flow of entrepreneurial capital into the processing and value addition segments in agriculture.
- The constraints at different levels have been analysed thoroughly.
- Laid down the broad contours of a quantitative framework to regularly assess the ease of entrepreneurship in agriculture in Kerala.
- Thrust areas include improving the roles of LSGIs and promoting the use of new technology.

EXECUTIVE SUMMARY

INTRODUCTION: As per the terms of reference, this Expert Subgroup dealt with the constraints to the flow of entrepreneurial capital into the processing and value addition segments in agriculture, suggested measures to overcome these constraints with a special focus on the role of LSGs and laid down the broad contours of a quantitative framework to regularly assess the ease of entrepreneurship in agriculture in Kerala.

CONSTRAINTS: Entrepreneurship promotion is high on the agenda of the key designated actors in Kerala like Kerala State Industrial Development Corporation (KSIDC), Small Farmers Agribusiness Consortium (SFAC), incubation centres of Kerala Agricultural University, Start-up Mission, and NABARD. As a result, from 2016-17 to 2020-21, the number of MSME units in the agro- and food-based industries in Kerala recorded a growth rate of 6.7% when compared to the negative growth rate of about 7% for the MSME sectors. However, out of the total number of agripreneurs so supported, approximately 32% were from one district and three districts together accounted for approximately 65%.

The Committee inferred that currently, constraints remain at the level of policy implementation and are manifested in the lack of access to information required for setting up an enterprise, such as demand profile, market potential, technical feasibility, availability of required technology, machinery and equipment, skilled labour, and raw materials.

Most entrepreneurs in this field are either scientists or technocrats with limited exposure to financial management, taxation, etc. Despite the plethora of information available on the websites of the agencies involved in promoting entrepreneurship, these are often not adequate for entrepreneurs seeking to access, process, and implement business ideas.

Some issues specific to start-ups include:

- Low price competitiveness owing to the uncertain volume of business
- Non-availability of trained personnel, wide skill gap
- High employee attrition
- Complex regulatory environment, which is especially challenging for agricultural biotech start-ups
- Lack of concessions on utility charges.

Entrepreneurs face several barriers in gaining access to credit. As per available data, commercial banks in Kerala have extended a total credit of Rs. 59,970 Crore to 16.5 lakh MSMEs such that the outstanding loan per unit works out to only 3.75 lakh. This low figure indicates the inertia on the part of banks to provide credit to small businesses in Kerala.

Constraints resulting from inadequate proactivity and transparency at the grassroots level are often local, and their intensity varies from one office to another – highlighting the scope of involvement of LSGs. There are obvious limits in transferring transparency to the local level through the website-based approach of the department. Marketing-related issues are severe, especially for early-stage enterprises.

Despite the very high level of commitment and the availability of an elaborate institutional architecture for promoting agripreneurship, aspiring entrepreneurs and those already in the business are confronted with numerous constraints while dealing with the different aspects of setting up and running an enterprise.

MEASURES TO OVERCOME THE CONSTRAINTS: Measures to address institutional constraints include entrepreneurship-friendly registration procedures, agripreneurship guidance centres instituted by district panchayats, establishing appropriate platforms through Facebook at the level of individual offices for facilitating online two-way communication to complement website-based communication, and providing appropriate relief measures for non-performing asset owners.

For addressing financing-related issues, there is a need for regular monitoring at the LSG level, the inclusion of agriculture in the Chief Minister's entrepreneurship development program, and the promotion of a venture capital mode of investment. A case was also made for revisiting the current subsidy system.

Concerning infrastructure constraints, a case has been made for the enhanced availability of land in KINFRA parks/Agro Parks, etc. A cluster-based approach backed by a cold chain network and infrastructure for product quality assurance is also called for, and LSGs may play a key role here.

Marketing and export-related constraints could be addressed by the better coordination of support from central government schemes along with an e-platform for promoting e-commerce while projecting and promoting specialty products from the state. Much scope exists for promoting a common brand name while globalizing Kerala dishes and establishing guidelines for traceability.

Given the information and knowledge constraints, there is the need for a more vigorous entrepreneurship development program with a strategy to 'catch them young' while ensuring all the required support structures including advisory support. For this, the teaching of agricultural courses must be reoriented. Much could be gained by linking FPOs with IT companies and exploring innovation without formal research- grass root innovations - wherein the LSGs may play an important role.

TOWARDS A QUANTITATIVE FRAMEWORK FOR REGULAR ASSESSMENT: The subgroup called for a Kerala Agripreneurship Development Scoreboard (KADS), which may be conceptualized as an index estimated at the state and district levels. It initially has two pillars that represent task outcomes with an appropriate number of indicators under each pillar. Ultimately, the scoreboard shall also incorporate the high-frequency data that will be generated if the district level offices go online with the provision for two-way communication and online rating.

1. INTRODUCTION

The focus of the 13th Five Year Plan for Kerala's agriculture sector was to bring about the much-needed transformation in agriculture and allied sectors for improving productivity, profitability, and sustainability. This was envisaged inter alia through technological innovations with S&T inputs and modern production practices, along with appropriate organizational and institutional innovations. These initiatives have paid rich dividends as manifested in the significantly higher growth rate in the agricultural sector since 2015-16 as compared to the negligible or negative growth rate during the preceding period.

The Kerala Development Report by the Kerala State Planning Board (2021), highlights the need for increasing the productivity and profitability of the primary sector in general and the farm sector in particular. It has been observed that agriculture, which employs 19% of the labour force contributes only 9% of the gross state value added (GSVA), which is indicative of lower productivity. Further, the share of GSVA from crop production within the primary sector has declined from 60% in 2011-12 to 53.2% in 2019-20. Since these structural characteristics promote the creation of an unequal society, the report underlined the need for increased productivity and value addition such that the farmers who make value are also the takers of value, thereby ensuring that growth leads to shared prosperity.

The report also underscored the need to address Kerala's failure in developing a vibrant agro-based industrial sector with strong backward linkages such that a demand base is generated for the farm sector, thus generating more employment and income within the state. Kerala is the largest producer of coconut and natural rubber in India and accounts for more than 80% of spices, such as pepper, cardamom, and ginger, and more than 80 varieties of banana. With this unique resource base, the relevance of laying the foundation for value addition initiatives in agriculture cannot be overemphasized. Harnessing all these for transforming the agricultural sector involves integrating the use of advanced technologies and common service offerings in areas related to farmer service centres, post-harvest technology, supply chain management, warehouse management, farm infrastructure, and machinery in crop and animal husbandry and fisheries. This becomes more pertinent as the priority shifts to transforming Kerala into a knowledge economy that thrives on harnessing both scientific and experiential knowledge and utilizing it as the key resource in all the sectors of the economy, including agriculture.

Accomplishing these transformative changes calls for an ecosystem that ensures ease of entrepreneurship to facilitate the "creative destruction" of our agricultural sector to make it more productive, profitable, and sustainable while ensuring shared prosperity. It is in this context that an expert subgroup has been appointed by the Kerala State Planning Board with the following terms of reference.

- To suggest a broad quantitative framework to assess regularly the ease of entrepreneurship in agriculture in Kerala.
- To identify the constraints to the flow of entrepreneurial capital into the processing and value addition segments in agriculture.

- To suggest short-term, medium-term, and long-term measures to improve the ease of entrepreneurship in agriculture.
- To suggest legal and administrative measures to be initiated at different levels of governance, including LSGIs, to improve the ease of entrepreneurship in agriculture.

The remainder of this report is organized as follows. Section two highlights the major constraints to the flow of entrepreneurial capital into the processing and value addition segments in agriculture. Section three suggests short-term, medium-term, and long-term measures to improve the ease of entrepreneurship in agriculture including legal and administrative measures to be initiated at different levels of governance by the different actors involved, especially LSGIs. Finally, it lays down the broad contours of a quantitative framework to regularly assess the ease of entrepreneurship in agriculture in Kerala.

2. CONSTRAINTS TO THE FLOW OF ENTREPRENEURIAL CAPITAL

Agripreneurship belongs to a broader canvas rather than being confined to the processing and value addition segments in agriculture. Hence, we suggest the need to include i) primary producers of crops, livestock, and fish as well as those in tourism services, who engage in the sector in a "constructively destructive manner" ii) providers of services associated with primary production or value addition, iii) input suppliers and finally, iv) all those engaged in value-adding post-harvest operations that include but are not limited to grading, storage, warehousing, processing and marketing, including the creation of e-platforms.

As of now, promoting entrepreneurship is high on the agenda of the Government. Several agencies are actively involved in promoting entrepreneurship and ensuring ease of entrepreneurship led by the Kerala State Industrial Development Corporation (KSIDC) (See box 1 for details of start-up policy). The other actors involved include, but are not limited to, Small Farmers Agribusiness Consortium (SFAC), incubation centres of the Kerala Agricultural University, Start-up Mission, and NABARD. All these agencies are actively involved in promoting entrepreneurship in agriculture through a wide range of interventions (See Annexure I for the details of initiatives by different agencies).

BOX 1: MAJOR FEATURES OF KERALA STATE START-UP POLICY

- The government shall give Rs. 2 L per innovative idea/start-ups to start-ups within the state. The funds shall be disbursed through KSUM to start-ups registered in the ecosystem.
- The government shall continue to provide pre-commercialization funding through KSUM, and this service shall be extended to start-ups registered in the state start-up ecosystem.
- KSIDC offers seed funding to any new ventures promoted by young entrepreneurs subject to a maximum of Rs. 25 L per venture or 90 percent of the initial cost of the project, whichever is lower.
- A delegation of 25 start-ups from schools/colleges will be identified through a contest and exposed to Silicon Valley through the Silicon Valley Visit Program.
- The government proposes to give subsidized infrastructure for the scale ups in terms of built-up space in government owned/assisted parks. The subsidizing could be in terms of reimbursing part of the rent (a maximum of 50 percent or Rs. 20 /sq. ft.) whichever is lower.

SFAC has the provision to support Farmer Producer Organisations (FPOs) to engage in the entire value-chain related to agriculture and allied products. More specifically, FPOs have the mandate for production, aggregation, storage, processing, marketing, and export of agricultural produce. Established in 1995 under the Department of Agriculture, Government of Kerala, SFAC promotes MSMEs that add value to agricultural produce in the state including primary processing through agro-industrialization. They act as a catalyst

in the commercialization of value-added products and enabling small and marginal farmers to obtain better prices for their produce. Through this process, they also generate employment opportunities especially in the rural sector apart from providing vital farm-industry linkage that helps accelerated economic progress.

The agri-business incubator (ABI) at the College of Agriculture, Vellanikkara, established in 2014, acts as a forum or venue to bring entrepreneurs together for conducting collective and collaborative enquiries to address the problems and opportunities in business and marketing. The centre hosts a support system through numerous schemes in collaboration with other knowledge centres and stakeholders. Farmers who are anxious about investing in the underutilized or non-commercial sector can use the entrepreneurship support programs of the centre for earning a consistent or extra income. While the Start-up mission mainly focuses on IT/high technology-based enterprises, NABARD has been promoting FPOs by creating the Producers Organisation Development Fund. NABARD also provides technical, managerial, and financial support for handholding, capacity building, and market intervention efforts of the PO. Such support is available in the form of grants, loans, or a combination of the two based on the situation, but only to those POs that avail credit from NABARD.

The Kerala Industrial Development Corporation (KSIDC) has also undertaken several measures to make Kerala more investor-friendly state by amending the rules and laws that govern the setting up of businesses, labour relations, and interfacing with LSGs. Although these initiatives appear to adopt a narrower approach to entrepreneurship, dealing only with the processing and value-addition segments, Kerala exhibits an unmatched commitment towards promoting agricultural entrepreneurship.

The measures adopted by the KSIDC include the simplification of existing Acts & Rules and harnessing information technology to make governance more efficient, effective, transparent, and user-friendly. The main aim has been to identify specific areas for improvement in various aspects of doing business in the state. The various initiatives undertaken as a part of the Ease of Doing Business programme, including the omnibus Kerala Investment Promotion and Facilitation Act, 2018 that involved amending seven acts and ten rules, have ensured the creation of an enabling environment for establishing and running enterprises in the state. The Government has ensured the elimination of redundant regulations, simplification of clearance procedures, reduction in timelines and increases in the duration of clearances, and establishment of standard operating procedures and Investment Promotion and Facilitation Cells, along with other investor-friendly initiatives (See Annexure I for various schemes and initiatives by different agencies under the State and Central government).

Consequently, the agro- and food-based industries in Kerala have been showing high levels of dynamism as compared to other sectors. As per the data provided by the Department of Industries, while the number of units operating in the MSME sector of Kerala recorded a negative growth rate of approximately 7 percent from 2016–17, the agro- and food-based industries recorded a growth rate of 6.7 percent (See Table 1). More importantly, while all the industries recorded the growth rate during the terminal year of analysis, the

recorded growth rate of agro and food-based industries was as high as 30%. As a result, the share of this industry in terms of the number of units in the MSME sector increased from 17.3% in 2016-17 to 29.1% in 2020-21. This evidence, apart from highlighting the positive outcomes of the initiatives, also indicates the potential for this industry in the state.

Table 1. Number of MSME units operating in different Industries

	Agro/ Food	Textile & Garment	Gen. Engineering	Service Activities	Wood Products	Cement Products	Printing & Allied	Paper Products	IT	Others	Total
2016-17	2688	1937	1836	3389	892	417	368	181	288	3539	15535
2017-18	2553	1947	2001	3679	871	469	392	163	316	3077	15468
2018-19	2712	1858	1533	3259	644	329	348	192	294	2657	13826
2019-20	2582	1904	1334	4036	532	309	280	188	240	2290	13695
2020-21	3359	1276	989	2725	436	233	188	198	187	1949	11540
Growth Rate	6.63	-8.64	-13.31	-2.88	-16	-12.01	-14.3	2.8	-9.42	-13.8	-6.9

Source: Department of Industries, Government of Kerala

While various efforts have been made at the state level towards evolving a vibrant ecosystem for entrepreneurship development by making appropriate policy measures including K-SWIFT, the gains across districts have been quite uneven. Alappuzha alone accounted for 32 percent of the units while Alappuzha, Kannur, and Ernakulam together accounted for approximately 65 percent (see Table 2). While the high participation from Alappuzha indicates the high potential for entrepreneurship promotion in agro-based activities, the abysmally low share of certain districts indicates an unacceptable level of discrepancy between policy and practice. This variation may also be attributed to the constraints that prevail at the district level.

Table 2. Agripreneurs supported by the Department of Agricultural Development and Farmers Welfare in different Districts

Districts	No. of units	Share (%)
Thiruvananthapuram	88	4.2
Kollam	150	7.2
Alappuzha	672	32.2
Pathanamthitta	31	1.5
Kottayam	79	3.8
Idukki	37	1.8
Ernakulam	409	19.6
Thrissur	121	5.8
Palakkad	80	3.8
Malappuram	40	1.9
Kozhikode	57	2.7

Wayanad	7	0.3
Kannur	268	12.8
Kasaragod	47	2.3
Total	2086	100.0

Source: Own compilation based on SFAC (2020)

It is inferred that the constraints remain at the level of policy implementation. They pertain to the lack of access to information about the setting up of an enterprise including, but not limited to, demand profile, market potential, technical feasibility, availability of required technology, machinery, and equipment, skilled labour, and raw materials.

Most aspiring entrepreneurs were either scientists or technocrats and their exposure and awareness of financial aspects including financial management and taxation is often limited. Despite the availability of information on the websites of these agencies, these are often not adequate for entrepreneurs to access, process, and implement business ideas as required in the initial stages of an enterprise.

There are several issues specific to start-ups, such as

- Low price competitiveness owing to uncertain volume of business
- Non-availability of trained personnel, wide skill gap
- High employee attrition
- Complex regulatory environment, which is especially challenging for agricultural biotech start-ups
- Lack of concessions on utility charges.

Geographical discrimination is also an important factor- Start-ups from metros or tier I cities are typically better placed. Lack of access to an uninterrupted power supply is a considerable problem for all biotech start-ups. Moreover, start-ups do not get any concession on electricity charges from KSEB and they are paying at the commercial rate, to list a few.

Access to finance also presents a problem. As per the available data, commercial banks in Kerala have extended a total credit of Rs. 59,970 Crore to 16.5 lakh MSMEs, and the outstanding loan per unit works out to only 3.75 lakh. This is indicative of inertia on the part of banks to provide credit to small businesses in Kerala. Also, out of the 24 lakh MSME units in the state, only 16.5 lakhs (68.8%) have been successful in getting financial support from commercial banks. Although the Central Government and the Small Industries Development Bank (SIDBI) have jointly decided to provide loans up to 2 crores for the small business through commercial banks without any mortgage or surety, entrepreneurs rarely benefit from this often because of the lack of awareness of both the bank and the customer. Financing is the biggest challenge faced by start-ups after bootstrapping in the first couple of years, and entrepreneurs require more information on funding sources such as intramural, public grants, angel investors, venture capital, private equity, and debt funds. Since most of them are from a technical background, their understanding of financial aspects is typically limited.

This is compounded by the inadequately proactive and opaque attitude adopted at the ground level while dealing with the entrepreneurs. Such constraints are often localised rather than systemic, and their intensity varies from one organisation to another. The website-based approach of the department can promote transparency at the local level only to a limited extent.

Agricultural markets are typically characterised by inefficiency where the marketing margin is high and hence, producers receive only a small proportion of what customers pay. Interaction with entrepreneurs engaged in value addition and processing in agriculture tends to suggest that the marketing margin syndrome is more evident for value-added products, thus defeating the objective of enabling the makers of value to be the takers of value.

In summary, despite the state's proven commitment to promoting entrepreneurship in the state and the elaborate institutional architecture, aspiring entrepreneurs, as well as established businesspersons, face several constraints while setting up and running an enterprise.

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In summary, despite the state's proven commitment to promoting entrepreneurship in the state and the elaborate institutional architecture, aspiring entrepreneurs, as well as established business persons, face several constraints while setting up and running an enterprise.

3. MEASURES TO IMPROVE THE EASE OF ENTREPRENEURSHIP IN AGRICULTURE

The analysis of the existing situation in Kerala's agripreneurship sector indicates the need to critically evaluate the existing entrepreneurial ecosystem concerning its effectiveness inter alia in integrating the entire infrastructure under one umbrella to facilitate new start-ups and enable them to progress from idea to prototype to product or service development to actual manufacturing, packaging, marketing, and other activities. The existing database on the sector is grossly inadequate to undertake any systematic analysis for informed policy making. Details of the ideas that evolved during the deliberation are presented in Annexure-II.

The suggested measures may be broadly classified into those on overcoming institutional, infrastructural, financing, marketing, and knowledge and information constraints. These are not always mutually exclusive and often overlap.

MEASURES TO OVERCOME INSTITUTIONAL CONSTRAINTS

Entrepreneurship-friendly registration procedures

It is proposed to make the licensing rules hassle-free. Initiatives for improving the effective implementation of K-SWIFT need urgent consideration. Every government department may publish on their websites a list of documents required for approvals to help give confidence and clarity to entrepreneurs. Coordination between DIC, MSME, Agri incubation centres, and other concerned departments across the state is also essential.

Relief measures for non-performing asset owners

The pandemic and its associated business casualty have resulted in a substantial increase in the number of non-performing assets. Relief measures for NPA owners during the pandemic may include GST and IT relaxations.

Relaxation in product procurement law for industries

The procedure for the purchase of chemicals, such as alcohol, for industrial use may be relaxed. Since alcohol is an essential commodity for the quality evaluation of food products, relaxations are essential for the existing firms and QA/QC labs. Likewise, other essential chemicals are also tightly regulated.

Facilitating two-way online communication

Along with website-based one-way communication, the offices at the lower level, e.g. District Industries Office, could consider facilitating a two-way communication mechanism through Facebook or a similar platform. Details of subsidies, training programs, and other promotional activities may be published on the Facebook page. Aspiring entrepreneurs and business owners could also use the page to raise their concerns or questions. Communication through social media like Facebook must be legalized as in the case of email. This is expected to bring in much-needed transparency and efficiency at the lower level.

Agripreneurship guidance centres

It was also proposed that agripreneurship guidance centres or "Entrepreneurship Clinics"

could be set up in each district to guide entrepreneurs for starting and sustaining an enterprise. This is best undertaken by the LSGIs. Schemes must be initiated to attract as many entrepreneurs as possible. The strategy should be to "Catch them Young" wherein educational institutions including KAU have a major role. Emulating the practice of setting up Makerspaces widely prevalent in the US and China, for example, could be considered in our educational institutions.

MEASURES TO ADDRESS ISSUES RELATING TO FINANCING

Provision for regular monitoring

As the access to finance has been identified as a major constraint, a mechanism for the periodic review of the financing at the district level may be put in place to check the inertia of commercial banks to lend to MSMEs. This can be facilitated by LSGs, and further, this issue needs to be taken up as an agenda in the State-level Bankers Committee.

Inclusion in Chief Minister's entrepreneurship program

Agriculture-related business ventures may be included as a priority item in this program that is implemented by KFC. LSGIs may be assigned key roles such as fixing certain quotas.

Promote venture capital mode of investment

The state may consider the promotion of venture capital mode of investment in the food processing sector. Venture capital assistance may follow the NAB Ventures by NABARD. A network of venture capital firms may also be established to connect those with new ideas/ innovations. They may also facilitate the financing and setting up of new ventures.

Revisit subsidy system

While there was a consensus on the relevance of subsidies in promoting entrepreneurs and new businesses, there is an urgent need to revisit the present system and link subsidies with production or loans

MEASURES TO ADDRESS INFRASTRUCTURE CONSTRAINTS

Perishable and semi-perishable products require well-planned supply mechanisms, and the establishment of proper infrastructure may be prioritized for the ease of doing business.

Land availability and accessibility

Land available with government pools including KINFRA parks and Agro parks will become insufficient as the entrepreneurship ecosystem flourishes. It is proposed to lease out government-owned land to agricultural industries. Barren lands available with the government should be identified and details must be shared in the land bank portal.

Coordinate support from central government schemes

Central government schemes like PMFME and SFURTI may be linked with state-level efforts for cluster development, capacity building, funding, branding, and marketing support. The PLI scheme of the central government incentivizes the manufacturing of four major food product segments, increasing export-oriented production, and may be drawn upon. Support food manufacturing entities with stipulated minimum sales. Provide a minimum stipulated investment for expanding processing capacity and overseas branding to promote 'Brand Kerala'.

Cold chain network associated with CFCs

Along with Common Facilitation Centres (CFCs), a cold chain network may be established at the district level. Likewise, it is proposed to promote refrigerated vehicles (Reefer vans) for each district to collect commodities from production clusters and transport them to a centralized storage facility. Further, cold storage facility at the production catchment areas is vital to reduce the wastage and post-harvest losses and to ensure year-round availability and an assured income for farmers.

Availability and accessibility of infrastructure for product quality assurance

Educational and R&D institutions with adequate laboratory facilities for chemical and microbiological analysis may be upgraded to meet the quality testing requirements of farmers, food processing units, and exporters. Priority may be given to the institutes in regions lacking accessible quality testing infrastructure. The government may consider setting up new quality control labs only in areas not covered by the existing network of infrastructure. Besides, the available QC infrastructure should be accredited by NABL (National Accreditation Board for Testing and Calibration Laboratories) to ensure national and international acceptance. The state may encourage research institutes/academic institutions/govt./private Q.C. Labs to get NABL accredited and may set apart a fund for up-gradation of under-equipped laboratories to meet NABL requirements.

MEASURES FOR ADDRESSING MARKETING AND EXPORT CONSTRAINTS

Exports of edible commodities have always been Kerala's strength. The exchange of high-value products including spices and other condiments is the backbone of Kerala's economy. As it is one of our core competencies, agro-exports especially by capturing the diaspora market should continue to remain one of the strong pillars in the future development of this sector.

Adoption of ICT

Globally, e-platforms have been very successfully implemented for a wide range of products. Suitable systems for logistics and supply chain management for perishable products under cold chains have also been successfully implemented through e-commerce platforms such as Kudumbashree bazaars. Cold chain-enabled common collection centres at the cluster level will ensure fair prices for the farmers. Apart from that, a 'neighbourhood purchase mode' may be strengthened to buy/sell local commodities through popular social media platforms. Wide adoption of ICT could be an effective way to ensure that the producers receive their fair share of the consumers' rupee.

Project and promote specialty products of the state

Kerala may identify an exclusive group of products made from GI-tagged produce from Kerala, e.g., Nendran banana, Mauritius pineapple (kannara variety), etc., and brand them as 'State Speciality Products'. A separate fund may be allotted for the promotion of such products, which will also indirectly help in promoting tourism. Further, agri-eco tourism initiatives can be developed near major farms located adjacent to tourist areas.

Globalize Kerala cuisine

Given the huge diaspora market, there is substantial demand for Kerala's traditional cuisine. Such ethnic food products form part of the higher end of value addition of agricultural products, which are their primary ingredients. Considerable exports of such ethnic products take place in the state. However, no organised effort has been undertaken to promote these exports, which may be addressed.

Establish guidelines for traceability

The concept of traceability must be popularized by the government, and detailed traceability guidelines may be formulated to help FPOs/FPCs, private agencies, and other stakeholders to implement the concept. The Agricultural Products Export Development Authority (APEDA) has developed traceability guidelines for many of its export grade products to comply with strict international norms. Likewise, the State may undertake a detailed study to develop its own 'Traceability Guidelines', possibly based on the system followed by APEDA.

Promote traceability at the grassroots level

Transforming Kerala's farmers to 'quality-sensitive farmers' or 'quality-compliant farmers' is a worthwhile goal for the state. The state may earmark funds to promote this concept of traceability, make use of its media to popularise and propagate traceability models, introduce awards and rewards as a means of recognizing traceability models, and position products with traceability as premium products at a premium price for distribution through the public distribution system for the APL category.

Promoting clusters and common brand name:

The possibility of building a common brand name may be explored. Products by Kudumbashree, being a part of the poverty alleviation program, may be marketed at a premium price by highlighting this aspect under fair trade practices.

MEASURES TO ADDRESS INFORMATION AND KNOWLEDGE CONSTRAINTS

Training is critical to the technical up-gradation and formalization of micro food processing enterprises. Capacity-building initiatives should be taken and should not be limited to technology, but be extended to branding, marketing, and financial management. NSQF-compliant courses are to be conducted in food safety, food quality, food processing, etc. to avail national-level recognition.

The infrastructure available at research institutions can be harnessed for the initiative. Priority should be given to start-ups who have completed such courses

Industry-academia interface

Organizations like KAU and NIT could collaborate to create technological solutions for agribusinesses on a royalty basis. The institutes need to work with entrepreneurs to upgrade the technology continuously as per the changing needs of the market. This model can help in the value addition of agricultural produce and the mechanization of farming. In this context, the T Hub model may be examined and emulated **(See box 2)**

BOX 2: THE T-HUB MODEL

T-Hub, centred at Hyderabad is a unique public-private partnership among the government of Telangana, three academic institutes, namely, IIIT-H, ISB, and National Law University, Nalsar, and key private-sector leaders. It has emerged as India's largest incubator for start-ups and hosts experience centres and labs to spearhead innovation. Companies can set up their experience centres to showcase their work on new age technologies and for start-ups to explore them.

Enhancing the Advisory support

Banks that cater to MSMEs are typically understaffed, with one officer in charge of multiple districts. Measures may be taken to appoint individual MSME officers for each district to ensure proper guidance, orientation, and support.

Technology availability for novel and healthy food

Research and innovation may be streamlined toward the production of novel healthy foods. A thrust may be given to healthy foods that provide nutrition and energy with the least health risk concerns. Products such as ready-to-cook and ready-to-eat products, gluten-free, fat-free, salt-free, sugar-free products, etc. offer much potential, and technologies for their processing may be developed.

Reorienting the teaching of agricultural courses

The syllabus followed in courses under Kerala Agricultural University may be reoriented to ensure that the university emerges as a good starting point for agripreneurs.

Linking FPOs with IT Companies

The adoption of ICT could resolve many of the issues confronted by farmers. Kerala's leading IT companies may be encouraged to associate with select FPOs, and their CSR funds may be utilized gainfully.

Exploring innovation without research:

As farmers are typically rich in experience-based knowledge, which could be as useful as science-based knowledge, there is a need for provisioning support for recording and utilizing this knowledge. This could be accomplished under the initiative of LSGIs as in China.

Value chains for indigenous foods

Kerala-based indigenous food products are in high demand. The ingredient formulations of such products may be made accessible to farmers and entrepreneurs, and value chains for such crops may be developed. Besides, the value chains for GI-tagged products from Kerala may be developed and installed.

Promotion of innovative and high-value products –

A strategy to place the indigenous product in the national and international market is important, for which requisite measures may be taken up. Likewise, high-value products based on ethnic or indigenous ingredients may be promoted for their health benefits.

4. TOWARDS A QUANTITATIVE FRAMEWORK FOR REGULAR ASSESSMENT OF EASE OF ENTREPRENEURSHIP

Considering the immense potential of a sound agripreneur base for increasing value addition in agriculture and agro-based sectors, the Committee makes the case for the periodic monitoring and evaluation of the progress in this direction both at the district and state levels. The district-level monitoring and evaluation could be coordinated by LSGIs. However, the available database is grossly inadequate to evolve a broad quantitative framework that is essential for this purpose. Evolving a precise quantitative framework for regular assessment, however, is beyond the scope of this Committee. Hence, we present the broad contours of a plausible quantitative framework which we call the Kerala Agripreneurship Development Scoreboard (KADS), and the task of its preparation may be entrusted to a competent organisation.

1. The Kerala Agripreneurship Scoreboard could be articulated and constructed at the State and the district level.
2. The Scoreboard shall be simple, to begin with, with only two pillars; one representing Tasks (Efforts) and the second one indicating the outcomes.
3. Each pillar could have several indicators, namely, the number of applications received, number of applications sanctioned, time taken, number and extent of loan applications, number/amount of loans sanctioned, etc. The outcome pillar could have the number of units that became operational, the total investment made, the total number of persons employed, the value of output, export earning, etc., as indicators.
4. Later on, the scoreboard may be made more comprehensive by incorporating more pillars e.g., ICT application and the relevant indicators therein. Further, the inputs from the monthly review and monitoring at the district level undertaken at the instance of LSGIs will also be a major source of indicators
5. Ultimately the scoreboard shall also incorporate the high frequency that is generated if the district level offices also go online with provisions for two-way communication, online ratings, etc.

Annexure I

Schemes By State And Central Governments and Other Agencies that may be Utilized for Promoting Entrepreneurship in Agriculture

Industries Department, Government of Kerala

- Identify entrepreneurs and motivate them.
- Provide project ideas/project profiles/project feasibility advice/business
- Mentoring and Networking.
- Give appropriate technology sourcing/knowhow/evaluation/tie-ups with national and international partners.
- Provide information on the availability of infrastructure/market/machinery details Suppliers/raw material sources & dealers.
- Conduct Seminars/EDPs
- Act in liaison with financial institutions/other departments/agencies.

- Prepare and forward Technical Feasibility Reports to Financial Institutions for Loan.
- Aid in getting necessary licenses/clearances/NOC from statutory bodies through SWCB
- Provide handholding services to the unit to start operation and meet statutory requirements.
- Extend financial assistance to the unit under the different schemes
- Continued support and assist in the scaling-up of existing units
- Organize/assist Entrepreneurship Development Clubs in Schools/Colleges
- Identify and revive sick units under Sick Unit Revival Programme
- Assist formation of Industrial Clusters and cooperative societies.
- Implement other department/Government of India schemes.
- Care for the environment while promoting industry.
- Acquire and develop land for entrepreneurs by establishing
- Industrial Development Plots/Areas/MIEs.

Schemes Implemented through the Directorate of Industries & Commerce and District Industries Centres

1. Entrepreneur Support Scheme

- Extend support to micro, small, and medium enterprises
- Support may be given in three Stages
  1st stage – Start-up Support
  2nd stage - Investment Support
  3rd stage - Technology Support
- Start-up support is provided for enterprises before the commencement of commercial production.
- Investment Support after the commencement of commercial production.
- Technology Support after commencing production on acquiring new technology.
- Financial Support up to 15–45% of the fixed capital investment, limited to 30 lakhs
- Agro-based and food processing industries are given priority and 10% additional support

2. Revival and Rehabilitation scheme for Defunct MSMEs and Cashew processing

The scheme envisages supporting defunct MSME units including cashew processing units through assistance in the form of capital grants and working capital incentives. Financial assistance under the scheme is provided for the following components

- Building Renovation – 25 % of Total revival Project Cost limited to Rs. 2 Lakhs
- Plant & Machinery and Electrification – 40% of Total revival Project Cost limited to 8 Lakhs
- Working Capital (Margin) – 50% margin of working capital loan approved by a financial institution subject to
  Assistance limited to Rs 2 lakhs for defunct MSMEs
  Assistance limited to Rs 5 lakhs for Cashew units

Maximum limit is Rs 12 lakhs for defunct MSMEs per unit
Maximum limit is Rs 15 lakhs for defunct Cashew processing per unit.

3. PM formalization of micro food processing enterprises (PM FME)

This scheme is a centrally sponsored scheme to address the challenges faced by the micro food processing enterprises and to tap the potential of groups and cooperatives in supporting the up gradation and formalization of these enterprises.

- The expenditure under the scheme would be shared in a 60:40 ratio between Central and State Governments.
- Industries department is the nodal department and K-BIP is the nodal agency
- Kerala Agricultural University is the state level technical institution
- The Scheme adopts the One District One Product (ODOP) approach

Support provided includes

- For Individual Micro Enterprises - Credit-linked capital subsidy @35% of the eligible fixed capital with a maximum ceiling of Rs.10.0 lakh per unit
- For Farmer Producer Organizations (FPOs)/Producer Cooperatives - Credit linked Grant @35% of the fixed capital
- For Self Help Groups (SHGs) – a) Seed capital @ Rs40,000/- per member of SHG for working capital and purchase of small tools b) Credit linked grant @35% with the maximum amount being Rs 10 lakh to individual SHG member and Support for capital investment at the federation of SHG level
- Support for Common Infrastructure - Credit linked grant would be available @ 35% for SHGs/FPOs/Co-operatives, any Government agency, or private enterprises.
- Branding and Marketing Support – Support would be limited to 50% of the total expenditure for SHGs/FPOs/Co-operatives or an SPV of micro food processing enterprises
- Capacity Building & Research - Support to National Institutions, Support to State Level technical Institutions, Training support to individuals/groups, and Handholding Support

4. Agro Incubation for Sustainable Entrepreneurship- ARISE

- Subhiksha Keralam is an initiative of the Government of Kerala for achieving self-sufficiency in food production across the state.
- As part of that, the Department of Industries and Commerce envisages promoting entrepreneurship in Agro-food processing industry and Agro-business through an innovative Industry Incubation Program -ARISE (Agro Incubation for Sustainable Entrepreneurship).
- The objective of this program is to create new initiatives, entrepreneurs, and value-added products in the Agro food industry.
- This will help the aspiring or existing entrepreneurs to start or expand their business in Agriculture sector.
- The program will be coordinated by the Kerala Institute of Entrepreneurship Development (KIED) under the Department of Industries and Commerce.

- Inspiration Stage
  - o Registration to the program for prospective/existing entrepreneurs who are interested in the Agro-food business sector
  - o Will sensitize entrepreneurs on Agro-food business sector possibilities, technologies, value-added products, success stories, and motivation
- Immersion Stage
  - o Will give practical exposure to the technical and commercial aspects of the business through partner research organization CFC (Common facility centre)
  - o Help to understand technology, machinery, production, marketing, etc.
- Assessment Stage
  - o Opportunity for the entrepreneur to conduct small scale test production using the common facility centres (CFC)
  - o Test various business models, products, markets etc.
  - o Incubation and infrastructure support
  - o Training, Mentoring, and Support services
- Establishing Stage
  - o Establishment or full-fledged enterprise
  - o Link with Govt programs and schemes for support and handholding
  - o Connect the Entrepreneur with District Industries Centre (DIC)

SCHEMES OF CENTRAL GOVERNMENT

Government of India Schemes for Agriculture Entrepreneurship:

- Government of India Schemes for Chemicals and Fertilizers Entrepreneur
- Government of India Schemes for Commerce and Industry.
- Government of India Schemes for Food Processing Business and Entrepreneurship.
- Schemes for Commerce and Industry.
- Central Government Entrepreneur Schemes for Tribal Affairs.
- Government of India Schemes for Urban Development.
- Scheme of National Urban Information System (NUIS) Financial Aid for urban local bodies.
- North-Eastern Region Urban Development Programed (NERUDP) Financial assistance to states.
- Pooled Finance Development Fund Central Government of India Sponsored Scheme.
- Prime Minister's Rural Development Fellows (PMRDF)- Government of India.

List of Government-sponsored Subsidy Schemes under NABARD

- Government Sponsored Subsidy Schemes in NABARD.
- Centrally Sponsored Scheme – Subsidy for Organic Farming and Production of Bio-fertilizers
- Centrally Sponsored Scheme for Setting up of Rural Godowns and Storage Infrastructure
- Centrally Sponsored Scheme for Agricultural and Marketing Infrastructure Up-gradation

- Capital Investment Subsidy Scheme for Setting up Of Agri-clinics and Agribusiness Centers.
- Warehouse Infrastructure Fund for Construction of Cold Storages, Warehouses, Silos, and other Cold Chain Infrastructure.
- Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM)
- Scheme for promotion of Women SHGs (WSHGs) in backward & LWE districts of India
- Capital Subsidy Scheme for Technology Up-gradation of Micro & Small Enterprises
- Long Term Irrigation Fund for Farmers to Build Irrigation Canals
- National Livestock Mission for the rearing of Pigs, Poultry, Buffalos, and Rabbits.
- Funding for Setting up Food Processing Units and Food Parks
- Capital Subsidy-cum-Refinance Scheme for Installation of Solar Off-grid
- GoI Scheme – Dairy Entrepreneurship Development Scheme

Related Schemes of other Agencies:

- Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
- Schemes of the National Horticulture Board (NHB) & National Horticulture Mission (NHM)
- Small Farmer Agri-Business Consortium (SFAC) assistance with cold storage
- Agricultural and Processed Food Products Export Development Authority (APEDA) assistance for cold chain.
- Development Commissioner Micro, Small and Medium Enterprises (MSME) Food Processing Unit
- Venture Capital by Small Farmer Agri-Business Consortium (SFAC)
- Venture Capital by SIDBI Venture Capital Ltd. (SVLC) Funds

SMALL FARMERS AGRIBUSINESS CONSORTIUM (SFAC)

Support to Agri Start-ups and Agribusiness Incubators 2020 – 21

Small Farmers Agribusiness Consortium (SFAC) Kerala is an organization under the Department of Agriculture Development and Farmer's Welfare working for the promotion of agribusiness to the benefit of farmers and entrepreneurs by providing necessary linkages for the establishment and running of successful agribusiness.

SFAC has been entrusted with the implementation of schemes for the promotion of value addition in agriculture in the state in the MSME Sector, promotion of Farmer Producer Organizations, and Support to Agri startups and agribusiness incubators.

The government of Kerala has made policy interventions to uplift the start-up ecosystems by constituting Kerala Start-up Mission (KSUM). Department of Agricultural Development and Farmers' Welfare intends to collaborate with KSUM to render innovative and practical solutions to several challenges faced by the stakeholders along the agricultural value chain.

Objectives of the Scheme

- To foster innovations in agriculture by promoting ideas and developing them into scalable and marketable business models

- To provide incubation, seed funding, and business support services to entrepreneurs who bring disruptive technologies and fresh ideas to agriculture.
- To promote convergence of applications of multi-disciplinary modern technologies to Agriculture and development of business models for enhancing crop production, productivity, and profitability of farming.
- To attract youth to farming by providing high precision technologies for high productivity and better price realization by modern post-harvest handling, processing, packaging, and marketing by developing agri-business start-ups.
- To provide a gig economy in agriculture by simplifying tasks and timings and providing appropriate technology and farm machinery so that everyone from school students to highly skilled farm technicians can participate and face the existing shortage of labour in Agriculture
- To attract cutting-edge technologies to agriculture and channel more investment opportunities in Agriculture.
- To modernize the agriculture sector by utilizing modern sophisticated technologies including e-commerce platforms, IoT (Internet of Things), big data, and advanced analytics technology.
- To tap the potential of agripreneurship among the youth in Kerala to generate employment and income generation, particularly in the rural areas.
- To explore models that will help the stakeholders to formulate new solutions for competitively growing crops by mitigating risks.
- To impart necessary training/mentoring activities to entrepreneurs in collaboration with KSUM, Kerala Agricultural University, and other International and National Institutes.
- To channel technically competent and futuristic ideas for the agricultural development of kerala.

Focus Areas and Technology Interventions

The focus areas of the program include

- Agri Inputs
- Cultivation and Crop Care Techniques and Technologies for Safe to Eat and Organic Food Production. Pest, Disease and Nutrient Management Technologies. Extension Technologies and New Applications
- Green House Technology and Precision Farming use of drones and Robotics
- New farming methods like vertical farming, hydroponics, aeroponics, and Urban Farming
- Advanced Irrigation Technology and Water Management
- Farm Mechanization, Precision Farming
- Better Harvesting Technologies and Applications for Kerala based Crops
- Post Harvesting Handling Technology, Food Processing, Value Addition, and Packaging
- Food Traceability, e-Commerce Platform and Food Safety
- Warehouse and Supply Chain Management
- ICT in Agriculture and e-platforms

- Farmer Services Centre and Financing Options
- Integrated and Mixed Farm Enterprises including Dairy, Animal Husbandry, and Fisheries.
- Biodiversity Conservation and Introduction of Exotic Crops and Varieties for Value addition and processing
- Innovative, technically Competent, and futuristic ideas for Agricultural Development.
- Simplifying Farm Operations by Technology Interventions and development of a Platform for Gig economy Development for Agricultural Operations specifically suited for Kerala.
- Waste Management Innovations
- E-Mobility and Environmentally sustainable solutions for farming
- Eco-development technologies like Miyawaki Forest

New and emerging smart technology applications to be implemented with the help of start-ups for a paradigm shift in agricultural development in Kerala

- Blockchain for Agriculture
- Big Data Analytics
- Artificial Intelligence
- Intelligent Chat Bots
- Augmented Reality
- Supply Chain Management linked with traceability for Marketing and Export
- ERP Solutions-
- Virtual Reality
- Internet of Things and Farm Automation
- Robotics in Agriculture
- Precision Farming
- Use of drones
- Bug Sensors & IoT measuring pest population in the field for pest control
- Machine Learning

Target Beneficiaries

Individuals, SHGs, FPOs, co-operative and charitable societies, companies, women groups, students or student groups, organizations from Kerala, government institutions and public sector undertakings, etc in case of technology development for specific purposes if successful technology ideas from Kerala are not available, based on the urgency of the solution, solutions from the national or international levels can be accepted. NRKs and NRIs can also provide solutions.

Scheme Components

Any agribusiness entrepreneur from Kerala is eligible and preference will be given to those who have registered under KSUM. Agri start-ups with a valid business plan can apply under the scheme. Detailed norms for implementation of the following components will be decided by the managing committee

Financial Components under the scheme

Seed Fund for Start-ups. Start-ups with an innovative idea for a product or service can apply for Seed Funding under the scheme. A seed fund (non-refundable grant) will empower the start-up to develop a scalable business model in the agricultural sector by offering a customer-centric product or services. Selected start-ups will be offered a seed fund of 1 Lakh to 10 Lakhs Rupees limited to 50 % of total Cost as a credit-linked back-ended subsidy.

Based on the valuation and feasibility report of the business plan by the technical specialist in the field concerned of product or service, 50% of the amount of approved business plan limited to a maximum of 10 lakhs given to start-ups as a back-ended subsidy.

Seed funds can be used to develop innovative agricultural products, services, technologies, sustainable Kerala-based replicable agribusiness models, developing solutions for problems faced by farmers, and to solve challenges in the agricultural sector or for any innovative or special activities approved by the managing committee of the Scheme. Services of reputed national or international institutions, incubators, accelerators, research centres, technology developers, etc can be used for the benefit of selected start-ups and 50% of costs including patent/trademark registration approved by the technical committee can be reimbursed as a back-ended subsidy.

Challenges & Hackathons. SFAC Kerala will organize Challenges and Hackathons for different categories: school students, college students, women, FPOs and individuals, companies, and different groups. Selected ideas will be given prizes and showcased on innovation demo days and an innovation grant/seed fund will be given if selected for further development based on the actual potential of the idea and the decisions of the technical committee. SFAC Kerala will finalize the themes, rules, and regulations for challenges and hackathons.

Examples of Challenges

Appropriate Harvesting Technologies in Coconut, Areca nut, Jack fruit, Mango, Banana, and other selected crops.

Minimal Processing Machinery (Cutting and separating jack fruit and other agricultural products for initial processing)

Examples of Hackathons

Mobile and web-based e-commerce software platforms for agricultural commodities, farm produce, processed products, etc with the integration of logistics arrangements, latest e-payment gateways including UPI arrangements, and innovative business models to ensure better prices to farmers.

Mobile and Web-based platforms for electronic or mobile farm operations and automation of farm or field.

Innovation Demo Days/Events. Selected Innovations will be showcased in different events for encouraging innovators and popularize their applications. This will create awareness and faster adoption of technology to increase efficiency and sustainability. This will help in building a vibrant start-up culture and a cohesive ecosystem to address the fragmented ways of current working in this field, shaping up the cause of Agri-Tech in the State. Eventually,

the program will act as a central pillar to provide the knowledge-base, tools & techniques, acting as a consortium and common body for the agri-innovators to connect with the Industry, Govt/Semi-Govt Institutions, Investors/Banks, other start-ups, and many entities connected with the Agriculture Technologies across the country.

Innovation Grant. Winners of challenges and hackathons will be given an innovation grant @ Rs 1 Lakh per applicant for developing and fine-tuning the prototype of a product or service based on the recommendations of the Technical Committee of the Scheme.

Agri Start-up Portal. An agri start-up portal will be developed along with the Karshika Vivara Sanketham portal and call centre to disseminate information about the Agri Start-up Ecosystem in Kerala and collect ideas/challenges from farmers and the public for product/solution development and conduct various challenges and competitions. This will provide a vibrant, innovative ecosystem for agribusiness start-ups to flourish. Solution development in a gamification model to be encouraged with a gig economy model service benefitting everyone in society and simplification of farming challenges.

Agri Incubation Support Services. Selected Startups to be given product/service development support by offering the facility at Agri incubators/other incubators in the state or renowned national and international institutes in India and to test market the product/service in selected markets. RKVY RAFTAAR Incubator in KAU, SFAC Kerala Incubator in CTCRI and other incubators, accelerators, and research institutions will be used for assisting the start-up. An amount up to Rs 2 Lakhs will be reimbursed to start-ups including the full cost of incubator fees and cost of inputs. In addition to this, 50 % cost of test marketing in one market limited to Rs 1 Lakh will be reimbursed. The cost of patent/copyright registration can also be included in this maximum eligible subsidy of Rs 3 Lakhs. The direct subsidy will be credited to the bank account of the Start-up/Incubator.

- **Incubator service**
  A maximum amount of up to 2 lakhs will be reimbursed to start-ups including the full cost of the incubator fee and cost of inputs. The bills and vouchers that substantiate the number of inputs handled in the incubators and service charges remitted have to be certified by the head of the department or service provider of the incubator concerned.

- **Test marketing**
  A certificate from the head of the department/or head of the incubator service provider is needed for getting the eligible assistance for the test marketing of the product concerned.

Non-Financial Components

- Mentoring from Agricultural experts to support product development.
- Creation of a virtual cadre in the department for mentoring agribusiness start-ups in districts by including ADA (Marketing) and interested officers or officers having Management/Agribusiness Education from districts. A total of 50 Master Trainers will be trained Online/Offline with the help of KSUM, IIM, Incubators, etc for Virtual Cadre for giving mentoring and other support to start-ups. Support of Mentors and

Consultants to be made available to Start-ups
- Provision of requisite knowledge, regulatory and advisory services through professionals
- Technical support for Development of a Proof of Concept to accelerate growth
- Purposeful networking for business development
- Business model development Support from Professionals and Institutions
- Access to office spaces/Virtual Offices at KSUM/Agencies under Department for business activities. Video conferencing and other facilities for start-up by sharing existing facilities in the Department free of cost or at subsidized rates.
- Conference/Exhibition facilities of Department/KSUM and Other Government agencies free of cost or at subsidized rates
- Product Showcase or free publicity through Department/SFAC/Start-up Portal or Other Websites
- Marketing Support & Shop Creation Facility through e-commerce platforms of Department and other popular platforms like Amazon, Jiomart, etc.
- Free or Subsidized Participation in B to B Meets organized by Department and Governmental Agencies.
- Internship at Departmental Institutions and Department assisted MSMEs.
- Information Centre Support at SFAC
- Information on single-window clearance of GOK
- Promotional Support to Start-up
- Provision of a repository of Model Business Plans/Projects through Start-up Portal with the help of NABARD, KSUM, IIM, Incubators, and other National and International Institutions
- Online/Offline Training for start-ups on various subjects with the help of KSUM, SFAC, SAMETI, IIM, Incubators, and other National and International Institutions.
- Co-ordination with, KSUM, Start-up India, TIE, CII, Management Associations, and Start-up Promotional Agencies
- Credit Support through NABARD, SLBC, KSUM, Venture Capital, Angel Investors, and other Agencies and Institutions.
- Joint Programmes with other business promoting Agencies.
- Innovation and Agribusiness Clubs in Agricultural University and Other Colleges and Schools.
- Leadership Development Opportunities for Start-ups
- Mentoring by NRKs and NRIs to emerging start-ups.
- Preparation of District wise Directory of Agribusiness start-ups
- Bringing together all stakeholders in the agribusiness spectrum in Kerala under a single umbrella and facilitation and promotion of start-ups.

Implementation

SFAC Kerala will be the implementing Agency of the scheme.

Managing Committee. A managing Committee Chaired by the Director, Department of Agriculture Development and Farmers' Welfare with representatives from Kerala Start-up Mission, Department of Industries, KAU, K-DISC, NIIST, IISR, CPCRI, Incubation

Centre –CTCRI, Incubation Centre –KAU, NABARD, KSIDC, etc will be formed. Managing Director, SFAC will be the Convener of the Committee. Managing Committee will decide on the implementation of the Program and sanction assistance and support to start-ups based on the recommendation of the Technical Committee.

Technical Committee/Business Plan Appraisal Committee. This committee will be chaired by the Managing Director, SFAC Kerala with selected Technical Persons and Representatives of Kerala Start-up Mission. This includes specialists from Kerala IT Mission, State e-governance team, Kerala start-up mission, Department of Industries, Agricultural Engineering officials of State Agricultural Department, KAU, NIIST, IISR, CPCRI, Incubation centre CTCRI, Incubation centre KAU, etc This committee will meet to evaluate, select and monitor the progress of start-ups in the program.

This committee will meet in a need-based manner and will be responsible for

- Identifying problem statements and selecting business plans which could address various pain points identified by the Department
- Monitoring the projects and providing necessary knowledge support
- Creating a mentor pool with officers from all relevant Agri Institutes in Kerala
- Arriving at the cost of technology or service or business model to be developed and funding from the scheme.
- Identifying problems and selecting business plans which could address various pain points identified by the Department of Agriculture.
- Approval for assistance by technical expert concerned
- Monitoring the projects and providing necessary knowledge support
- Creating a mentor pool with officers from all relevant Agri institutes in Kerala.
- In the case of emerging technologies, suitable specialists will be deputed to evaluate the feasibility and cost aspects.
- Any other challenges identified by SFAC officials.

Process of Implementation. The steps are as follows

1) Receiving online application and verification by SFAC
2) Online interview and business plan presentation by the applicant
3) Selection of applicants by the technical committee, approval by the managing committee, and issue of primary approval letter
4) Inspection of facility/evaluation of start-up activity
5) Approval by the technical committee and managing committee
6) Release of funds by SFAC to beneficiaries

In case of emerging technology areas where licensing or regulations or sanctions is yet to be initiated by appropriate authority Managing Committee can sanction funding for technology development/application in an experimental or pilot project model considering the potential of technology and its utility to farmers.

Terms and conditions. The feasibility study report and valuation of the business plan are to be done by the concerned subject matter specialist for rendering assistance.

Disbursement and Financial Assistance. The following conditions are applicable.

1. The documents submitted shall be scrutinized in the SFAC
2. In case of any discrepancy, clarification shall be sought from the applicant
3. The final claim document complete in all respects shall be processed for approval.
4. The eligible assistance for seed funding to start-ups will be released to the subsidy reserve fund to the bank and kept in the suspense account for 3 years.
5. The bank should ensure interest relief is provided to the entrepreneurs for the amount deposited in the suspense account.
6. The amount kept in the reserve fund shall be adjusted to the loan account of the entrepreneur after a minimum period of three years or at the time of closure of the loan.
7. The enterprise should function for at least 5 years. The field verification report of the enterprise (product) attested by the agricultural officer concerned should be submitted to SFAC on a regular annual basis.
8. The present market rate of Horticorp or any Government markets will be considered for the assistance of inputs/raw materials purchased for incubator support.

Procedure for submission of application and document requirement

1. The applicant must apply the prescribed application form online given on the SFAC website www.SFACkerala.org for seeking financial assistance. All documents required as mentioned on the website should be attached with the printed application form.
2. The cost of machinery or product envisaged should be supported by original or attested copies of invoices (if originals are submitted in banks)

General Requirements

1. The plan and pricing of the products or services should be realistic.
2. The name should be marked on the product or displayed prominently with the words "Established under assistance from SFAC".
3. Products and services should be based on economically feasible technologies.
4. Should be a novel, innovative, technology-based product.
5. Beneficiaries of the MSME scheme will not eligible for subsidies under start-ups.
6. The developed model should function for at least 5 years.

Process of Implementation

1. Receiving online application and verification by SFAC
2. Online interview and Business plan presentation by the applicant
3. Selection of applicants in technical committee and technical scrutiny by concerned subject matter specialist.
4. Feasibility and valuation report from concerned subject matter specialists in respective fields.
5. Issue of the primary approval letter.
6. Inspection of faculty/Evaluation
7. Approval and appraisal by the technical committee
8. Approval by Managing Committee

9. Release of funds by SFAC to beneficiaries.
10. When purchases are to be made stock purchase rules should be observed

Expected Outcomes
1. Attracting innovative technologies in agriculture
2. Attracting the best brains and youth to Agriculture
3. Value addition and enhancing profitability
4. Increasing production, productivity, and profitability of farming
5. Development of gig economy for agricultural development.
6. Converting challenges in agriculture into profitable business opportunities
7. Fostering the start-up ecosystem in agriculture
8. Providing more job opportunities in agriculture
9. Skill up-gradation and increased mechanization in agriculture
10. Solving labour shortage
11. Increasing GDP contribution from agriculture in the state economy
12. Returning to the golden era of farming in Kerala

AGRI-BUSINESS INCUBATOR FACILITY AT KAU, THRISSUR

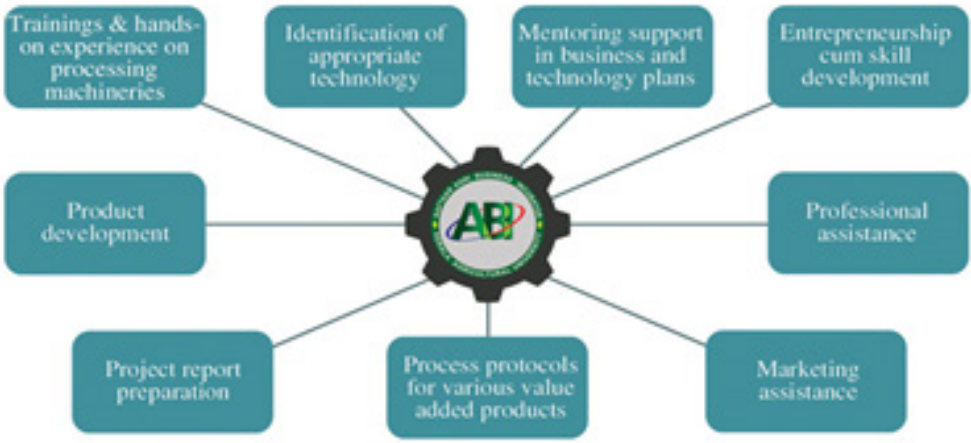
Kerala Agricultural University (KAU) envisages building a comprehensive support system for funding provision (through fellowship and research grant), technical and business mentoring, exposure to incubation models, and orientation to entrepreneurial culture in the agriculture and allied sector of the state through its agri-business incubator (ABI) at College of Agriculture, Vellanikkara. The ABI at KAU was established in 2014. The centre hosts a supporting system through numerous schemes. Farmers who are reluctant to invest in underutilized or non-commercial sectors can use the entrepreneurship-supportive programs of the centre for earning a consistent or extra income.

Agribusiness Incubators, which facilitate enterprise formation in the agricultural sector, must operate differently from other types of incubators because the functions that agribusiness incubators execute are more complex and the risks that they manage are more severe. Moreover, the mission of business incubation in the agricultural space is broader. The points of leverage are both larger in number and more complex in their execution, and the risk aversion of participants in the sector is generally higher than in other sectors. Subsistence or near subsistence farmers might be expected to be highly risk-averse.

KAU-ABI acts as a forum or venue to bring entrepreneurs together for conducting a collective and collaborative inquiry to address business, marketing problems, and opportunities. This would strengthen the skills of producers to produce more profitably and initiate enterprises. KAU-ABI mentors advanced research in agriculture and allied areas, arranges experiential learning sessions on the identification of viable business ideas, transforming business ideas into business models, analysis of feasibility and profitability, market surveys, principles of branding, labelling and packaging, standards and protocols for quality assurance, credit facilities, technology solutions, facilitating institutions, accounting principles, human and financial management, etc. to provide entrepreneurs with a comprehensive orientation on

the real practice of entrepreneurship. KAU ABI emphasizes the development and promotion of green technologies that leave less carbon footprint to fulfill the mission of food safety allied with nutritional security.

KAU-ABI is also in close collaboration with the other major incubators in agriculture and allied sectors in the state to dynamically act towards the upliftment of the farming community, namely, ICAR-CIFT, CSIR-NIIST, ICAR-CTCRI, ICAR-IISR, ICAR-CPCRI, etc. KAU-ABI is in the process of associating with other institutions/organizations with similar mandates, such as MSME, NABARD, KSUM, MSME Development Institute, National Institute for Entrepreneurship and Small Business Development, District Industrial Centre, nationalized banks, NGOs, rural banks like Gramin Bank, small sector banks such as ESAF, IIT Kanpur, IIM Kozhikode, NIFTEM (former IIFPT) Thanjavur, NIT Calicut, Cochin University of Science and Technology, John Mathai Centre of Calicut University, KILA, etc. for guidance in content development, administration, and evaluation of incubator. The role of KAU-ABI is detailed in the image below.



The ABI focuses on major areas such as

- Agri inputs
- Food processing
- Agricultural supply chain
- Precision farming
- Agri social enterprises
- Agri clinics & farm health services
- Farm mechanization
- IoT, ICT and AI in agriculture
- Organic farming
- Agricultural biotechnology
- Natural resource management

- Waste to wealth, secondary agriculture

The RKVY RAFTAAR scheme under KAU promotes innovation, entrepreneurship, and business creation in the agriculture and allied sector and facilitates the evolution of the agri-start-up ecosystem. KAU RABI provides mentoring support in business and technology plans, entrepreneurship-cum-skill development, identification of appropriate technology, hands-on training programs, product development, funding support, and professional assistance to make the venture successful. KAU-RABI also aims to create employment opportunities for youth in agriculture and attracts more young people to agriculture and allied sectors.

To achieve the objectives of the program, KAU-RABI has launched two-phase incubation programs. Pre-seed stage Agripreneurship Orientation Programme, KAU RAISE - Realizing and Augmenting Innovations for Start-up Enterprises, which handles the stages from ideation to prototype development, and Seed stage Start-up Incubation Programme KAU PACE - Promotion of Agriculture through Commercialization and Entrepreneurship, which aids early-stage agri-start-ups in product scale-up, commercial launching, and funding support.

RAISE, a launchpad for agripreneurship orientation is an initiative of the KAU Agri-Business Incubator powered by the RKVY-RAFTAAR Scheme of the Ministry of Agriculture and Farmer's Welfare, Government of India. It is a uniquely designed incubation program specifically for idea-stage Agripreneurs, intending to augment ideas in the field of agriculture to entrepreneurship. The salient features of the program are:

- 'Proof of concept' and 'Promising & Innovative ideas' would get access to the research facilities, technical experts, patent filing, and extensive mentoring support. This will facilitate to development and converting a business idea into a feasible product prototype that can be scaled up.
- An eight-week online training program has been structured to support start-ups in their journey of entrepreneurship.
- Selected start-ups will be linked to other successful start-ups
- Grant-in-aid of up to Rs. 5 lakhs to the final selected entrepreneurs for prototype development

PACE, a launchpad for agri start-ups is an initiative of the KAU Agribusiness incubator powered by the RKVY-RAFTAAR scheme of the Ministry of Agriculture and Farmer's Welfare, Government of India. It is a uniquely designed incubation program specifically for early-stage agri start-ups, to promote and commercialize innovation and entrepreneurship in the field of agribusiness and allied sectors. The salient features of the program are:

- Validation of products/services of start-ups
- Start-ups will be mentored by experts on how to commercially launch their product or service and sustain and promote growth in marketplaces.
- A grant-in-aid up to Rs.25 Lacs will be awarded to the start-up for commercializing their product/service.
- Also, the extensive Marketing & Mentoring support by industry experts will be

continued, till the time start-ups get graduated from our incubation program.

The training conducted under the programs would sharpen the knowledge, skills, and attitude of the producers with the growing market.

Grant-in-aid of Rs. 195.5 Lakhs for 16 start-ups incubated under KAU RABI 2019 was sanctioned in the financial year 2020-21, including 172 Lakhs for seed-stage start-ups and 23.5 Lakhs for pre-seed stage start-ups. Utilizing the capital expenditure, 8485 sq. ft. incubation space was renovated under the scheme. KAU- RABI organizes a two-month training programme for a cohort of 40 budding agri-innovators selected from Kerala and the neighbouring states.

KAU-ABI provided technical and entrepreneurial support for agripreneurs and farmers during the pandemic through webinars, virtual exhibits, and online meets. Apart from two months, the online training programme centre has organized hands-on training programmes for potential food processing entrepreneurs and various stakeholders of the food supply chain. The centre has also transferred four technologies and supported twelve other business consultancies to start-ups, including the transfer of business plans. KAU-RABI supports incubation by providing a platform to showcase their innovations in 'VAIGA 2021'. The incubates have been recognized for their achievement by other agencies as given in the table.

The Centre for Advanced Agricultural Science & Technology (CAAST) has been established by NAHEP at various centres at Agricultural Universities with a motto of capacity building among students for entrepreneurship development, facilitating the establishment of coconut-based industrial units on tie-up with farmer collectives, promoting industry–research linkage for addressing the research gaps through postgraduate and doctoral research programmes and market research and analysis.

Through the NAHEP-CAAST project on 'Knowledge and Skill Development on Coconut Based Secondary Agriculture', financial and technical support have been extended to coconut farmers by KAU ABI. Technologies have been developed and transferred under the scheme.

ASPIRE (A Scheme for Promotion of Innovation, Rural Industries, and Entrepreneurship) is an initiative of the Ministry of Micro, Small and Medium Enterprises (MSME), Govt of India, established to support the start-ups in the rural areas for innovation in the agro-industry. 'Livelihood Business Incubator (LBI) provides knowledge to the entrepreneurs for starting up their businesses and becoming job providers. The scheme has been established under KAU ABI to enhance the rural entrepreneurs especially women and marginalized communities, to focus on the economic aspects of women's empowerment, to uplift marginalized communities, to impart skills in business management to develop and establish viable enterprises in agriculture and allied sectors.

PM Formalization of Micro Food Processing Enterprise (PM FME) is a centrally sponsored scheme that is designed to address the challenges faced by the microenterprises and to tap the potential of groups and cooperatives in supporting the up-gradation and formalization of these enterprises. The scheme looks into intensive land holding support for skill training,

entrepreneurship, technology, credit, and marketing across the value chain, with the active participation of the state government for better outreach. One District One Product (ODOP) approach is a part of the PMFME scheme, adopted to reap the benefit of scale in terms of procurement of inputs, availing common services, and marketing of products. The state government has identified a food product for each district, based on the factors such as production, market potential, etc.

This scheme also constitutes a 'Common Incubation Facility (CIF)' established at KAU ABI Thrissur. Through this scheme, micro-entrepreneurs/SHGs/FPOs/Cooperatives and groups can utilize this incubation centre to manufacture their products without capital investment. In addition, this incubation centre will be utilized to provide training and skill up-gradation support to the beneficiaries. The raw materials will be converted into a finished product by utilizing the primary/secondary/tertiary processing and auxiliary units that will be set up at this incubation centre. This facility aids in overcoming the financial burdens on capital investment of start-ups and also supports the existing entrepreneurs to venture into product extension lines.

Annexure-II

Short, Medium, and Long Term Measures to Improve Ease of Entrepreneurship in Agriculture

The key areas for start-ups in agricultural activities have been listed in Table A4. The reason the sector has so many opportunities can be attributed to the number of broken links in the agricultural supply chain which have led to losses of over $13 billion in postharvest stages. In addressing these losses, processing and value addition have been promoted as a sunrise sector in agricultural entrepreneurship development. The main drivers in the process of agricultural transformation include:

THE AGRITECH ECOSYSTEM IN KERALA

These evolving market dynamics are giving way to a robust agri-tech ecosystem for agricultural entrepreneurship development in the state. The state has been rated to have exemplary performance in policies to promote the start-up ecosystem. The major facilities provided under the current start-up policy regime of Kerala are included in Box 1. Harnessing all these for the benefit of farm entrepreneurship development involves the integrated use of advanced technologies and common service offerings in areas related to Farmer Service Centre, Post-Harvest Technology, Supply Chain Management, Warehouse Management, farm infrastructure, and machinery in crop and animal husbandry and fisheries. Government-led initiatives like Kerala Start-up Mission, Kerala Technology Innovation Zone, etc are focused to open new entrepreneurial opportunities in the sector that has been recording a fast pace of growth. The NASSCOM reports (2020) have rated Kerala which hosts less than 2% of total Startups in India as an emerging start-up Hub in the country. To build a conducive entrepreneurial ecosystem that supports technology intervention in agricultural supply and value chain Government of Kerala is taking the required measures to propagate and build a pro-entrepreneurship environment that is targeted to:

- Reduce regulatory barriers;
- Facilitate opportunities for learning and development;
- Develop large scale innovation-driven infrastructure facilities; and
- Promote active collaboration among entrepreneurs, industry, and academia

The following key areas to be addressed with proposed mitigation steps under the short term, medium-term and long-term strategies are recommended as proposed below:

Short term strategies

Table A1: Special purpose programmes for development of evolving themes in Kerala's agripreneurship sector

Evolving themes	Proposed initiatives
1. Nutraceuticals, functional foods, insect-based protein food, medicinal mushrooms, vegan meat products, GI registered agricultural products, etc	A. Facilitatory support programs in product development & marketing
2. Farm Tourism, Adventure Tourism, and Farm Food	B. Development and promotion programmes under Brand Kerala
3. Value addition of agricultural produce, Livestock farming, Fish Farming	C. Development and promotion under Brand Kerala
4. Panchayat level production/product based Agtech mini-clusters	D. Development and promotion under Brand Kerala

Table A2: Liberal financing services and subsidy programmes

Financial reforms	Proposed initiatives	Remarks
5. Revitalization schemes for mature and senile enterprises	A. Smart funds for diversification/specialisation B. Smart specialisation programmes for entrepreneurs and collectives in farming	
6. Recycle financing system for ABI graduated successful enterprises	C. At least one percent of the sale value is recycled to technical institutions involved in supporting continuous technology upgradation D. Knowledge Capital cess from profit-making enterprises	Special emphasis for enterprises in value addition & mechanization of farming

7.	Risk grants to preincubation stage entrepreneurs	E. F.	Promote public equity shares rather than debt fund Mandatory risk coverage instruments at a nominal premium	
8.	Promotion of private and public credit registry	G.	Annual credit support at nominal interests through Swayam Credit Cards	Improving the K-Swift
9.	Diversification credit & Technology Upgradation funds for mature enterprises	H. I.	Credit Link Capital Subsidy Scheme for Technology Upgradation Performance-based grants	MSME officers at the banks to ease credit for ED
10.	Zero budget ED for cottage level nano enterprises	J.	Promotion schemes with public seed money in revolving fund mode	
11.	Venture Capital Assistance	K.	Following the model of NAB Ventures, a separate entity under Kerala bank for venture capital assistance recommended	VC assistance may be provided through the network of business incubators
12.	Bridge financing	L. M.	Investment funds as short-term repayable loans Mezzanine financing	Offered to companies with a track record of established reputation and history of profitability and a viable expansion plan for the businesssion plan for the business

Table A3. Strengthening forward and backward linkages for farm entrepreneurs

Objective		Proposed initiatives		Remarks
1.	Creating awareness amongst farmers in agripreneurship	N.	Introducing case studies of successful farm entrepreneurs through media, exhibitions, Food fests etc	Both national and international levels
2.	Facilitation of agri-tech start-ups	O.	Extend facilities under Agritech workspaces and accelerators with specialised window for farm entrepreneurs	

3.	Setting up Entrepreneurship Development Centres	P.	Facilitating PPP mode in liaison with leading industries	With incentives and exemptions for participating industries
4.	Laboratory Accreditation/ Infrastructure development	Q.	Government support schemes establish NABL accredited state of the art laboratories at State Agricultural universities, CSIR, ICAR institutions	Laboratory facilities to be made available to entrepreneurs
5.	Grievance redressal forum	R.	Establish at district and state level monitored by a High-level Task Force	

Medium term strategies

Establishment of a state-level reverse innovation hub to promote B2B models for agri-tech solutions in the following segments on a medium-term basis:

- The synthetic biology segment gained popularity in hazardous waste clean-up initiatives through engineered microbes. Engineered crops, through synthetic biology, would bridge the gap between supply and demand globally. Emerging applications across novel fields of research such as agriculture and bioremediation are expected to drive market growth over the coming years. Synthetic biology can play a prominent role in decreasing the demand for land, water, and other valuable resources. In India, the research activities related to synthetic biology and its application in industries are in nascent stages. Nevertheless, in line with the global trend, India witnessed the establishment of a few start-ups that are either providing services or manufacturing products based on synthetic biology technology. These start-ups are focusing on the oligonucleotide, DNA fragment synthesis, butanediol (BDO), and other synthetic biology applications using bioinformatics
- Supply chain techs to facilitate better access to inputs for farmers or market linkage with the ecosystem can eliminate inefficiencies related to post-harvest wastage of farm produce creating a win-win for both farmers and consumers which can be facilitated as a margin-based model (earns margin by creating marketplace linkages at the input or output side)
- Quality management and traceability using SaaS (Software as a service) based platform, imagery-based optical character recognition (OCR) technology, etc embedded as mobile

applications can be promoted to help farmers realize better prices by incentivizing high-quality production. This can follow a subscription-based model.

- Fintech services related to credit and insurance can follow a transaction-based pricing model (the number of loans or insurance policies served) based on the risk profile of farmers. Digitization of farm records is an essential way forward in developing risk profiles of farmers

Gaining support for entrepreneurship in academia/industry

- A Section 8 'Not-for-Profit Company' of the Government of Kerala was set up exclusively to promote research innovation-based start-ups and enterprises under the KSCSTE in the BIRAC model of DBT.
- Setting up of Swayam centres which can serve as dedicated innovation hubs housed within the University/Institute mandated to promote a culture of applied research and need-oriented (societal or industry) entrepreneurial innovation among young students and researchers. The scheme can include funding support (through fellowship and research grant), technical and business mentoring, exposure to bio-incubation models, orientation to entrepreneurial culture, etc. to students at undergraduates, post-graduates, and post-doctoral levels.
- Establishment of a Technology hub (T hub) model with a clear vision to create an innovation ecosystem centred around Kochi, leveraging the City's traditional strengths in technology, education, and entrepreneurship, as well as its position as a preferred destination for multiple national and international businesses across sectors.
- Accelerators, incubators, and identified academic mentors work in tandem with technology labs to provide the best technical support and reduce the gestation period of nascent enterprises. The program focuses mostly on catalysing scale-up stage Food & Agribusiness start-ups through technology mentoring, market networking, and investment grant pitching.

Government support and improved digital infrastructure in the public domain

- Exclusive schemes to facilitate the development promotion and use of the Digital Entrepreneurial Ecosystem which can be mobilised through free tech support of IT corporates under CSR
- Policy level interventions that permit free access to data and statistics on Kerala's agricultural ecosystem to certified agri-tech companies under MOU to analyse it using AI and data analytics to provide real-time solutions to challenges such as water stress, degrading soil, temperature-controlled warehouses, and refrigerated transport vehicles
- Promotion of farmer collectives such as FPOs with incentives and liberalised legal formalities to address challenges related to economies of scale
- Krishi Bhavan and an agricultural cell at the industries department with designated ED officers can be authorised in facilitating the B2B programmes at panchayat and district levels respectively

- Unified Agri-market platform for the state under the WTO cell of the state with free access to all registered entrepreneurs in agriculture and farmers. It is crucial to enable seamless hybridisation of relevant technology by building a promising 'new-age distribution model'. for the farmer to buy products and get information as well as credit on one unified platform.
- Digitization of farm records is an essential way forward in developing risk profiles of farmers and developing lending models customised to farming segments
- Direct-to-farmer m-commerce platforms that combine analytics with technical expertise to offer real-time solutions to farmers right on their mobile phones
- Digital agronomy platforms for farm entrepreneurs and the establishment of climate-smart farms

Table A4. Key areas for start-ups in agriculture

Sub-Sectors	**Key areas for start-up**
Supply Chain	• E-Distributor • Listing Platform • Marketplace • Agri Input
Infrastructure	• Growing Systems & Components • Aquaponics • Hydroponics • Drip Irrigation
Finance	• Payments • Revenue Sharing • Lending
Farm Data and Analytics	• Integrated Platform • Remote Sensing • Software Platforms • Farm Mapping • Farm Management Solution • Field Operations
Information Platform	• Information Dissemination

Source: FICCI, 2019

Long term strategies

Table A5. Liberalising regulations and converging approval services

Regulatory reforms	Proposed initiatives	Remarks
Legalising certificate of proof of concept from ABI* as a single validation document for technical and financial feasibility for credit and company registration	Single window clearance for all necessary government approvals for company registration Publish a common document with the list of all documents required for approval/registration of an enterprise in the public domain Digitized government permits and regulatory controls	Issued by ABIs after validation and testing of the project
Policy facilitation for incubation clusters that can graduate to incubation parks located at district and regional levels for commercial-scale product launch	Establishing district level incubator clusters and incubation parks and accelerators at regional levels	Relaxation in rules and regulations
Promotion of panchayat level Common Facility Centres based on production clusters	Establishing facilities for procurement, grading, processing, packaging, and common branding (for harmonizing product quality & local brand building)	FPOs/FPCs mobilised to run the facility
Mobile Technology Clinics and Help Desks	Facilitating inclusive ED for marginal sections/women /geographically remote areas	As targeted group programmes
Single state-level nodal agency for ED	All the relevant associated Governmental agencies like the Department of Food, Agriculture, industry, pollution, Taxes, etc must have proper coordination under one nodal agency	A special window exclusively for agriculture projects under the nodal agency

Table A6. Knowledge convergence at academic/industry interfaces for attracting new entrepreneurs

Objective	Proposed initiatives	Remarks
Creating awareness amongst students in bio-entrepreneurship	Introducing case studies of successful entrepreneurs/ awareness camps/innovation challenges etc. in the curriculum	
Facilitation of experiential learning	Product development-based student internship as course work and extend successful projects for further incubation in campus-based ABIs	Start ABIs on all agricultural campuses
Virtual incubators for pre-incubation stage entrepreneurs	Free access to mentors, consultants, and experts for registered entrepreneurs	At state level
Livelihood incubators for technology updating and scale readiness of farm entrepreneurs	Mandatory capacity development programmes for growth phase farm enterprises	Creation of a knowledge ecosystem involving research organisations, universities, think tanks & business organisations
Industry based technology exchange and innovation forums	Facilitate paid student internship/farm entrepreneur attachment programmes	The internship fee will be funded by the government and the industry will get an intern
Make in Universities programmes	Life cycle approach-based capacity development and EDPs in technology to branding and marketing	Embedded entrepreneurship development in formal and informal education and training of Universities and Technology institutes

Table A7. E-reforms and digital service support systems

Regulatory reforms	Proposed initiatives	Remarks
Regulatory support to legitimise crowdfunding	Crowdfunding platforms for ED	Digital Infrastructure support to authenticate the resource needs
Matchmaker -businesses platforms	Digital multi-functional digital systems to facilitate value creation, appropriation, & innovations in support of businesses aiding farm entrepreneurship	Connectivity companies like packaging, printing, machine tools, etc. Harness synergy from central government schemes:
E-agripreneurship hubs	Programs for networking and exchange of resources and information	Establishment of a dynamic information infrastructure to facilitate access to information universally making decisions faster, transparent, and efficient for entrepreneurs
E-Commerce platform with provision for B2B & B2C	Development of "Brand Kerala" by establishing an e-commerce platform	KERALA BRAND LOGO for brand recognition made popular through government-run supermarkets, kiosks, or kissan centres across the state
Increased internet penetration and incentivised connectivity to agritech companies and farmers	Provisions for free information access under agritech schemes	

Table A8. Market reforms and shared infrastructure for market competitiveness

Market reforms	Proposed initiatives	Remarks
Free access to market consultancies and information to enterprises registered with proof of concept from ABI or incubation parks	Development of an e-market information portal with facilities for expert consultancy, market information, prices, export-import data, compliances, and e-marketing facilities	Product and service promotion under government programmes and projects
Facilitating regulatory support for niche markets	Price and quality support programmes under DIC/MSME (Quality and standard certification facilities to promote niche and international markets)	Specialised services for niche marketing in e-market portal

Appendix-1

PROCEEDINGS OF THE MEMBER SECRETARY

STATE PLANNING BOARD

(Present: Sri. Teeka Ram Meena IAS)

Sub: - Formulation of Fourteenth Five Year Plan (2022-27) – Constitution of Working Group on Agriculture and Cooperation – Revised Proceedings - reg.

Read: 1. Note No. 297/2021/PCD/SPB dated: 27/08/2021
2. Guidelines on Working Groups
3. This Office order of even number dated 08.09.2021

ORDER No. SPB/342/2021-Agri(1) Dated:14.09.2021

As part of the formulation of Fourteenth Five Year Plan, it has been decided to constitute various Working Groups under the priority sectors. Accordingly, the Working Group on **Agriculture and Cooperation sector** is constituted. For the smooth functioning of the Sectoral Working Group (SWG), it is decided to split the Working Groups into Expert Sub Groups (ESG). Hence the Working Group is categorized into eleven Expert Sub Groups as indicated in the proceedings. The names of the members of the SWG are indicated under each ESG. The Working Group shall also take into consideration the guidelines read 2nd above in fulfilling the tasks outlined in the ToR for the Working Group.

1. A PLAN TO IMPROVE THE EFFICIENCY OF WORKING OF KRISHI BHAVANS

Co-chairperson

- Dr C. Bhaskaran, Professor of Agricultural Extension (Retd), Kerala Agricultural University
- Mr T. V. Subash IAS, Director, Agriculture

Members

- Dr P. Jayaraj, Programme Coordinator, KVK, Kannur
- Dr Sreevalsan J. Menon, Associate Director of Extension, Directorate of Extension, KAU
- Mr V. G. Sunil, Assistant Professor, Agricultural Extension, Communication Centre, Kerala Agricultural University
- Mr P. V. Jinraj, Assistant Director, Agmark Laboratory, Thiruvananthapuram
- Ms Asha K. Raj, Assistant Director of Agriculture, Small Farmers Agribusiness Consortium, Thiruvananthapuram
- Mr Kariyam Ravi,115 Journalist colony, NCC Nagar, Peroorkada
- Mr G. K. Manivarnan, Agricultural Officer, Pallikkal Grama Panchayath
- Mr R. Ajith Kumar, Assistant Professor, IIITM-K

- Mr Joy Sebastian, MD, VCONSOL
- Mr Sidharthan A.K, Assistant Director of Agriculture (Q C),Kozhikkodu

Terms of Reference

- To assess the present functioning of Krishi Bhavans in Kerala and suggest how to improve their effectiveness.
- To identify advanced technologies for use in Krishi Bhavans to ensure better delivery of services and their convergence with LSGIs, Cooperatives, FPOs, and KAU.

2. A PLAN TO EXPAND AND MODERNIZE SUPPLY CHAINS IN AGRICULTURE

Co-chairperson

- Dr Poornima Varma, Faculty, Centre for Management in Agriculture, IIM-Ahmedabad
- Dr A. Prema, Professor & Head, Department of Agricultural Economics, College of Horticulture, Vellanikkara, Thrissur

Members

- Ms L. R. Arathi IES, Mission Director, State Horticulture Mission, Kerala
- Dr A. Suresh, Principal Scientist, CIFT, Kochi
- Dr S. Jayasekhar, Senior Scientist, Social Science Division, CPCRI, Kasaragod
- Mr Valsan Panoli, Kerala Karshaka Sangham, Vapushas, Koothuparamba, Kannur
- Mr.V. P. Unnikrishnan, MFH Flat No.2003, Vrindavan Garden, Pattom Palace P O Thiruvananthapuram
- Ms Deepthi S. Nair, Deputy Director, Marketing, Coconut Development Board, Kochi
- Dr S. Asharaf, Professor, IIITMK
- Mr Mathew Abraham, Assistant Director, Marketing, Department of Agriculture
- Dr Sangeetha K. Prathap, Assistant Professor, School of Management Studies, Cochin University of Science and Technology, Kochi.
- Ms Chitra K. Pillai, Assistant Director of Agriculture, Agricultural Urban and Wholesale Market, Maradu
- Mr L. Subhash Babu, Deputy Director (Retd.), Department of Agriculture and Farmer's Welfare
- Mr Joy Sebastian, MD, VCONSOL
- Mr Ashar Thattarath, PGP IIM, Ahmedabad
- Mr Manu K.G, Public Relations Officer, Directorate of AD & FW

Terms of Reference

- To suggest a design of a unified supply chain for farm inputs and outputs with specific reference to aggregation/procurement, storage, and marketing.

- To suggest a framework where LSGIs, Cooperatives and FPCs can be effectively integrated into the unified supply chain.
- To suggest ways to ensure that the supply chains are integrated with the objectives of trade, value addition and processing - domestic and global – as well as agricultural finance institutions.
- To suggest ways in which the private agencies in procurement, trade and marketing are integrated with the supply chains.
- To ensure that the supply chains meet the requirements of *niche* sectors, such as organic farming, in certification and traceability.
- To suggest the major technological changes and infrastructural investments required to equip the State's supply chain systems to meet the needs of the farming community as well as domestic and international trade.

3. HOW CAN KERALA DOUBLE ITS VEGETABLE PRODUCTION IN THE NEXT FIVE YEARS?

Co-chairperson

- Ms C. A. Letha. IAS, Secretary, Agriculture, Government of Kerala
- Dr T. Pradeep Kumar, Director (Planning), Kerala Agricultural University, Thrissur

Members

- Dr P. Rajasekharan, Chairperson, State Agricultural Prices Board
- Mr V. Sivaramakrishnan, CEO, VFPCK
- Mr J Sajeev, Managing Director, Horticorp
- Ms L. R. Arathi IES, Mission Director, State Horticulture Mission
- Dr K. M. Sreekumar, Professor of Entomology, College of Agriculture, Padannakkad
- Mr Sridhar Radhakrishnan, Thirunelly Agri Producer Company (TAPCo)
- Mr Reghulal, Deputy Director of Agriculture (Rtd)
- Dr K. Mini, Deputy Manager, VFPCK, Idukki
- Mr Prakash Puthanmadathil, Assistant Director of Agriculture, Vengara
- Ms S. K. Preeja, Kerala Karshaka Sangham, Pallichal, Nemom, Trivandrum
- Mr R Balachandran, Chithiramangalam, Ulloor Medical CollegePO, Thiruvananthapuram,
- Mr Reji Jacob, Kunnamkotu House, Nediyassala PO, Thodupuzha, Idukki
- Ms Bindu.J, Assistant Engineer, Office of the Assistant Executive Engineer, Malampuzha, Palakkad

Terms of Reference

- To assess the progress achieved in increasing area, production, and productivity of vegetables in Kerala over the past five years.
- To suggest a roadmap to double vegetable production in Kerala over the next five years with special focus on increasing productivity and farmer's income.

- To examine the ways in which the institutions of LSGIs, Cooperatives and FPCs can be utilised to participate in vegetable production efforts.
- To suggest ways in which existing systems of vegetable production are modernised and integrated with the different schemes of the government as well as post-production activities.
- To review the existing procurement and distribution systems, including government initiatives, and suggest a transparent, technology-driven platform with the active support of LSGIs, Cooperatives and FPCs.
- To suggest ways to reform the existing government schemes to support vegetable production.

4. CONSTRAINTS TO TECHNOLOGY ADOPTION AND THE POTENTIAL TO RAISE PRODUCTIVITY IN KERALA AGRICULTURE

Co-chairperson

- Dr C. Chandra Babu, Vice Chancellor, Kerala Agricultural University
- Dr K. C. Bansal, Former Director, National Bureau of Plant Genetic Resources, Indian Council of Agricultural Research (ICAR), New Delhi

Members

- Dr M.N. Sheela, Director, CTCRI, Sreekaryam
- Dr C. Thampan, Principal Scientist, CPCRI, Kasargod
- Dr Madhu Subramonian, Director of Research, KAU
- Dr Jacob John, Professor & Head, Integrated Farming Systems Research Station, Karamana, KAU
- Dr P. Indira Devi, Director of Research (Retd), KAU
- Dr R. Beena, Assistant Professor, College of Agriculture, Vellayani
- Dr Archana Sathyan, Assistant Professor, Agricultural Extension, CoA, Vellayani, KAU
- Dr P. Rajeev, Principal Scientist, IISR
- Adv. Thomas V T, Varacheriyil, Pala PO, Kottayam
- Dr Nishanth K. Raman, Assistant Professor, CoA, Padannakkad, KAU
- Mr Rijish Rajan, CEO, Simplified Enterprises Management, Palakkad
- Dr Thomas Aneesh Johnson, Soil Survey Officer, Office of the Deputy Director and Soil Survey, Thrissur (North)

Terms of reference

- To assess the status of productivity of major crops of Kerala and estimate yield gaps.
- To identify linkages between the adoption and use of modern technology and the gaps in yield in major crops.

- To examine the potential for raising productivity in major crops with the existing technologies.
- To identify gap in the availability of technology and suggest measures to hasten the development of these technologies.
- To suggest measures to improve the research-extension linkages in Kerala's agriculture.
- To suggest a policy framework to transform homesteads into profit centres through the practice of technology-driven agriculture.

5. PREPARATION OF SOIL AND LAND USE PLANS IN LSGIs FOR AGRICULTURAL GROWTH

Co-chairperson

- Dr Srikumar Chattopadhyay, Faculty, GIFT
- Mr S. Subramanian IIS, Director, Soil Survey & Soil Conservation, Trivandrum

Members

- Mr T. Gangadharan, Extension Faculty, KILA, KSSP
- Mr K. S. Hiroshkumar, Scientific Officer, IFSRS, Karamana, KAU
- Mr B. P. Murali, Member, Nagaroor, Kilimanoor Block (KBPA)
- Mr R. Sukhalal, Swararagam,Cherthala South PO, Alappuzha
- Mr A. Nizamudeen, Land Use Commissioner, Kerala State Land Use Board
- Mr K.P. Abdussamad, District Soil Conservation Officer, Kannur
- Mr Anand Vishnu Prakash, Agricultural Officer, Manakkad Krishibhavan, Idukki

Terms of reference

- To critically assess the status of preparation of land use plans by LSGIs in Kerala over the past five years and identify the reasons for the poor performance of LSGIs in this regard.
- To suggest and prepare a guidance note for the effective preparation and development of land use plans, and its integration with watershed plans and agricultural production systems.
- To suggest ways to integrate and converge the objectives and activities of multiple government agencies possessing data on land ownership, land use and agriculture to facilitate regular updating of land use plans prepared by LSGIs.
- To suggest a road map for a State-level people's campaign to complete the preparation of land use plans at the LSGI-level over a period of six months.

6. WATERSHED-BASED PLANNING AND AGRICULTURE: THE POTENTIAL IN KERALA

Co-chairperson

- Dr Ishita Roy IAS, Agriculture Production Commissioner
- Mr I. B. Satheesh, MLA, Kattakada Constituency

Members

- Dr K. K. Sathiyan, Dean, KCAET, Thavanur
- Dr Celine George, Senior Principal Scientist & Head, CWRDM, Manimalakunnu
- Dr Anu Mary C. Philip, Assistant Director, Soil Conservation; IWDMK, Chadayamangalam
- Mr S. U. Sanjeev, Assistant Director of Agriculture (Rtd.)
- Mr U. Janardanan, CEO, Mayyil Rice Producer Company Ltd., Kannur
- Dr A. R. Durga, Assistant Professor, Department of Agricultural Economics, College of Agriculture, Vellayani, KAU
- Mr M. Prakasan Master, Kerala Karshaka Sangham, Pranavam, Azheekode South, Kannur
- Mr T. K. Rajan Master, Nini Nivas, Edachery PO, Kozhikode
- Mr Jo Jose, Assistant Principal Agricultural Officer, PAO Office, Kottayam
- Mr Mohanachandran, Deputy Director (Retd), Kollam

Terms of reference

- To critically assess the status of preparation of watershed plans by LSGIs in Kerala over the past five years and identify the reasons for the poor performance of LSGIs in this regard.
- To suggest and prepare a guidance note for the effective preparation and development of watershed plans, and its integration with land use plans and agricultural production systems with active support of geospatial technologies.
- To suggest ways to integrate and converge the objectives and activities of multiple government agencies possessing data on water, water use, land use and agriculture to facilitate regular updating of watershed plans prepared by LSGIs.
- To suggest a road map for a State-level people's campaign to complete the preparation of watershed plans at the LSGI-level over a specified minimum period.
- To study the different successful models of watershed plans prepared by LSGIs in the State and study the possibilities of replications, and preparation of a set of best practices.
- To provide guidance on linking the existing schemes of the government with a broader watershed-based strategy of development planning.

7. A PROGRAMME TO MODERNIZE AND UPDATE STATISTICAL DATABASES IN AGRICULTURE

Co-chairperson

- Dr Madhura Swaminathan, Professor, Indian Statistical Institute, Bengaluru
- Mr P. V. Babu, Director, Dept of Economics & Statistics

Members

- Dr U. S. Mishra, Professor, Centre for Development Studies, Trivandrum
- Ms L. R. Arathi IES, Mission Director, State Horticulture Mission
- Dr Brigit Joseph, Professor, Dept of Agricultural Statistics, CoA, Vellayani
- Dr K. P. Chandran, Senior Scientist, CPCRI, Kasargod
- Mr T. Paul Lazarus, Assistant Professor, Agricultural Economics, CoA, Vellayani
- Dr Pratheesh Gopinath, Assistant Professor, Agricultural Statistics, CoA, Vellayani
- Mr Deepak Mercy Johnson, Senior Fellow, Indian Statistical Institute, Bangalore
- Mr S. Ajayghosh, Vrindavan, Vadakkan Mainagapally PO, Kollam
- Mr Ramesh P K, TA to Director of Agriculture, Directorate of AD and FW

Terms of reference

- To critically assess the status and robustness of Kerala's statistical databases in agriculture and identify areas of concern.
- To suggest measures to improve the design, collection, analysis and dissemination of statistical data, such as area, production, yield, costs of cultivation, trade, farm harvest prices, wholesale prices, retail prices, market arrivals and so on, related to agriculture.
- To provide a framework for a better use of new technologies to improve the statistical system related to agriculture.
- To suggest ways in which Kerala's statistical system in agriculture should be geared towards meeting the challenges posed by integrated multiple-/inter-cropping based in homesteads and garden lands, apart from wetlands.
- To examine the possibilities of integrating all data on agriculture collected by different agencies in a single electronic platform.

8. A PLAN FOR VALUE ADDITION AND INDUSTRIAL INVESTMENT IN KERALA'S POST-HARVEST AGRICULTURE

Co-chairperson

- Dr K. P. Sudheer, Professor & Head, Department of Agricultural Engineering, College of Horticulture, KAU
- Mr Manu George, Strategist, Agency for the Development of Food Processing Industries in Kerala (ADFIK), KINFRA

Members

- Mr Rajeev Bhushan Prasad, Chief Coconut Development Officer, Coconut Development Board
- Dr E. Jayashree, Senior Scientist, ICAR-Indian Institute of Spices Research (IISR), Kozhikode
- Dr Lijo Thomas, Senior Scientist, ICAR-Indian Institute of Spices Research (IISR), Kozhikode
- Dr M. R. Manikantan, Principal Scientist, Harvest & Post Harvest Technology, CPCRI, Kasargod
- Mr K. K. Rajendrababu, Kunnath Veedu, Alappad PO, Thrissur
- Mr R. Manikuttan,Santhivila, Vandanmedu PO, Idukki,
- Dr V. R. Sinija, Professor & Head, Business Incubation Unit, IIFPT, Thanjavur
- Dr M. S. Sajeev, Principal Scientist & Head Crop Utilization Division, CTCRI, Sreekaryam
- Dr P. R. Geethalakshmi, Assistant Professor, Department of Post-Harvest Technology, College of Agriculture, Vellayani
- Ms K. Thulasi, Kerala Karshaka Sangham, Novelty, Matoor, Kalady, Ernakulam
- Dr P. Nisha, Principal Scientist, CSIR-National Institute for Interdisciplinary Science and Technology, Trivandrum
- Mr Abraham John Tharakan, Chairman, Amalgam Foods
- Mr Madathiveetil Ramesh, Director, Brahma Indic Nutriments Private Limited
- Mr Appu Anitha Muraleedharan, Theeram Agro World
- Ms Mini Srinivasan, Annam Flour and Batter Solutions, Coimbatore
- Mr Ajoy Sukumaran, Assistant Director of Agriculture, Directorate of AD and FW

Terms of reference

- To prepare a roadmap for the development of an entrepreneurship-driven system post-harvest value addition in agriculture while ensuring the generation of employment and skills.
- To suggest measures to effectively integrate the functioning of LSGIs, Cooperative institutions, including FPCs, and line departments towards the development of value chains in post-harvest agriculture.
- To suggest measures to ensure facilities for investment, quality control, traceability, logistics and export, including the necessary arrangements for payment systems.
- To suggest measures to augment Kerala's export of processed products, particularly in high value and *niche* segments.

9. EASE OF ENTREPRENEURSHIP IN AGRICULTURE: REFORMS IN POLICY AND ADMINISTRATION

Co-chairperson

- Mr S. Harikishore IAS, Director, Industries & Commerce Department
- Dr K. J. Joseph, Director, Gulati Institute of Finance and Taxation, Trivandrum

Members

- Dr Binoo P. Bonny, Professor & Head, Department of Agricultural Extension, CoA, Vellanikkara, KAU
- Dr K. P. Sudheer, Professor & Head, Department of Agricultural Engineering, College of Horticulture, KAU
- Mr G Prakash, Joint Director, MSME Institute, Thrissur
- Mr Roshan Kynadi, Agripreneur, Kynadi Plantations
- Mr T. Thulasidasa Menon, Krishnakripa,Thrithalangode PO, Malappuram,
- Mr M. Ramesh, Industry Expert, RABI-KAU Incubation Committee
- Mr Saji George, CEO, BIONEST
- Mr Shan Kadavil, MD, Fresh to Home Foods Private Ltd
- Mr Jamsheed, Agricultural Officer, Kannamangalam, Malappuram

Terms of reference

- To suggest a broad quantitative framework to regularly assess ease of entrepreneurship in agriculture in Kerala.
- To identify the constraints to the flow of entrepreneurial capital into the processing and value addition segments in agriculture.
- To suggest short-term, medium-term, and long-term measures to improve the ease of entrepreneurship in agriculture.
- To suggest legal and administrative measures to be initiated at different levels of governance, including LSGIs, to improve the ease of entrepreneurship in agriculture.

10. HOW CAN KERALA USE THE POWER OF COOPERATION TO RAISE AGRICULTURAL GROWTH?

Co-chairperson

- Mr P B Nooh IAS, RCS, Kerala
- Mr James Mathew, Ex- MLA, Taliparamba

Members

- Dr P. S. Geethakutty, Professor (Retd.), KAU
- Mr Salin Thapasi, Project Leader, SFAC

- Mr Paleri Ramesan, Chairman, ULCCS
- Mr James, Perambra Coconut FPC
- Fr John Choorapuzhayil, Chairman, BIOWIN, Mananthavady, Wayanad
- Dr J. Thomas, PDS Organic Spices, Kuttikanam, Idukki
- Mr G. R Rajeev, Kollam
- Mr Bimalghosh, MD, Aralam Farming Corporation
- Ms Rema K. Nair, Deputy Director of Agriculture (Retd.), Department of Agriculture
- Mr V Ravindran, Senior Manager, Kerala Bank

Terms of reference

- To critically assess the role and position of Cooperative institutions in Kerala's agricultural development pattern.
- To identify weaknesses in the cooperative institutional framework with respect to their contribution to the agricultural production processes.
- To chart out a pathway to effectively leverage Kerala's historical strengths in cooperative action – including both cooperatives and farmer producer companies (FPC) – to improve agricultural growth and farmer's income.
- To critically assess the performance of Kerala's cooperative credit system to finance agricultural activities.
- To suggest measures to modernise the functioning of Cooperatives in the State.
- To suggest measures on how cooperatives can contribute to the development of supply chains and value addition in agriculture.
- To suggest measures to improve coordination across line departments, LSGIs, Cooperatives and FPCs to contribute to agricultural growth.
- To suggest measures for transforming Kerala Bank to support the resource needs of the productive sector of the State.

11. COOPERATIVE BANKING IN KERALA: REVAMPING THE ROLE OF KERALA BANK

Chairperson

- Ms Mini Antony IAS, Secretary, Corporation

Co-Chairperson

- Dr Pallavi Chavan, Director, Reserve Bank of India, Mumbai

Members

- Mr Sasikumar M V,Director, Institute of Co-operative Management, Parasinikkadavu, Kannur
- Mr Jose T Abraham, Additional Private Secretary to the Finance Minister

- Mr K. C. Sahadevan, Chief General Manager, Kerala Bank
- Mr V. Raveendran, Senior Manager, PACS Development Department, Kerala Bank
- Mr Raja Kurup, Board Member, Kadirur PACS, Kannur
- Mr Anoop Kishore, Development Standing Committee Chairman, Wadakkanchery Municipality and District Facilitator of Decentralised plan
- Mr Romio Kattapana, President, Thankamony Service Co-operative Bank
- Mr K.C.S Nambiar, Director, Ancharakandy FSC Bank and Sahakari Coconut Processing facility
- Mr P. R. Sanjeev, Managing Director (Retd.), MILMA
- Mr R K Bhoodes Pillai, Chairman, Federation of Indian Cashew Industries, Former CEPCI
- Mr Sudheer K, Additional Director of Industries and Commerce
- Mr Damodhar, President, Kerala State Small Industries Association

Terms of reference

- To suggest broad measures to deepen and expand the participation of the cooperative sector in the process of economic growth of the State, and to involve youth in the cooperative movement in the State.
- To suggest measures to upgrade the use of technology in the functioning of primary cooperatives, such as the introduction of unified software.
- To suggest measures to improve professionalism in the functioning of cooperative societies in the State.
- To prepare a guidance note on Business Process Reengineering of the Kerala Bank to serve as a key provider of resources to the productive sectors, such as agriculture and MSMEs as well as tourism.

Convener

Sri. S S Nagesh, Chief, Agriculture Division, State Planning Board

Co- Convener

Smt. G C Roshini, Agronomist, State Planning Board

Terms of Reference (General)

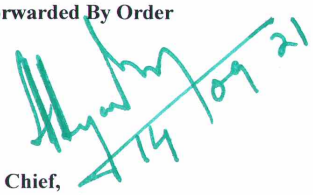
1. The non-official members (and invitees) of the Working Group will be entitled to travelling allowances as per existing government norms. The Class I Officers of GoI will be entitled to TA as per rules if reimbursement is not allowed from Departments.

2. The expenditure towards TA, DA and Honorarium will be met from the following Head of Account of the State Planning Board "3451-00-101-93"- Preparation of Plans and Conduct of Surveys and Studies.

The order read as reference 3 is modified to this extent.

(Sd/-)
Member Secretary

Forwarded By Order



Chief,
Agriculture Division

To

The Members concerned

Copy to

PS to Vice Chairperson
PA to Member Secretary
CA to Member (Dr.Ramakumar.R)
Economic Advisor to VC
Chief, PCD,SPB
Sr. A.O, SPB
The Accountant General, Kerala
Finance Officer, SPB
Publication Officer, SPB
Sub Treasury, Vellayambalam
Accounts Section
File/Stock File