

FINAL REPORT

Evaluation of Policies and Agencies for Industrial Development in Kerala

Kerala State Planning Board

Submitted by: Mr. Ajit Mathai in association with Centre for Management Development (CMD)

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ABOUT THIS DOCUMENT

About this document

The Kerala State Planning Board (KSPB) has appointed Mr. Ajit Mathai in association with the Centre for Management Development to undertake a study on “Evaluation of Policies and Agencies for Industrial Development in Kerala”. This study consists of the following deliverables as shown below:

Table 1: Deliverable and Status

#	Deliverable	Status
1	Inception Presentation	<u>Completed.</u> An inception workshop was conducted at the Kerala State Planning Board and the broad hypothesis and the overall approach to the study was presented.
2	Presentation of Draft Report	<u>Completed.</u> The presentation of the recommendations of the study was made on 17 th June 2019 at the Kerala State Planning Board.
3	Submission of Final Report	This document is the Final Report prepared in line with the presentation. This has been submitted for review by the Kerala State Planning Board.

As highlighted above, this report is the third and final deliverable of the study. The Executive Summary of the Report is provided in Section B.

For any clarifications in this document, please contact:

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EXECUTIVE SUMMARY

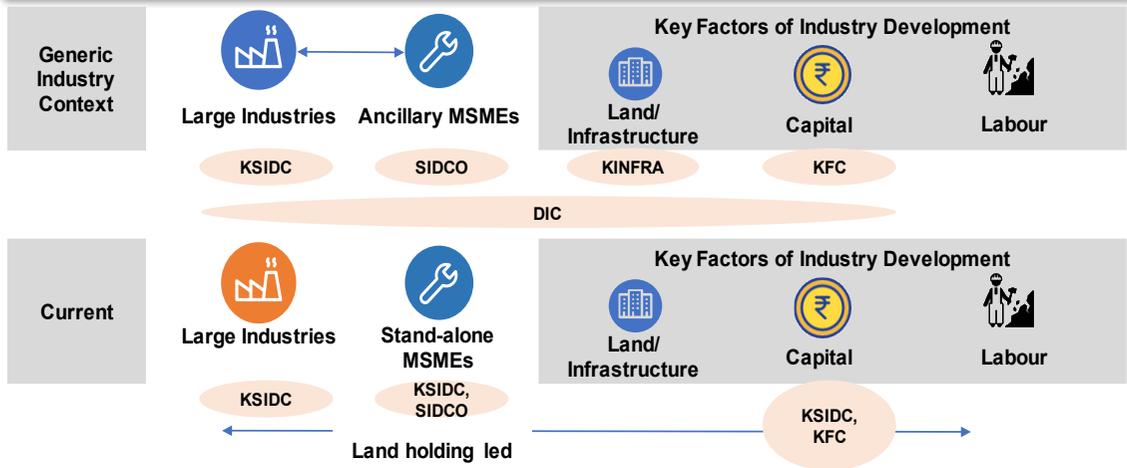
The Executive Summary provides an overview of the observations and recommendations on “Evaluation of Policies and Agencies for Industrial Development in Kerala”.

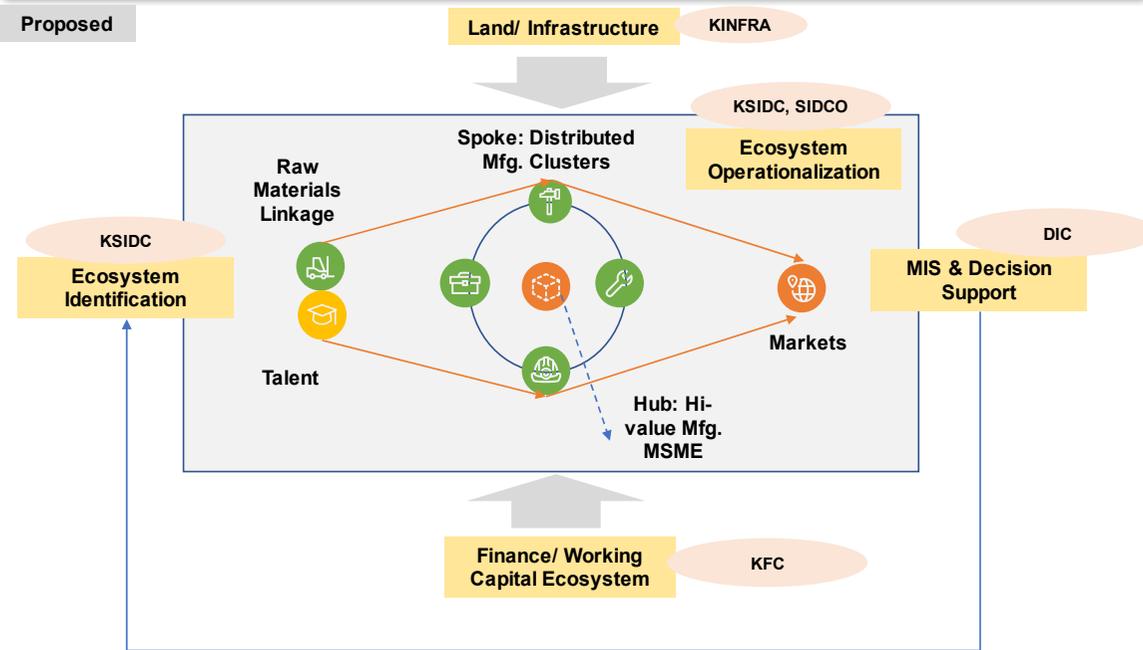
Executive Summary

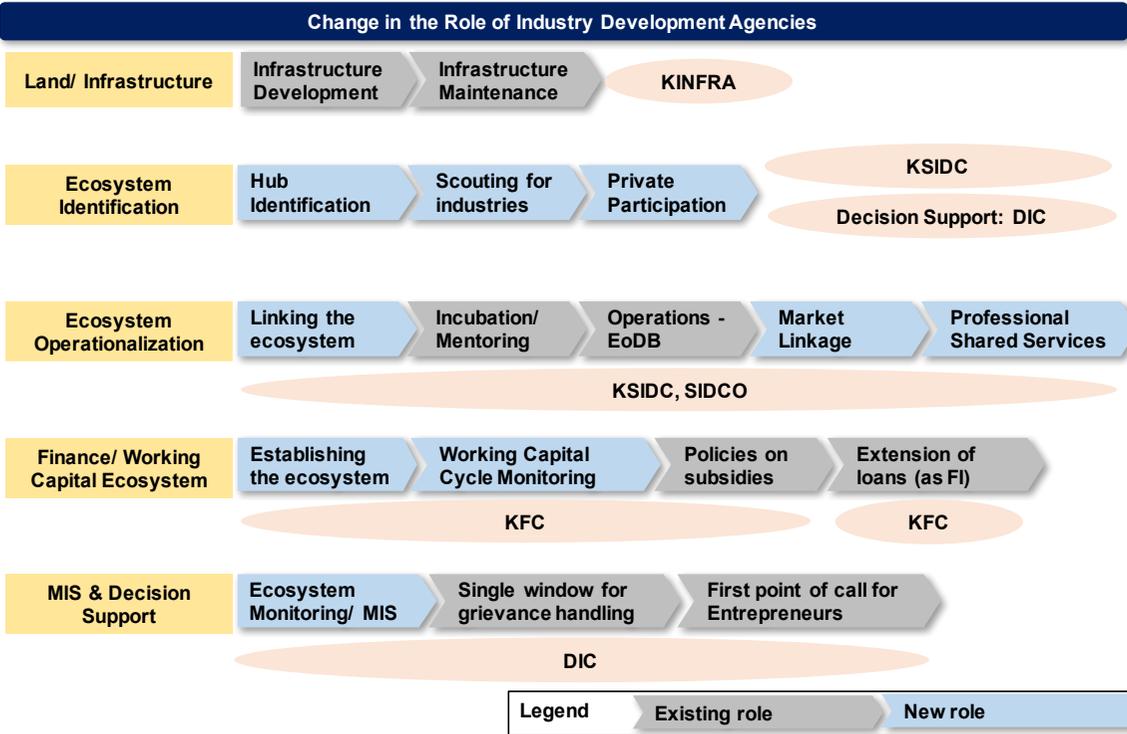
#	Scope	Section Reference in the Presentation	Section Reference in the Main Report
Framework to the Study			
1.	<p>The evaluation of policies and agencies for industrial development in Kerala has been approached with the following inputs:</p> <ul style="list-style-type: none"> • Understanding of the structure of the industry in Kerala (Historic, Current and Prospective). • Key factors of industrial development aligned to each industry structure. • Role of institutions in the context of the industry structure and the key factors of industrial development. <p>Observations and recommendations have been made on the industry structure (current and prospective), the process models required and the change in the role of agencies for industrial development in Kerala.</p>	Section 1: Introduction to Kerala's Industry Context	Chapter 2: Introduction to Kerala's Industry Context
Aligning Policies to Kerala's Industry Context			
2.	<p>A review of the historic and current context of the industry sector in Kerala was undertaken on the framework of "Factors of Production". The key observation from this analysis was the need for Kerala to move from the conventional industry structure to a structure aligned to its key differentiators.</p>	Section 1: Introduction to Kerala's Industry Context	<p>Chapter 2: Introduction to Kerala's Industry Context</p> <p>Supporting Data/ Detailed Study in Annexure 1: As-Is</p>

#	Scope	Section Reference in the Presentation	Section Reference in the Main Report
	The State is conducive for distributed manufacturing within the fragmented landholdings, has the talent required for hi-tech knowledge-based industries and has the capital base to sustainably foster these industries.		Kerala's Industrial Context
3.	<p>Recommendation 1: Hub and Spoke Distributed Mfg. Cluster Model</p> <p>The core of the proposed change is in the transformation of the stand-alone MSMEs in the current setup into profitable and sustainable ventures suitable for investments. This is proposed through the following interventions:</p> <ul style="list-style-type: none"> • Linking MSMEs: Creation of connected distributed manufacturing clusters. • Improving value addition: Introduction of hi-tech manufacturing MSMEs and knowledge-based industries as a hub for the distributed clusters. • Establishing key linkages: Facilitating raw material and market linkages for the erstwhile dis-connected MSMEs by leveraging technology. • Professional services: Supporting sustainable operations of the MSMEs by professionalising operations, monitoring and review, and working capital management. <p>Note: This model of distributed manufacturing clusters and hi-tech manufacturing MSMEs are proposed as an added area of focus and not as a replacement for the existing industrial setup.</p>	Section 2.1: Industrial Model: Hub & Spoke Model for Distributed Mfg.	Chapter 3: Aligning Policies to Kerala's Industry Context Section 3.1. Proposed Structure: Distributed Mfg. through a Hub & Spoke Model

#	Scope	Section Reference in the Presentation	Section Reference in the Main Report
4.	<p>Recommendation 2: Financial Ecosystem for sustainable operations of the MSMEs</p> <p>A proposed model of working capital support to the MSMEs is through a buy-back guarantee from the buyer (market) supported by insurance and interest interventions. This will ensure the following:</p> <ul style="list-style-type: none"> • Help the MSMEs access such loans (emphasis on working capital) and for effective financial management of the unit, professional shared services in these areas are proposed to be extended to the MSMEs by the industry promotion agencies. • Independently governed, professionally and efficiently managed hub/ central processing centres (operations and maintenance) and professional marketing are critical for this model. 	Section 2.2: Industrial Model: Financial Ecosystem for Distributed Mfg.	<p>Chapter 3: Aligning Policies to Kerala's Industry Context</p> <p>Section 3.2. Financial Ecosystem for the Proposed Structure</p> <p>Supporting Data/ Detailed Study in Annexure 3: As-is Context of Financial Assistance in Kerala</p>
Aligning Agencies to Kerala's Industry Context			
5.	<p>Institutional Arrangement of industry development agencies</p> <p>The construct of the industry development institutions in Kerala aligns to the generic industry structure as shown below.</p>	Section 3.1: Existing Alignment of Agencies in Kerala	<p>Section 4.1: Evaluation of the As-is Context and the Roles of Agencies</p> <p>Supporting Data/ Detailed Study in Annexure 2: As-is Mapping and Evaluation of the Role of Agencies</p>

#	Scope	Section Reference in the Presentation	Section Reference in the Main Report
	<p style="text-align: center;">Alignment of Agencies of Industry Development to Industry Structure</p>  <p>There is a need for re-alignment of the institutions, from their current support role that is infrastructure/ land-holding led to one that fosters cluster management, working capital and talent management. There is also a need for change in the role of these institutions from execution to one that creates and manages enabling ecosystems for the industry sector in the State.</p>		
6.	<p>Recommendation 3: Overall Change in in the roles of the industry promotion agencies for hub and spoke model</p> <p>The change in the institutional framework has been proposed in line with the hub & spoke cluster model:</p>	Section 3.2: Change in the role of agencies for hub and spoke implementation	Section 4.2.1: Change in the role of agencies for hub and spoke implementation

#	Scope	Section Reference in the Presentation	Section Reference in the Main Report
	<p style="text-align: center;">Alignment of Agencies to the Proposed Operating Model</p>  <p>The role of KSIDC and SIDCO are proposed to be identical and focussed at cluster management. This involves identification of relevant distributed manufacturing clusters across Kerala and facilitation for efficient functioning of the clusters by enabling necessary linkages – between the MSMEs, raw material linkages, talent linkages and market linkages.</p> <p>These agencies would interface with KINFRA for development/ provision of infrastructure and with KFC for financial linkages. A critical proactive and continuous interface with the DIC field ecosystem for MIS & decision support will be required for KSIDC and SIDCO to undertake their newly defined role.</p>		

#	Scope	Section Reference in the Presentation	Section Reference in the Main Report
	<p>The change in role of DIC is a shift from a reactive grievance redressal unit to a proactive information hub providing quality MIS for (1) strategic decision/ policies by the KSPB and the Ministry of Industries and Commerce (2) operational decision support for the ecosystem operationalization by KSIDC and SIDCO. The DIC, in this proposed role, would also have to function as the first point of call and the single interface at the field level for MSMEs.</p> <p>The summary of the change in role of the institutions is as shown below:</p>  <p>The diagram, titled "Change in the Role of Industry Development Agencies", illustrates the transition of five key areas from existing roles to new roles. A legend at the bottom indicates that grey chevron arrows represent "Existing role" and blue chevron arrows represent "New role".</p> <ul style="list-style-type: none"> Land/ Infrastructure: Existing role: Infrastructure Development → Infrastructure Maintenance (KINFRA). New role: Infrastructure Development. Ecosystem Identification: Existing role: Hub Identification → Scouting for industries → Private Participation (KSIDC). New role: Hub Identification. Ecosystem Operationalization: Existing role: Linking the ecosystem → Incubation/ Mentoring → Operations - EoDB → Market Linkage → Professional Shared Services (KSIDC, SIDCO). New role: Linking the ecosystem. Finance/ Working Capital Ecosystem: Existing role: Establishing the ecosystem → Working Capital Cycle Monitoring → Policies on subsidies → Extension of loans (as FI) (KFC). New role: Establishing the ecosystem. MIS & Decision Support: Existing role: Ecosystem Monitoring/ MIS → Single window for grievance handling → First point of call for Entrepreneurs (DIC). New role: Ecosystem Monitoring/ MIS. 		
7.	Recommendation 4: Change in the Industry Cadre Structure to align to the roles	Section 3.2: Change in the role	Section 4.2.3: Change in the Industry Cadre

#	Scope	Section Reference in the Presentation	Section Reference in the Main Report
	<p>In line with the change in the role of DIC, it is necessary to review the cadre structure. The key field level officers are the Industries Extension Officer (IEO) or Additional Industries Extension Officers (ADIEO), Additional Director, Deputy Director and Joint director (GM – DIC). The mode of filling of the IEO position is 30% Direct Recruitment of Graduates and 70% Promotion of Senior Cooperative Inspectors. The feeder for the Senior Cooperative Inspector role is the Junior Cooperative Inspector, Senior Clerk and Clerk. With an intent to strengthen district responsiveness, this may have to be revisited. An option of appointment of young graduates on short term contracts in the field can also be explored.</p>	of agencies for hub and spoke implementation	Structure to align to the roles
8.	<p>Recommendation 5: Change in the Governance Structure to align to the roles</p> <p>In line with the proposed roles of the agencies, the governance structure of the agencies was reviewed. The key observations and associated focus areas identified are as follows:</p> <ul style="list-style-type: none"> • Industry representation in the Governance Structure: The current governance structure is predominantly bureaucratic and represents the views of the Government. The representation of industry stakeholders to align the policies and actions of the Government with the requirements of the industry is currently lacking and should be an area of focus. • Outside-in perspective for industrial development: The governance structure currently is operationally focussed and has representations that ensure policy implementation. The representations for an outside-in perspective of a top-down strategic planning, policy formulation and subsequent execution is currently non-existent. There is a significant need for an outside-in strategic planning approach grounded by a bottom-up understanding of what works in the Kerala context. The representation for the same in the governance setup is a key gap area that needs to be addressed. • Gaps in functional competencies: Functional expertise in ecosystem identification, field decision support, financial management and supply-chain/ market linkages are not represented in the governance structures. It is necessary for the inclusion of experts in the select field as external independent members of the governance structure. Another critical aspect of the development of the hub & spoke model is the use of technology for industry 	Section 3.2: Change in the role of agencies for hub and spoke implementation	Section 4.2.2: Change in the Governance Structure to align to the roles

#	Scope	Section Reference in the Presentation	Section Reference in the Main Report
	development. This competency too is not represented in the governance structure and needs redressal.		
9.	<p>Recommendation 6: Change in role of agencies to support financial ecosystem</p> <p>The financial assistance to the defined hub and spoke cluster ecosystem shall be driven through a single point interface of the KFC. This would involve capital support for setup, financial assistance for incubation of start-ups in the segment as well as working capital support for the MSMEs.</p> <ul style="list-style-type: none"> • Supported by the MIS and Decision support system of the DIC and advised by the cluster ecosystem managers of KSIDC and SIDCO, KFC's role would involve developing appropriate policies for reducing the risk of entry and exit of enterprises in Kerala. • KFC would be involved in interfacing with the Banks/ Financial Institutions as well as insurance providers in creating frameworks for extension of financial support to the MSMEs. • KFC would also be involved in, within the framework of the RBI regulations, establishing mechanisms for effective utilization of the funds of high net-worth individuals currently deployed as low return investments in Banks, into the industry sector. 	Section 3.2: Change in the role of agencies for finance ecosystem	Section 4.3: Change in role of agencies to support financial ecosystem.
10.	<p>Recommendation 7: Change in role of agencies to support talent ecosystems</p> <p>The institutional framework for the proposed knowledge-based industry ecosystem requires a convergence of the outside in strategic perspective led by the Kerala State Planning Board grounded by a bottom-up understanding of what works in the Kerala setup devised by the DIC. The institutional arrangement of the industry development agencies is also one of convergence with the operational experience of the existing agencies with the strategic perspective of KSPB as well as the academic perspective of established academic institutions in the State.</p> <p>This has been proposed through a Centre of Excellence model as shown.</p>	Section 3.2: Change in the role of agencies for finance ecosystem	Section 4.3: Change in role of agencies to support financial ecosystem.

#	Scope	Section Reference in the Presentation	Section Reference in the Main Report
11	<p>The action plan for the above recommendations have been defined through specific inputs on the framework for strategic action planning and framework for performance monitoring and review.</p>		<p>Section 5: Action Plan for Implementation.</p>

Key Inputs from the Presentation and Coverage in the Report

A presentation of the Draft Report (Deliverable 2) was made at the Planning Board on 17th June 2019 to various associated stakeholders. The Minutes of the Meeting (17th June 2019) are provided in **Annexure 5** of this report. The key inputs made by the stakeholders at the presentation have been reproduced in the Column (2) in the table below. These discussion points/ observations have been addressed in this Final Report – in sections specified in Columns (3) and (4). The table below has been provided for the ready reference of the readers.

Table 3: Presentation Inputs and Coverage in the Report

Sl. (1)	Discussion Points/ Observations (2)	Coverage in the Report (3)	Reference to Section in the Report (4)
Overall Sector level inputs/ discussion points			
1	Several fundamental issues affect industries in Kerala. They need to be addressed on a broader level.	This input was an affirmation of the approach of the study. The study reviews the current context of industries on the conventional factors of production. It further identifies broader areas/ factors of industry development that needs to be addressed.	<ul style="list-style-type: none"> Section 2.2: Evaluation of Current Status of Industries on Factors of Production Section 2.3: Focus Areas for Kerala Industries: Strategy Canvas
2	Lack of understanding of institutions at Industry Level: Policies and Industrial Development Institutions have failed to understand the problems at an Industry Level.	This input was an affirmation of the approach of the study. The report provides the analysis of the mandate of the institutions and highlights the gaps in Industry Development Institutions in identifying the gaps at an industry level.	<ul style="list-style-type: none"> Section 4.1: Evaluation of As-Is Context and the Roles of the Institutions
3	Interactions with the government: There is a systemic problem of governance. There should be limited interactions between an entrepreneur and civil servants on this front.	The multiple interfaces of the Entrepreneur with the various development agencies have been provided and highlighted across the industry value chain. The need for clarity in interfaces to the entrepreneur have been stressed. The role of DIC in functioning as a first point of contact during operation has been recommended.	<ul style="list-style-type: none"> Annexure 2: As-is Mapping and Evaluation of the Role of Agencies Section 4.2: Change in Role of Institutions to Support Hub & Spoke Implementation.
Specific Inputs/ Discussions: Hub & Spoke Model			

Sl. (1)	Discussion Points/ Observations (2)	Coverage in the Report (3)	Reference to Section in the Report (4)
4	Industrial Hub in Kerala: While choosing a hub in Kochi, a port-based development that is export oriented is important.	The factors of selection of hubs in Kerala in the presentation had 3 factors. Incorporating the input, availability of an export oriented ecosystem/ infrastructure has also been incorporated as the 4 th Factor.	<ul style="list-style-type: none"> Section 3.1: Proposed Structure: Distributed Mfg. through the Hub & Spoke Model
5	There should be new models for Industrial Parks in Kerala apart from current model of providing leases and common facility services.	This input was an affirmation of the findings of the study. The need for the industry development agencies to move from providers and managers of asset to facilitators of the hub & spoke ecosystem wherein the asset (Industrial parks and common facility centres) are one of the many enablers is a key recommendation.	<ul style="list-style-type: none"> Section 4.2: Change in Role of Institutions to Support Hub & Spoke Implementation.
Specific Inputs/ Discussions: Land, Land Rates			
6	Land rates not capped: Land policies of each institution are distinct, costs are high and the rates are not capped. A policy change is required to change this.	This input was an affirmation of the findings of the study. The study had made references to the policy of transferring the cost of development of land to the entrepreneur and the resultant increase in cost. The Study also recommended a single interface for land allocation including unified policies and a single institution for technical inputs on land development.	<ul style="list-style-type: none"> Section 4.2: Change in Role of Institutions to Support Hub & Spoke Implementation.
7	There is excessive land available at the PSUs. There should be more infusion technology and better management and autonomy for functioning of the PSUs.	This input was an affirmation of the findings of the study. The study had highlighted effective utilization of land with the PSUs as an observation.	<ul style="list-style-type: none"> Annexure 2: As-is Mapping and Evaluation of the Role of Agencies Physical Infrastructure.
Specific Inputs/ Discussions: Labour			
8	A shift needs to happen from blue collar workforce to white collar workforce which is suited for the talent available in Kerala.	This input was an affirmation of the approach of the study. The study proposes a shift in the key factor of development from "Labour" to "Talent".	<ul style="list-style-type: none"> Section 2.2: Evaluation of Current Status of Industries on Factors of Production

Sl. (1)	Discussion Points/ Observations (2)	Coverage in the Report (3)	Reference to Section in the Report (4)
			<ul style="list-style-type: none"> Section 2.3: Focus Areas for Kerala Industries: Strategy Canvas
9	<p>There is perception problem of labour in Kerala that is not attracting industries. IT/ITES industries in Kerala are not affected by hartal/ strikes and hence such industries have suited Kerala. There are several Keralites in big industries however, most are outside the state.</p>	<p>A distinction has been drawn between the terms “Labour” and “Talent” in the context of Kerala.</p> <p>Kerala’s strength in the area of talent has been identified. That the “talent focus” approach helps overcome some of Kerala’s conventional “labour” challenges have also been highlighted.</p>	<ul style="list-style-type: none"> Section 2.3: Focus Areas for Kerala Industries: Strategy Canvas
Specific Inputs/ Discussions: Talent			
10	<p>Quality of talent: The levels of education for talent below an Engineering degree is very low, they do not have adequate skills suited for industries such as communication and presentation skills. There is no uniform policy for talent.</p>	<p>The absence of the role of industry development institutions in the area of “Talent” has been highlighted as part of the as-is evaluation.</p> <p>The role of the institutions in establishing various interfaces, enabling convergences of academia and the industry is highlighted through a Centre of Excellence Approach.</p>	<ul style="list-style-type: none"> Section 4.2: Change in Role of Institutions to Create Talent Ecosystems
Specific Inputs/ Discussions: Capital/ Finance			
11	<p>Need for a difference in approach towards MSME and large industries. Infrastructure and financing continue to be the major challenge faced by MSMEs.</p>	<p>This input was an affirmation of the findings of the study. The recommendations of the study handles Capital and Working Capital distinctly. The financial ecosystem suited for the financing challenges of the MSMEs have been provided.</p>	<ul style="list-style-type: none"> Annexure 3: As-is Context of Financial Assistance in Kerala Section 3.2: Financial Ecosystem for the Proposed Structure Section 4.2: Change in Role of Institutions to Create Financial Ecosystems
12	<p>Need to recognize the importance of timing for financing of MSMEs. The government is not paying on time to contractors, vendors, etc. this is affecting the health of several MSMEs.</p>		

1

OBJECTIVES OF THE STUDY AND SCOPE OF WORK

In this Chapter, a summary of the Objectives of the Study and the Scope of Work have been provided. The reference to the coverage of the scope of work in the detailed report has also been provided.

1 Objectives of the Study and Scope of Work

1.1 Objectives of the Study

The Kerala State Planning Board (KSPB) study on “Evaluation of Policies and Agencies for Industrial Development in Kerala” has been defined with the following objectives:

1. Understand and document the mandate, acts, rules, policies and schemes (say, on land allocation or entrepreneurship promotion) of KSIDC, KINFRA, DIC and SIDCO.
2. Assess the organizational strengths and capabilities of KSIDC, KINFRA, DIC and SIDCO.
3. Identify a set of parameters to review the performance of these agencies.
4. Suggest ways how these agencies can achieve greater coordination in their activities and build synergies in various areas of industrial development.
5. Compare Kerala’s industrial promotion agencies with those of the other states.
6. Identify avenues of gender inclusion, such as promotional activities/ schemes for women.

1.2 Scope of Work of the Study

The scope of work of the study and the references to the coverage in this report is provided in the table below:

Table 4: Scope of Work and Coverage in this Report

#	Scope	Coverage in the Report	Reference to Section in the Report
1	Suggest changes in the institutional framework of KSIDC, DIC, KINFRA and SIDCO for improved synergies, better coordination and reduced overlaps.	Two levels of changes have been proposed after the study:	
		Strategic: Changes have been proposed in the model of industries in Kerala and their key factors of development.	Section 3: Aligning Policies to Kerala’s Industrial Context
		Institutional: Changes in the institutional framework have been proposed for synergies in the current context and for alignment to the proposed model of industries.	Section 4: Aligning Agencies to Kerala’s Industrial Context
		Measure the performance of these agencies through a new set of performance indicators than what is used at present. Provide an action plan on changes in institutions (structure & capability) required to implement modified framework.	

#	Scope	Coverage in the Report	Reference to Section in the Report
2	Derive learning for industrial promotional agencies in Kerala through study of arrangements in other selected States of India.	Models and benchmarks (Local and Global) have been referred relevant to the discussions in Sections 3 and Section 4.	<i>Specific inserts in Section 3 and 4</i>

With the objective of improved readability, the key recommendations and the core discussion points in line with the recommendations have been covered in the main report. Elements of as-is review and additional information/ associated data-points supporting the recommendations have been provided as Annexures in this report.

2

INTRODUCTION TO KERALA'S INDUSTRIAL CONTEXT

The evaluation of the policies and agencies for industrial development is built on the understanding of the context of industries in the State. This chapter provides an overview of industrial context in Kerala.

A Blue-Ocean strategy canvas approach has been used to map the current context and to identify the areas of focus of the future context of industries in Kerala.

2 Introduction to Kerala's Industrial Context

This Chapter provides an overview of the current industrial context in Kerala. Two frameworks/ approaches have been used for the purposes of evaluation in this Chapter:

- The “factors of production” approach for review of the current context of the industries.
- The Blue Ocean strategy canvas for the identification of areas of focus for the industries in Kerala.

The discussions in this Chapter have been derived through stakeholder discussions as well as secondary research undertaken. The key outcomes have been provided in this Chapter and the detailed support discussions and data points have been provided in Annexure 1: Data Supporting As-Is context of Industries in Kerala and Annexure 4: Minutes of Meeting of Key Stakeholder Discussions.

The structure of this Chapter is as follows:

Table 5: Contents of Chapter 2

Section Reference	Discussion Topic	Key Topics Discussed
2.1	Introduction to the Context of Industries in Kerala	This section is provided to give a quick introduction of the industry sector in Kerala. It provides a brief history of industrial development in Kerala (Section 2.1.1) and discusses the core sectors and key parameters of industrial development (Section 2.1.2).
2.2	Evaluation of Current Context on Factors of Production	The key factors of production of a generic manufacturing driven industry sector are (1) Land (2) Labour and (3) Capital. This section provides a context of Kerala's industries on these factors of production. The key data points supporting this discussion are provided in Annexure 1.
2.3	Focus Areas for Kerala Industries: Strategy Canvas	This section reviews the key factors that could facilitate industrial development in Kerala. A Blue-ocean strategy framework has been used for the same and a strategy canvas for Kerala industries is provided as an output. The key data points supporting this discussion are provided in Annexure 1.

2.1 Introduction to the Context of Industries in Kerala

The discussions on the as-is context of the industry sector in Kerala, as specified earlier, is provided under the following heads:

- History of industries in Kerala (Section 2.1.1)
- Focus Sectors and Current State of Industries (Section 2.1.2)

2.1.1 History of Industries in Kerala

The history of industries and industrial development in Kerala can be traced back to the development of cottage industries for coir, handloom, cashew, nut, tile and brick in the 18th century. The progression of the industry from the 18th century to now is depicted pictorially below:

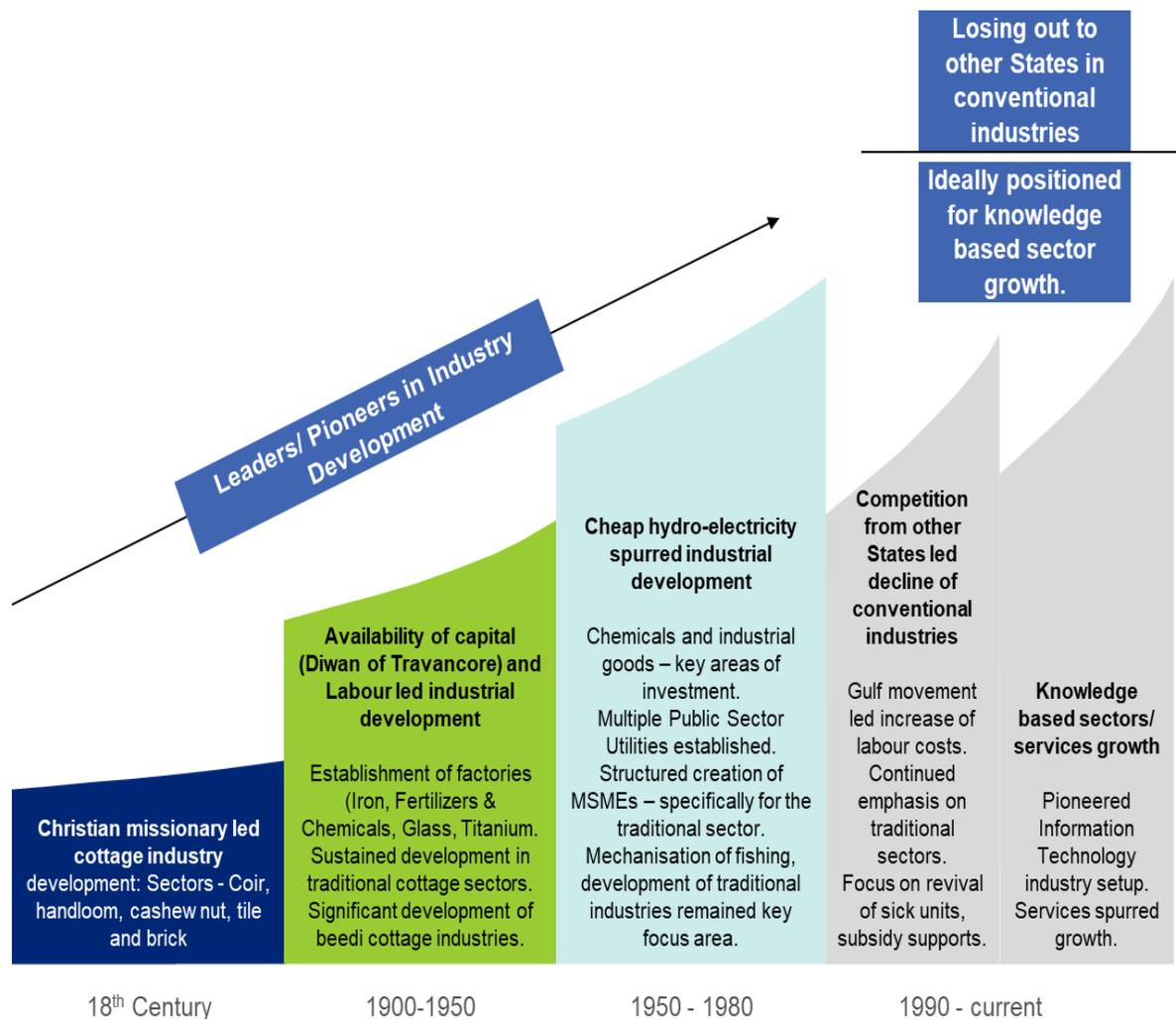


Figure 1: History of Industries in Kerala

The brief description of the history of industries in Kerala, as shown in the figure, has been summarized in the following table:

Table 6: Brief Description of the History of Industrial Development in Kerala

Period	Description/ Key Highlights of Industrial Development
Before 1900s	<p>In 18th century Kerala, caste prejudices were strong and is said to have been one of the most rigid in the country. During this time, several missionary groups present in Kerala as part of their evangelic activities set up industries to provide livelihood to the people desiring to embrace Christianity¹.</p> <p>This resulted in the domestic and manufacturing and guild system becoming obsolete and gave way to a factory system. Most of the industries in Kerala were traditional and cottage industries. Coir, handloom, cashew nut, tile, brick, etc. were some of them. However, these activities were confined to certain caste divisions of the society or particular localities.</p> <p>The Basel Evangelical Missionary Society or Basel Mission played a significant role in developing the industries in Kerala. They set up training centers for Christian youth for making them proficient in dressmaking. As public works like the construction of public offices, railway stations etc. created a market for tiles.</p>
1900-1950	<p>During this time, the Diwan of Travancore realized that sufficient capital and skilled labour was not available in Travancore or nearby states and hence invited outsiders to start industries in Kerala.</p> <p>This led to the setup of several industries in Kerala such as Indian Alluminum Company at Eloor, Travancore Sugars and Chemicals Limited, Ogale Glass Factory, Fertilizers and Chemicals Travancore limited, Rayons Perumbavoor and Travancore Titanium Products Limited.</p> <p>The traditional industries of Coir, coconut oil production and fishing thrived during this period. The Coir sector centred around Beypore, Kadalundi, Ponnani, Tirurangadi, Thikkodi and Quilandy was producing and exporting Coconut fiber to Europe and America. The coconut oil production was a thriving industry with exports from Cochin amounting to ~INR 87 Lakhs back in 1903-04. Fishing developed as an industry with activities around boat making, fish processing for storage etc. Fish oil was one of the items with great demand that was also used as a raw material for the soap making industry.</p> <p>After the First World War, beedi was heavily demanded as an item of export. The decade 1920-30 saw a phenomenal increase in the production of beedi in the places now belonging to Kerala. The year 1938 witnessed the settling of industrialists from outside Kerala who came to Kannur and set up beedi industries. The Mangalore P.V.S. beedi company, the Great Darbar Beedi Company, Bharath Beedi Company, etc. were some of the companies set up during this period</p> <p>The period 1935 to 1948 remains 'the golden age' of Kerala's industrial sector as it was during this period that many of the initial industries were started².</p>
1950 - 1980	<p>Post-1950, the major incentive offered by Kerala to investors was availability of cheap hydroelectricity.</p> <p>Chemicals and other intermediate goods were the major areas of industrial investments. Several PSUs were set up during this period such as the Hindustan Insecticides Limited, Hindustan Machine Tools Ltd., and titanium industries.</p>

¹ Human Development Report 2005, Government for Kerala

² Haripriya M, *Industry development in Malabar early attempts 1930 to 1950*, Mahatma Gandhi University, available at <http://hdl.handle.net/10603/194391>

Period	Description/ Key Highlights of Industrial Development
	<p>The period also saw an industrial structure being developed for the traditional industries. Several oil mills were setup, coir was functioning as an evolved industry. The mid-1960s saw mechanisation of the fishing sector with mechanized boats and advanced nets. The 1970s saw the focus on small and medium enterprise promotion with over 1000 small scale industries being setup.</p> <p>This period, with the establishment of KELTRON, also saw the shift from mechanical industries to new age electronics and related industries.</p>
1980-current	<p>The 1970s and 80s saw various developments in Kerala:</p> <ul style="list-style-type: none"> • The land reforms introduced in the 1960s was implemented in the 1970 and 80s. This created a considerable shift in the mindset – a significant movement from an owner- labourer relationship. • Gulf boom – resulted in the improved movement of resources into Kerala and talent outside of Kerala. • Increased literacy rates/ educational levels. • Liberalization: Mechanisation and development of industries with cheap labour in neighbouring states. <p>The shift in the mind-set of the labourers, associated increase in labour costs and the inability to compete with the productivity and costs of industries in the neighbouring states resulted in the decline of the conventional industry sector in Kerala. The traditional industries and household industries faced an unprecedented recession. Some of them like coir and cashew industries were shifted to neighbouring states. The dominance of traditional industries has declined over the years due to multiple factors and currently these industries are labelled as sunset industries¹.</p> <p>The government continues to recognize and promote the traditional industries, to revive sick units, to expand and improve the performance of public sector units and to provide incentives to promote private sector industries. However, the growth in these areas have been limited.</p> <p>While the traditional sectors face the challenges stated above, Kerala has continued to focus on the development of new age knowledge-based industries. Electronics sector remains a key area of focus. The software industry has gained prominence and established itself in the 2000s² and the services sector is consolidating further. New areas like medical devices, bio-technology, life-sciences have also gained prominence.</p>

It can be observed from the above that, Kerala, once pioneers in manufacturing led industrial development, have lost their positioning to neighbouring States. Kerala has undertaken a two-pronged approach of (1) Continuing support for traditional manufacturing sectors and (2) Establishing focus on service sector with foray into Information Technology and other technology-based sectors.

¹ Valsa John C, *Economics of Toilet Soap Production in Kerala*, University of Calicut

² K. N. Harilal and K. J. Joseph, *Stagnation and Revival of Kerala Economy*

2.1.2 Focus Sectors in Kerala and Current State of Industries

The focus sectors of Kerala can be drawn from the articulated Perspective Plan, 2030, the strategic plan 2017-22 and the yearly action plans & budgetary allocations. The representation of the same is as shown below:

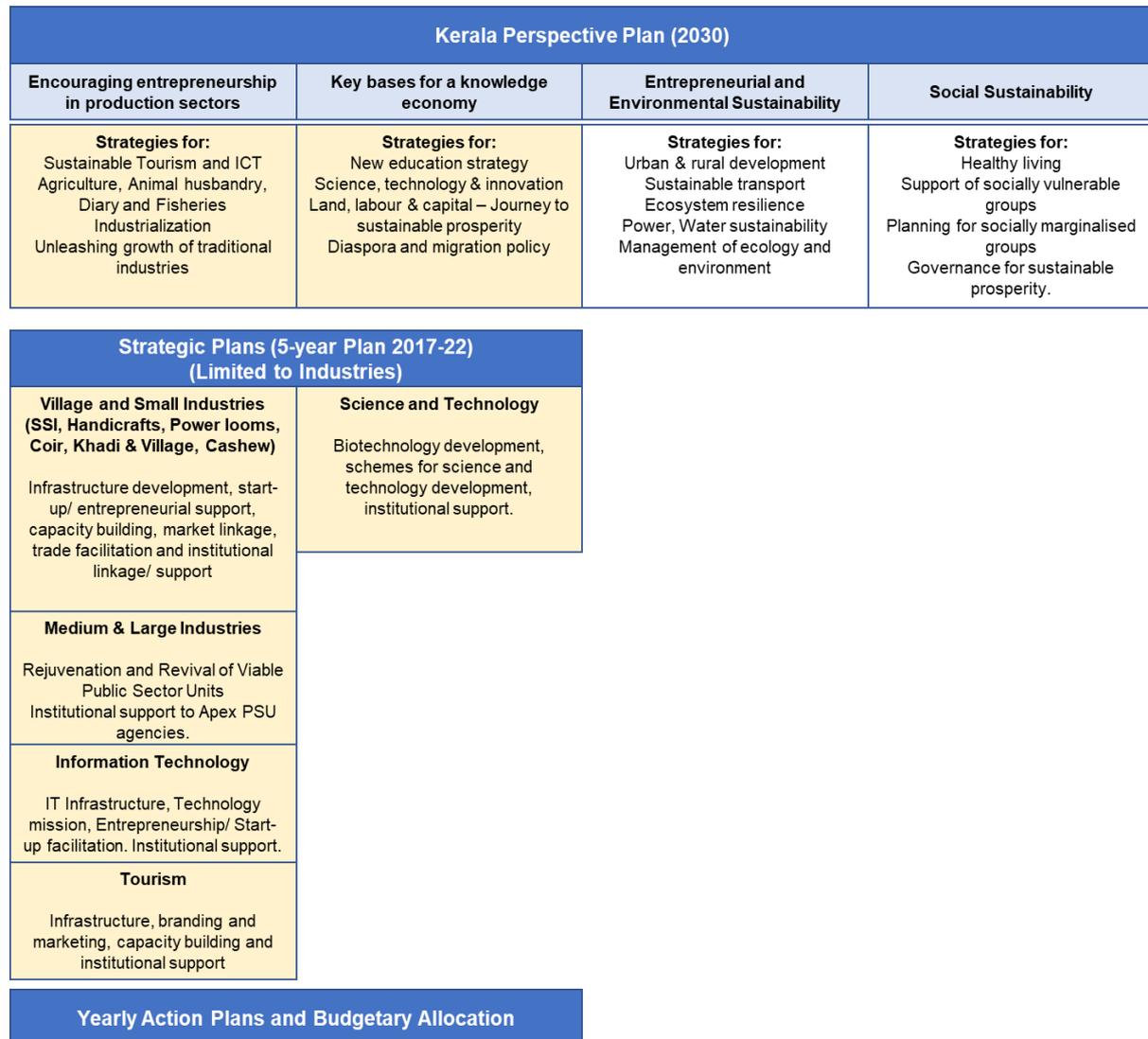


Figure 2: Kerala’s Focus Sectors as Represented in their Strategic Planning Documents

It can be seen from the figure that the focus of the strategic plan continues to be on the production sectors – specifically in the traditional village and small industries. In addition to this, the focus is on rejuvenation and revival of viable public sector units in the medium & large industries space. In the service sectors, the focus has predominantly been on the information technology and tourism sectors. The core focus of the production sector has also been complemented with knowledge-based economy developed around the Science & Technology space.

The current state of industries in Kerala with specific reference to the focus sectors are highlighted through two key parameters (1) The Gross value add and (2) Employment in organized sector. The same has been summarized and discussed subsequently.

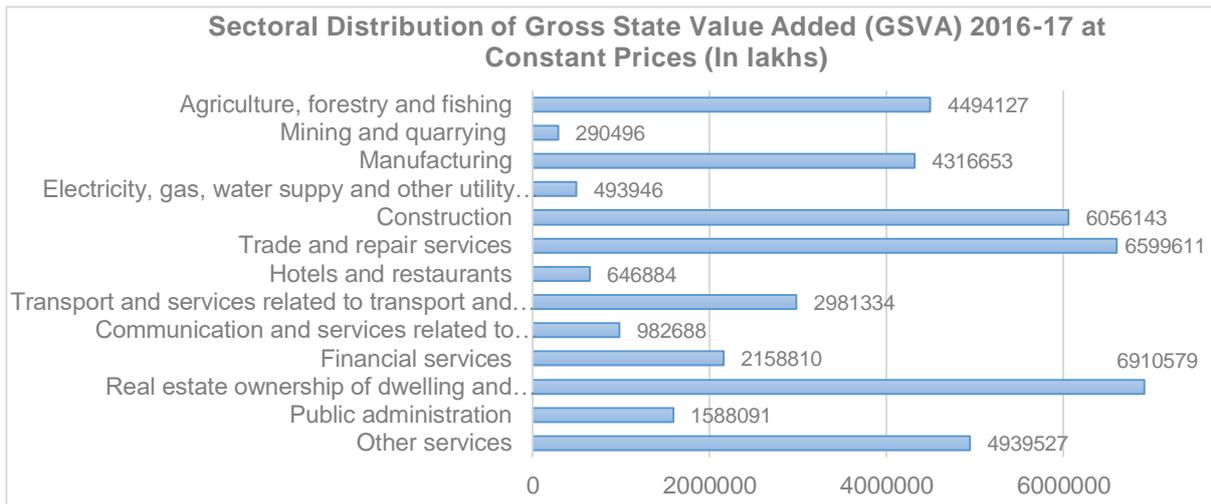


Figure 3: Gross Value Added by Industries in Kerala (2016-17)

It can be observed that the tertiary sector has a contribution of 63.14% to the State's economy, while the primary and secondary sectors contribute 11.27% and 25.59% respectively. A review of the past trends on GSVA also suggest that the dependence on the service sector continues to rise while the dependence on manufacturing and agriculture continues to decline.

The GSVA statistics can be read along with the statistics on employment in organized sector:

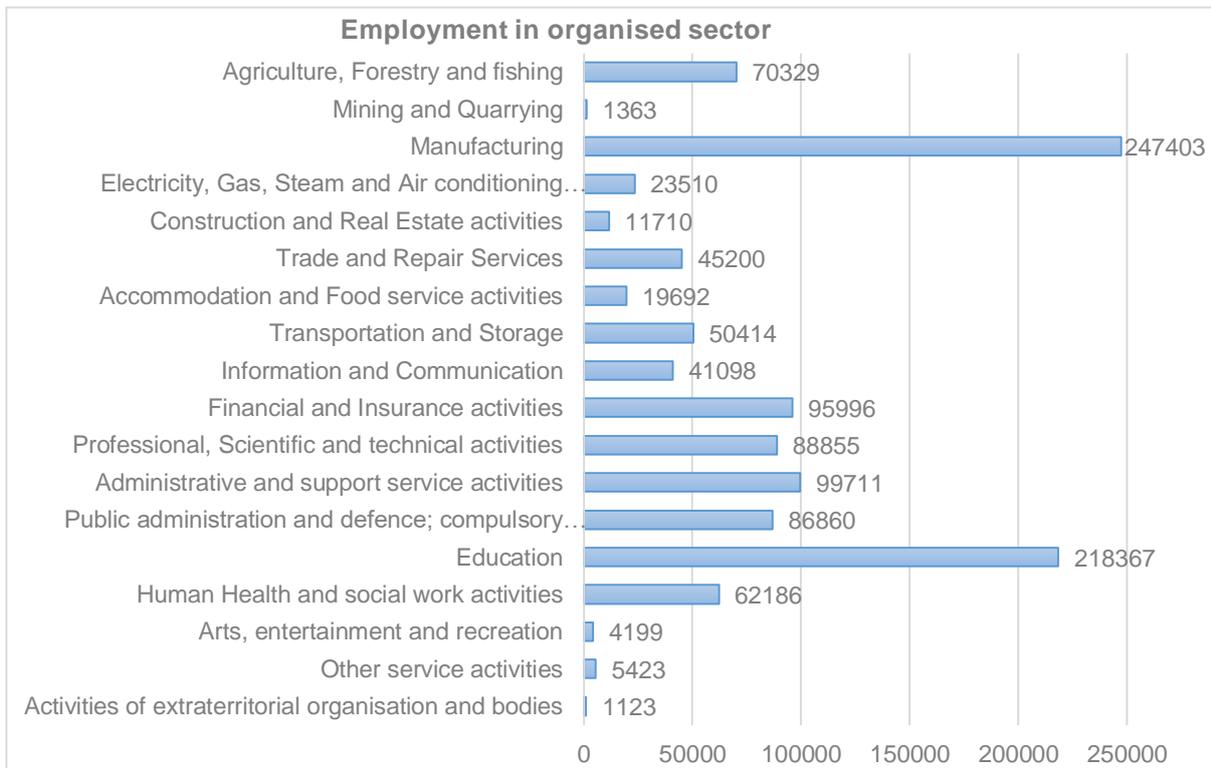


Figure 4: Employment Statistics in the Organized Sector in Kerala (2016-17)

It can be observed that the key employment providing industries in the organized sector in Kerala are manufacturing, education, administrative and support service activities, professional, scientific and technical activities and agriculture, forestry and fishing. In 2016, out of 11.85 lakh persons employed in the organised sector 5.75 lakh (48%) are in the public sector and 6.10 lakh (52%) are in the private sector.

There is a mis-match between the focus sectors for industrial development in Kerala and the current contribution to economy by the sectors. Similarly, there is also a mis-match between the GSVA contributors and the employment generators in Kerala. The key context resulting in these situations have been analysed in **Section 2.2**.

2.2 Evaluation of Current Context of Industries on Factors of Production

The discussions in the previous section highlighted the drop in the contributions of the primary and secondary sectors to the economy while continuing to be focus areas of the State and being top employment generation areas. For the purposes of this report and this evaluation, the secondary sectors (Manufacturing) is considered a key area of focus.

The industry structure for the secondary sectors are conventionally characterized by large industries and its ancillary Micro, Medium and Small Enterprises (MSMEs). The key factors of production of these conventional industries were land, labour and capital.



Figure 5: Conventional Industry Context and Key Factors of Industry Development

It can be observed from the history of industries in Kerala (**Section 2.1.1**) that the industry structure followed the broad outline of the above between 1900 and 1980. The availability of capital and labour drove establishment of factories and subsequently large Public Sector Units (PSUs) with an associated development of ancillary MSME units/ sectors.

However, the implementation of land reforms resulted in the fragmentation of land-holdings thereby reducing the extent of land available for large industries. The availability of opportunities in the Gulf also resulted in the drop in the availability of labour and increased labour costs. The key context of industries on these factors of production, drawn in comparison with other States in Kerala can be summarized as below:

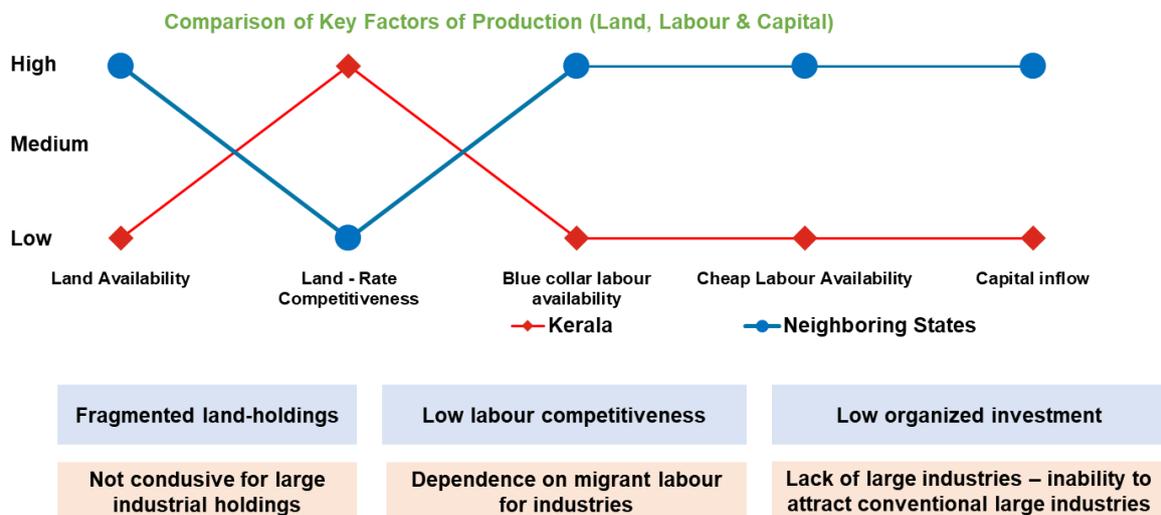


Figure 6: Comparison of Kerala with other States on Key Factors of Production

The key data points on the factors of production have been provided in **Annexure 1**. The summary of the same in line with the figure above are as follows:

- Factors of Industrial Development - Land:** Kerala ranks low on availability of land for industries as well as in availability of land at competitive rates. Kerala is only third behind Manipur and West Bengal on the total availability of arable Land and therefore ranks among the lowest in terms of the availability of fallow land for industrial use. This was further accentuated by the implementation of the Land Reforms that fragmented the existing land holdings. A rate of allotment of the available land in Kerala is also high as is evident from the comparison below:

Table 7: Comparison of lease premium for industrial land in Kerala and T.N

Industrial Estates Kerala (INR/ Cent)	KINFRA Lease Premium (INR/ cent)	Tamil Nadu SIDCO (INR/ Cent)
Average: 71000	Average: 1,27,000	Average: 45,000
Range: 30,000 to 1.4 Lakhs	Range: 37,000 to 2.65 Lakhs	Range: 30,000 to 70,000

This is owing to the limited availability of industrial land as well as the policy of the Government of Kerala that states that **“Land shall be allotted only after recovering all costs incurred by the agency. Where necessary, the infrastructure shall be developed in phases and the anticipated cost shall be loaded in the land pricing.**

- Factors of Industrial Development - Labour:** Kerala ranks comparatively low on availability of blue-collar labour as well as availability of cheap labour. Kerala’s low blue-collar labour availability can be explained by its education statistics. The State has large proportions of population that has received some degree of formal education as compared to other states. 797 per 1000 of persons have a higher secondary education. Considering these higher education statistics in Kerala, the working class in Kerala do not pursue blue-collar jobs in the State. Kerala also has a higher proportion of its population in higher income brackets as compared to other States. It also has among the lowest proportion of people in the lowest income bracket as well. The minimum wage in Kerala (INR 600) is higher than other States and the overall social development ranking of Kerala are causes for the high cost of blue-collar labour in the State.
- Factors of Industrial Development - Capital:** With the above factors impacting competitiveness of large industries in Kerala, the flow of Capital for large industries in the State have also been limited.

Summarizing, Kerala with its high social development index and low availability of land for industrial use does not align with the conventional structure of industries in Kerala and its associated factors of industrial development. The resultant drop in competitiveness has impacted the large industries in Kerala adversely and subsequently the ancillary MSMEs that were dependent on the large PSUs.

2.3 Focus Areas for Kerala Industries: Strategy Canvas

The focus of the evaluation on the factors of production was to understand the current context as well as to identify possible areas of focus for Kerala. The mapping of the key differentiators on the blue-ocean strategy canvas that provide the State its competitive advantage is as shown below:

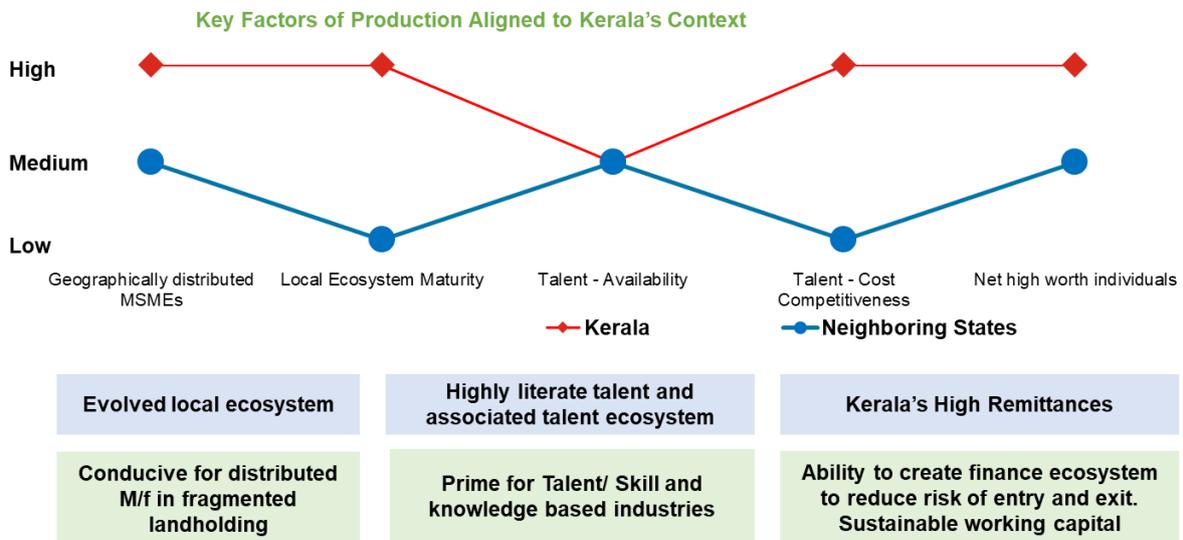


Figure 7: Key Factors of Production/ Industrial Development Aligned to Kerala's context

The key data points on the above have been provided in **Annexure 1**. The summary of the same in line with the figure above are as follows:

- **MSME Ecosystem:** The typical dis-advantage in large industries of fragmented land-holdings and low land availability does not apply to the MSMEs. And Kerala, in this area has a distinct advantage. The State has the highest density of MSMEs in the country (with 2.57 Lakh MSME) spread across the various districts in the State. With 42 MSMEs per population of 1000, the MSME ecosystem in Kerala is evolved and ideally positioned to be leveraged for growth.
- **Local ecosystem maturity:** Kerala leads the country in the devolution of powers to the local Governments and has an evolved and capable ecosystem of cooperatives and local self-help groups. This ecosystem complements the MSME ecosystem that is spread across the State well and provides a distinct advantage.
- **Talent Availability and Cost Competitiveness:** Kerala, while at a dis-advantage in blue-collar workforce, has a distinct advantage of availability of high-quality cost competitive talent. Supported adequately by a strong talent development ecosystem in the State, Kerala is ideally positioned to leverage the growth of knowledge-based industries requiring top talent.
- **Net high-worth individuals:** While Kerala has not been able to establish finance for large industries, Kerala has capital vested with high-net worth individuals and a large quantum of gulf remittances. This capital can be effectively utilized for the development of the MSME ecosystem discussed above through structured interventions.

Summarizing, there is a need for Kerala to move from the conventional industry structure to a structure aligned to its key differentiators. The State is conducive for distributed manufacturing within the fragmented landholdings, has the talent required for hi-tech knowledge-based industries and has the capital base to sustainably foster these industries. The change in policies/ alignment required in this context is discussed subsequently in **Chapter 3.**

3

ALIGNING POLICIES TO KERALA'S INDUSTRIAL CONTEXT

Chapter 2 provided the context of the industries in Kerala and highlighted the need for re-alignment of the industry structure.

This Chapter provides the change in the structure of industries required to leverage Kerala's strengths and discusses the operating model and the financial ecosystem required for its implementation.

3 Aligning Policies to Kerala's Industrial Context

The Chapter 2 identified key differentiators of industrial ecosystem in Kerala and highlighted the need for fostering distributed manufacturing MSMEs and hi-tech knowledge-based industries in the State. This Chapter expands on the same and provides an implementation model (Operating model and financial ecosystem) to support this transformation.

The structure of this Chapter is as follows:

Table 8: Contents of Chapter 3

Section Reference	Discussion Topic	Key Topics Discussed
3.1	Proposed Structure: Distributed Manufacturing through the Hub and Spoke model	This section provides the proposed structure of the industries in Kerala aligned to the modified key factors of production highlighted in Chapter 2. The proposed change in the structure of industries is focussed at distributed manufacturing through the hub and spoke model on a technology platform and the same is discussed in this Section.
3.2	Financial Ecosystem for the Proposed Structure	The financial requirements in the proposed structure of industries are distinct from the requirements of conventional industry structures. This section provides the recommendation on an integrated financial ecosystem for the proposed structure of industries in Kerala.

Associated case studies, relevant benchmarks/ comparative models have been included as inserts in the above sections to support the discussion.

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3.1 Proposed Structure: Distributed Mfg. through the Hub & Spoke Model

The evolution of industry structures in Kerala (summarized from **Section 2**) and the proposed structure for the State is as shown below:

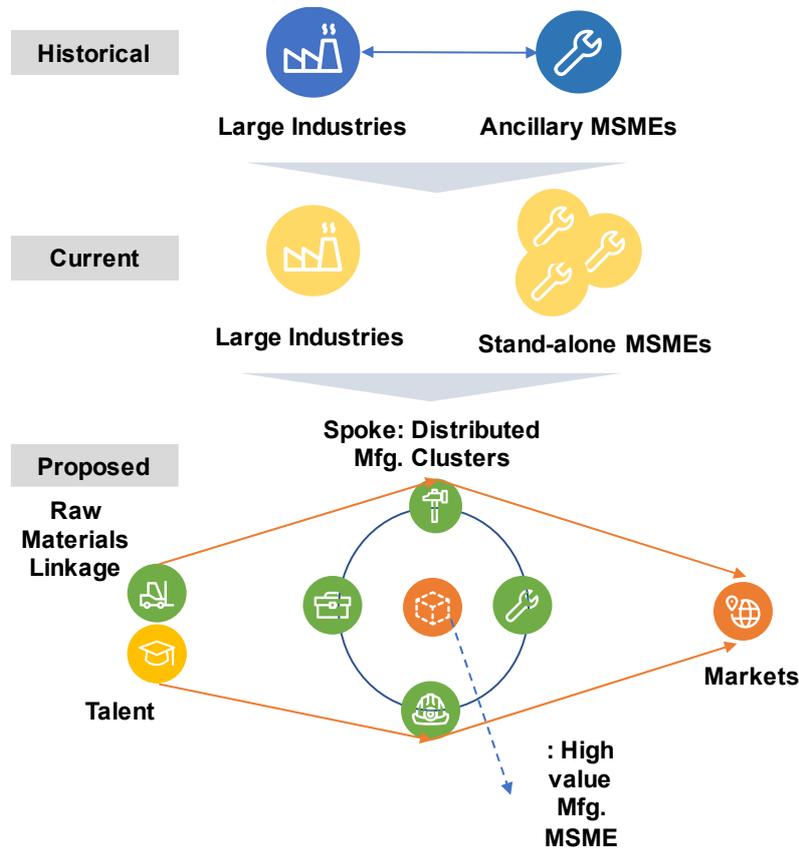


Figure 8: Proposed Industry Structure aligned to Kerala's Context

The core of the proposed change lies in the transformation of the stand-alone MSMEs in the current setup into profitable and sustainable ventures suitable for investments. This is proposed through the following interventions:

- **Linking MSMEs:** Creation of connected distributed manufacturing clusters.
- **Improving value addition:** Introduction of hi-tech manufacturing MSMEs and knowledge-based industries as a hub for the distributed clusters.
- **Establishing key linkages:** Facilitating raw material and market linkages for the erstwhile dis-connected MSMEs by leveraging technology.
- **Professional services:** Supporting sustainable operations of the MSMEs by professionalising operations, monitoring and review and working capital management.

Note: This model of distributed manufacturing clusters and hi-tech manufacturing MSMEs are proposed as an added area of focus and not as a replacement for the existing industrial setup.

The proposed model does not require large areas of land, requires limited blue-collar labour force for its operations and has limited capital requirements for setup. The objective is to setup professionally run MSMEs closer to the source of raw material or to the market and creating enabling ecosystems for

its profitable operations. In this context, the key factors of development of the proposed structure of industries is as shown below:



Figure 9: Proposed Industry Structure with the Key Factors of Industry Development

The description of the model along the lines of the key factors of industry development is as detailed below:

Table 9: Key Highlights of the Proposed Hub & Spoke Model

Key factors of industry development	Description of the model
Cluster Management	<p>Historically, the MSMEs in the State were ancillary units to the large manufacturing units. They were located close to these large units and the linkages (raw materials and markets) were established through these large units. However, with the failure of the large industries, the MSMEs were left located further from the source of raw materials and with no definite market linkages for sustenance.</p> <p>The Government of Kerala has implemented a policy for Cluster Development of MSMEs by provided infrastructure and common facility centers. However, the existing infrastructure driven policy approach does not adequately focus on the linkage to the raw materials nor has a structured mechanism for market linkages, resulting in unviable operations. Moreover, these MSMEs are impacted by limited margins associated with their limited low technology value addition and a general lack of professional management.</p> <p>The key change in the proposed model is the creation of distributed manufacturing MSMEs closer to the source of the raw material and introduction of hi-tech manufacturing MSMEs for production and services that linked to the market. This ensures reliable and viable procurement of raw material and value addition closer to the source at the distributed manufacturing MSMEs and profitability established through hi-tech products from the MSME hubs that are aligned to the markets.</p> <p>The management of these linkages are proposed on a transparent technology platform that links the seller (raw material source), the processors (Distributed Mfg. MSME spokes, hi-tech manufacturing hubs) and the buyer (markets). Professional shared services for sustainable operation of the units are also proposed.</p> <p>The identified hubs for Kerala and the explanation of the model through a case study of the coconut-coir industry is provided in Section 3.1.1.</p>

Key factors of industry development	Description of the model
Working Capital Management	<p>Considering the size of the units and their scale of operations, the distributed manufacturing spokes do not have extensive capital requirements. However, they would require adequate support as working capital for sustainable operation of their units.</p> <p>This involves creating ecosystems for receiving financial support for working capital and professional support in helping the units manage their working capital recovery cycles.</p> <p>This is proposed through an integrated financial ecosystem discussed in Section 3.2.</p>
Talent Management	<p>The change in strategy from managing blue-collar labour force to the management of talent is significant. The focus of the model is establishment of linkage of talent centers within the State and creating opportunities through the hi-tech MSMEs and professional shared services to retain talent of Kerala within the State.</p>

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3.1.1 Identification of Hubs and Case Study of a Hub and Spoke Model

The following factors were considered for the identification of the potential hub centers in Kerala for the implementation of the proposed model:

- Proximity to an existing PSUs/ Government Agencies
- Availability of established ecosystem players in the sector in the region.
- Proximity to research and talent ecosystems.

Considering the above factors, the potential hubs identified for Kerala are as shown below:

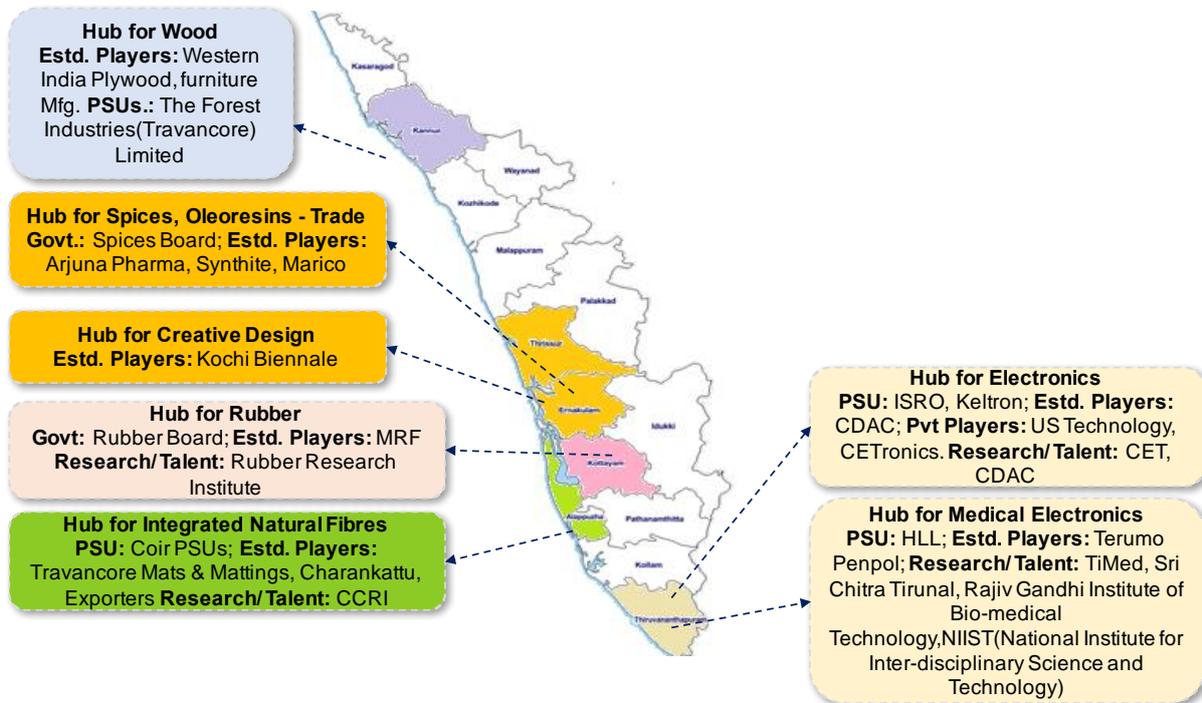


Figure 10: Potential Industrial Hubs in Kerala

The functioning of the hub and spoke model is explained with the case study of the Integrated Natural Fibres Cluster highlighted in green in the figure above.

Hub and Spoke Model - Case Study: Integrated Natural Fibre Cluster in Alleppey

Alleppey was historically the hub of the Coir sector in the State of Kerala. With retting of Coir fibre in the back-waters, an entire ecosystem of large public sector units (Kerala Coir Machine Manufacturing Company, Kerala State Coir Corporation, Foam Mattings India Limited and Coirfed), established private players (Travancore Mats and Mattings, Charankattu Exporters) and ancillary traditional cottage Coir spinning and weaving units.

Currently, the coir sector in Alleppey is facing numerous challenges and is losing out to competition from neighbouring States. The lack of the value differentiator of the retting of fibres owing to the advent of mechanical fibre extraction has significantly impacted the cottage industries in Alleppey with the State depending on neighbouring States to cater to almost 95% of its coir fibre requirements.

Hub and Spoke Model - Case Study: Integrated Natural Fibre Cluster in Alleppey

The units in Alleppey are now neither close to the source of raw materials (The four southern districts in Kerala currently contribute to less than 30% of Coconut production while being responsible for approximately 80% of the Coir yarn production (2015-16) in the State¹) nor are they aligned to the market requirements (as the production continues to be on traditional products with limited margins).

The hub and spoke model is currently being implemented for the revival of the Coir sector in Alleppey as part of the 13th Five Year Plan of the Government of Kerala. The key highlights of this model are as shown below:

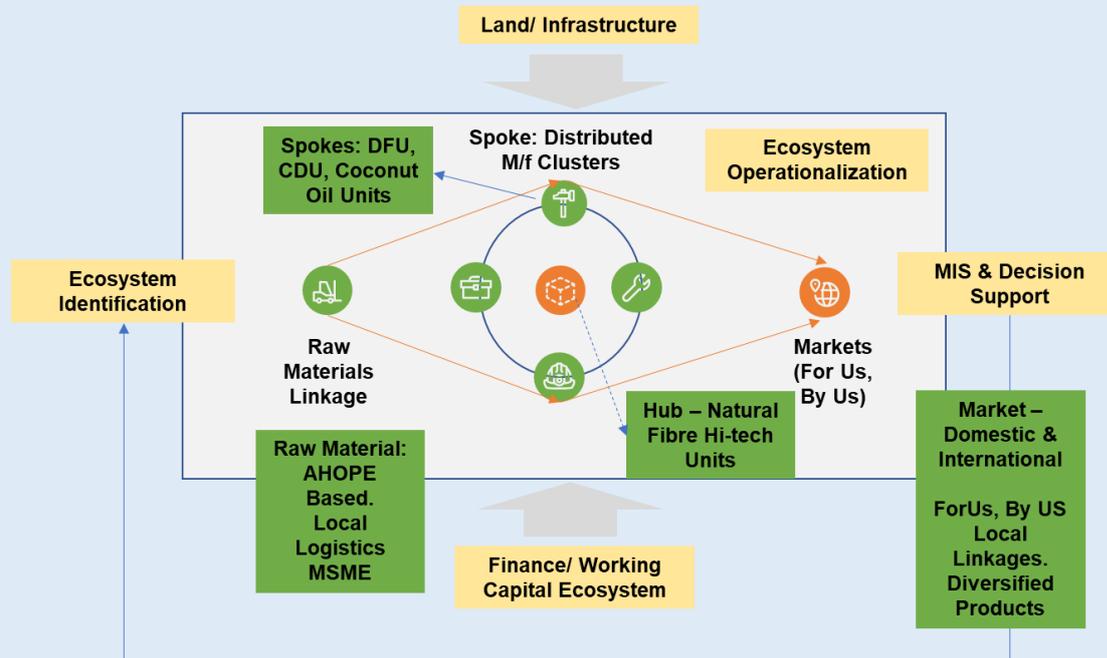


Figure 11: Hub and Spoke Model Case Study – Integrated Fibre Cluster in Alleppey

- **Ecosystem Identification**
The hub in Alleppey was identified in line with the three factors – proximity to existing PSUs/ Government agencies (PSUs listed earlier), availability of established ecosystem of players (the private sector and the cooperatives sector in Alleppey) and the proximity to research & talent ecosystems (Central Coir Research Institute, National Coir Research and Management Institute).
- **Spoke – Distributed Mfg. Clusters** closer to the source of raw materials
The focus of the revival of the sector lay in creation of decentralised fibre extraction units closer to the source of the raw materials. 500 professionally run de-fibered MSMEs across the State, closer to the production centres of coconut have been proposed as part of the 13th Five-year plan. Over 75 such units have already been setup and are in operation. The decentralised and distributed spokes have further been linked with associated MSMEs in the Coconut sector (Copra drying MSMEs and the Coconut oil production factories) to ensure realisation of the value of both the coconut and the coconut husk locally.

¹Kerala Coir - The Agenda for Modernization; Dr. T.M. Thomas Isaac and Ajit Mathai, 2017; National Coir Research & Management Institute, Kerala, Table 4.1. Pg. 44.

Hub and Spoke Model - Case Study: Integrated Natural Fibre Cluster in Alleppey

Run professionally and supported adequately through Government interventions, the defibering MSME sector has become a profitable venture in the State garnering interest of the Private sector.

- Hub – Integrated Natural Fibre Units in Alleppey

With the spokes closer to the source of raw materials and providing the Coir fibre to the units in Alleppey at viable prices, the hub was proposed to be aligned to the market requirements. Currently hi-tech MSMEs for diversification of the Coir products (from mats and mattings to Binderless Coir Boards, Geo-textile units and needle-felt Coir units are in the process of implementation around Alleppey. Equipped with the talent ecosystem of CCRI and NCRMI, an integrated natural fibre centre is proposed in Alleppey to explore integration of Coir with other natural fibres (Banana fibres, Jute, Sisal, etc.).

These units for diversified products are not proposed as large factories. These are small extensions to existing factories supported adequately with appropriate technologies to align to the market requirements.

- Ecosystem Operationalization

The linkages, logistics and traceability of the products across these distributed spokes and the central hub have been established through AHOPE (a technology platform for homestead procurement). Market linkages through a structured “For Us, By Us” sustainable production branding has also been initiated for the natural fibre products from the State.

Professional functioning has also been facilitated through centralised shared services for machinery design and maintenance of these units, supported by the PSUs and the Project Management Unit of the Directorate of Coir Development.

- MIS and Decision Support

Core to the functioning of the distributed manufacturing spokes and integrated fibre hub is the constant monitoring and review of sustainable operations by the units, identification of challenges and provision of timely support. The established field level ecosystems in Kerala have been adequately empowered to undertake the monitoring & review and providing MIS for appropriate policy formulation & implementation.

Note: A key factor of success of the hub and spoke model for integrated fibres in Alleppey, in addition to the above interventions, was the establishment of a financial ecosystem for working capital management. This has been detailed in **Section 3.2**.

3.2 Financial Ecosystem for the Proposed Structure

The distributed manufacturing cluster-based hub and spoke model proposed is not capital intensive. However, support in working capital would be required for sustainable operation of the units. This was highlighted in Table 6 in Section 3.1 and re-iterated in the case study of the hub and spoke model of the integrated natural fibre cluster in Alleppey. **This section provides the proposed financial ecosystem suited for the hub and spoke distributed manufacturing MSME industry model.**

Working capital loans for the MSME units are not easily accessible, with the banks requiring collaterals that are limited within the target group. The proposed financial ecosystem model that integrates seller, assured buyer, banks and insurance providers on a technology platform is as shown below and detailed subsequently:

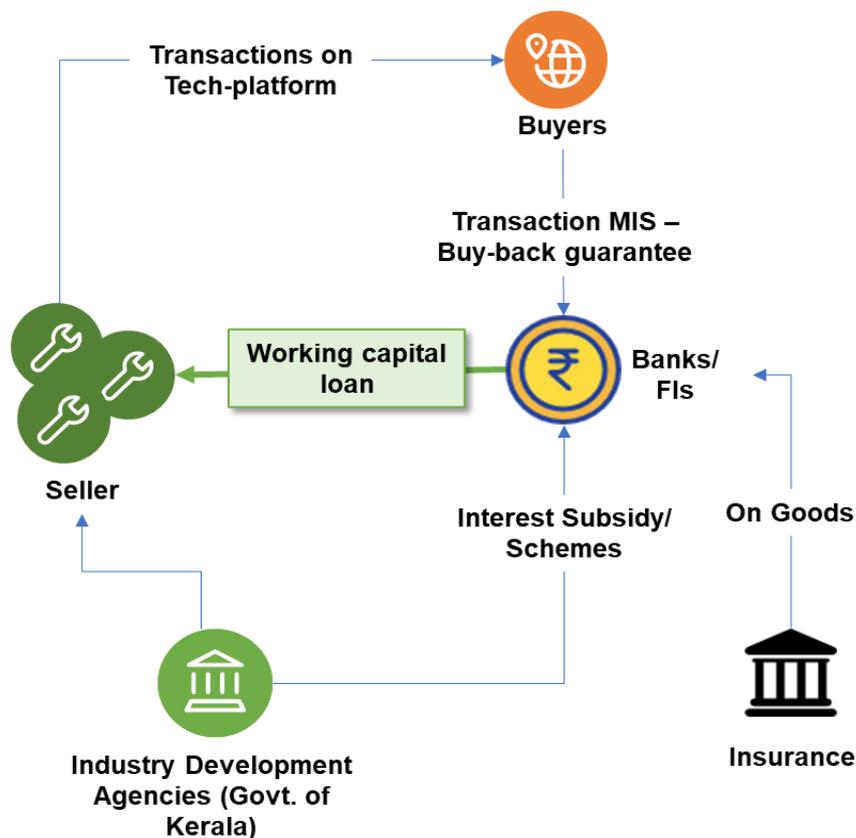


Figure 12: Financial Ecosystem Proposed for the Hub & Spoke Distributed Mfg. Clusters

As observed in the figure, the challenge of working capital can be addressed by adopting a model on a technology platform that integrates the seller, who is the loan applicant, and an assured buyer, who also ensures credibility for the seller. The role of bank is to recognize the future economic value of the seller's good or service and provide a working capital loan. The risk is mitigated by the involvement of an insurer in this model. All linkages and transactions are proposed on a mobile technology platform. The transaction MIS with adequate checks and balances provides the necessary real time information for the banks and the insurance service providers on the transactions on which the guarantees are made.

The role of the Government agencies in this ecosystem is also critical. Built on the foundation of real-time information on operational transactions and the health of the units, the role of the Government is to design and provide necessary subsidies and certain buy-bank guarantees to further risk mitigate the Banks/ FIs' investment.

The proposed financial ecosystem has been detailed through a case study of the Integrated Coconut and Coir Distributed Manufacturing Clusters in Perambra, Kozhikode

Financial Ecosystem – Integrated Coconut and Coir Distributed Manufacturing Clusters in Perambra, Kozhikode

This case study is an extension of the hub and spoke model for integrated natural fibres discussed in **Section 3.1.1**.

The proposed distributed manufacturing-based aggregation model and the integrated value realization of Coconut and husk has been in the process of implementation at the Perambra Coconut Producer Company (PCPC), a cooperative of 25,000 Coconut farmers in Kozhikode district.

In the model implemented, supported by the homestead level production visibility, the agent (Copra Drying Units of the Federations and Coir Defibering Units of the Coconut Producer Company) arranges for Coconut harvesting and aggregation of Coconuts, de-husked Coconuts and Coconut husk at a declared price at the homestead. The aggregated produce from multiple homesteads is delivered at inter-linked demand centers/ processing centers situated locally (Copra drying units and Coconut husk de-fibering unit). After verification, payments are electronically transferred to the homestead suppliers at a transparent price visible to the homestead farmers at all stages.

The integrated model discussed has facilitated aggregation of the Coconut & husk; and, established the base for improved value addition (processing of Coconut husk for Coconut fibre and Coir pith; and, processing of Coconut for copra and Coconut oil). However, the operations at PCPC had not been optimal. This has been owing to the following: (1) Diversion of working capital for capital expenditure like civil construction (2) High capital exposure including significant investments on Neera unit without an associated viable business model and (3) Poor capacity utilization and professional management issues. The need for professional support in financial/ working capital management was identified and the proposed financial ecosystem framework was implemented as follows:

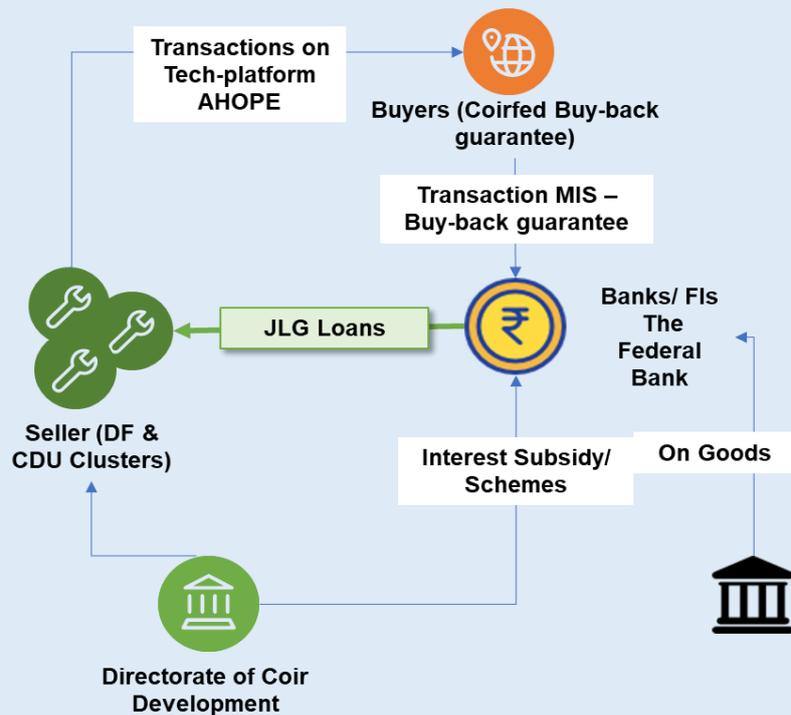


Figure 13: Financial Ecosystem Case Study – Perambra coconut Producer Company

Financial Ecosystem – Integrated Coconut and Coir Distributed Manufacturing Clusters in Perambra, Kozhikode

It can be observed that the model for PCPC is being built on a buy-back guarantee by Coirfed. In the model, the spinning Societies through Coirfed are the Buyers while the defibering Units are the Sellers. With the commitment of Coirfed to purchase fibre from the defibering units, the Federal Bank has extended Joint Liability Group (JLG) loans for working capital management at the Federation level at Perambra.

The financial transactions done through the mobile application on a Federal Bank payment gateway ensures that the real-time MIS of transactions are generated and provided both to the Bank and to Coirfed for easy monitoring of the working capital loans.

This financial ecosystem as detailed above allows for the participation of commercial and rural Cooperative Banks both for capital equipment purchase and more specifically for working capital management.

Summarizing, Chapter 3 provided recommendations on the proposed structure of the industry aligned to the key differentiators in Kerala.

- **The primary change in structure proposed is the development of a Distributed Hi-Tech Manufacturing Cluster through a hub and spoke MSME model. Suggested to be built on a technology platform, this recommendation is a shift from the conventional large industries and ancillary MSMEs setup to an integrated model contextual to Kerala's industrial ecosystem.**
- **The associated change proposed is in the recommendation for improving working capital/ financing needs of the hub and spoke MSMEs. An ecosystem of Buyer – Seller – Banks/ Financial Institutions – Insurance and Industry Development Agencies built on the transaction/ buy-back guarantee driven through a technology-based MIS system has been proposed.**

Critical to this implementation is the alignment of the Industry Development Agencies to the proposed model. The review of the as-is context of these agencies and the recommendations for their alignment is discussed subsequently in Chapter 4.

4

ALIGNING AGENCIES TO KERALA'S INDUSTRIAL CONTEXT

Chapter 3 provided the change in the model of industries proposed for Kerala. The implementation of the model requires a re-alignment of the roles of the Industry Development Institutions in the State.

This Chapter 4 provides the as-is context of these agencies and discusses the changes required in the roles of these agencies to align to the proposed model.

The recommendations in this Chapter have been derived after a detailed as-is understanding of the roles of the various agencies across the factors of production. The details of the same are provided in Annexure 2 and referred in relevant sections in this Chapter.

4 Aligning Agencies to Kerala’s Industrial Context

The institutional arrangement of the industry development agencies in Kerala is as shown below:

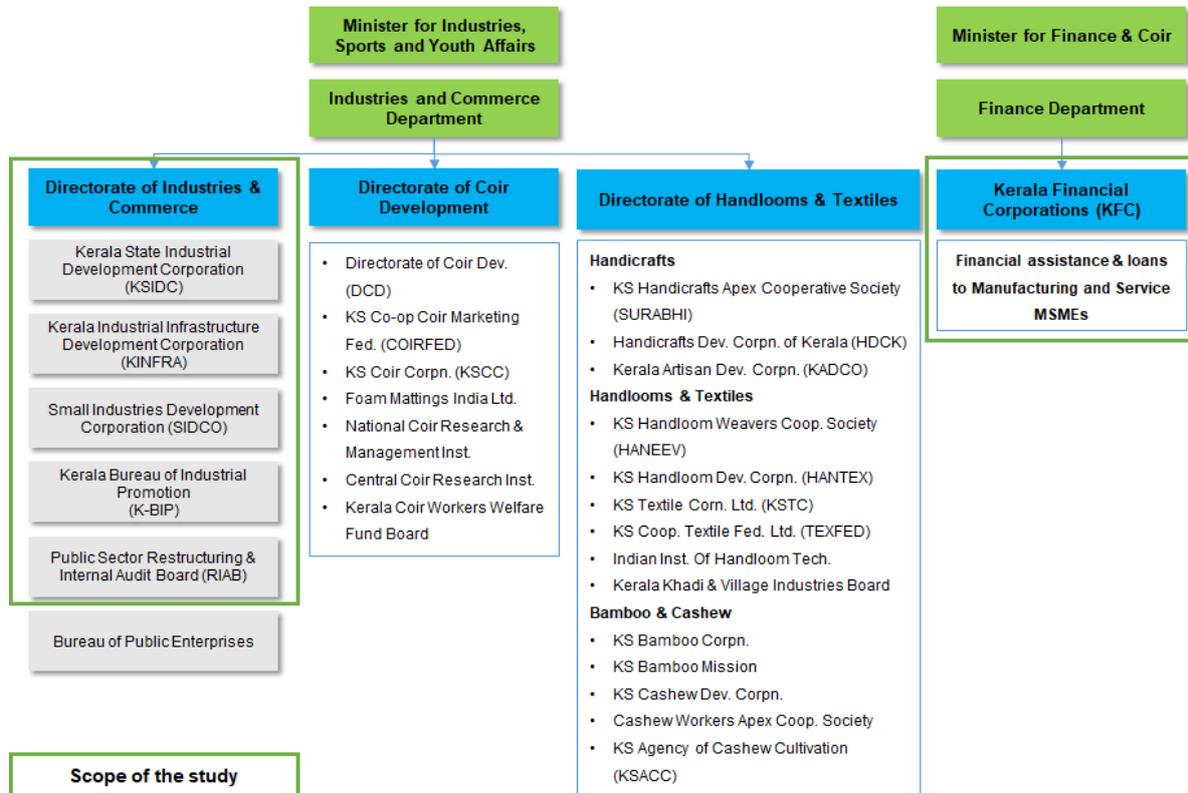


Figure 14: Institutional Arrangement of Industry Development Agencies in Kerala

This Chapter analyses the institutions (KSIDC, KINFRA, SIDCO, DIC and KFC) involved in industrial development in Kerala and covers the following:

- Evaluation of the as-is context and roles of the agencies
- Changes in role required to align the agencies to the proposed model of industries in Kerala.

The structure of this Chapter, in line with the above, is as follows:

Table 10: Contents of Chapter 4

Section Reference	Discussion Topic	Key Topics Discussed
4.1	Evaluation of the As-is Context and Roles of Agencies	A detailed documentation of the as-is roles of the agencies across the value chain of industrial development was undertaken and the details of the same has been provided in Annexure 2 .

Section Reference	Discussion Topic	Key Topics Discussed
		This section summarises the key observations aligned to the discussion of the as-is context of industries in Kerala and the proposed model for industrial development in Kerala discussed in Chapters 2 and 3 respectively.
4.2	Change in Role of Agencies – To Support Hub & Spoke Implementation	The changes in the roles of various institutions (KSIDC, KINFRA, SIDCO, DIC) required to support the implementation of the proposed hub and spoke model is provided in this Section. This includes recommendation on (1) Change in the role of the institutions and their interfaces (2) Associated change in the governance structure of the agencies and (3) Change in the industries cadre structure.
4.3	Change in Role of Agencies – To Support Financial Ecosystems	The changes in the role of the industry development agencies (specifically KFC) required for the implementation of the integrated financial ecosystem for working capital management is provided in this Section.
4.4	Change in Role of Agencies – To Create Talent Ecosystems	A core focus of the proposed model of industries in Kerala is the management of the talent ecosystem. This section provides the changes in the role of agencies and the introduction of a Centre of Excellence model for the convergence of their roles and for the development of a talent ecosystem in Kerala.

Associated case studies, relevant benchmarks/ comparative models have been included as inserts in the above sections to support the discussion.

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4.1 Evaluation of the As-is Context and the Roles of Agencies

A detailed documentation of the as-is roles of the agencies across the value chain of industrial development was undertaken and the details of the same has been provided in **Annexure 2**. The summary of observations of the as-is study aligned to the generic context of industries and the current context in Kerala (as described in Chapter 2) is summarized in the figure below and explained subsequently:

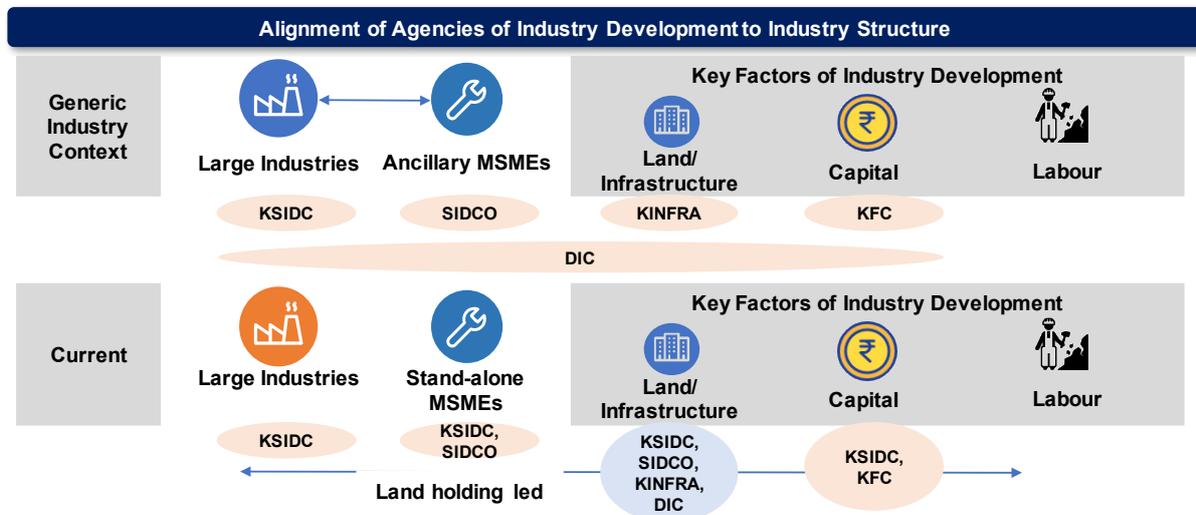


Figure 15: Summary of Roles of Industry Dvpt. Agencies in the Generic & Current Industry Context

The mandates of the various industry development agencies were developed two or more decades back. These mandates therefore align specifically to the generic or the historic industry context that was built on large industries and associated ancillary MSMEs. As can be observed from the figure above:

- The Kerala State Industry Development Corporation (KSIDC) was created for catering to the requirements of large industries while the Small Industry Development Corporation (SIDCO) was created and mandated to support the ancillary MSMEs of these large industries.
- The conventional factors of production in this context was the land, capital and labour. The support in these areas were adequately managed by KINFRA for infrastructure and Kerala Finance Corporation (KFC) & Kerala Infrastructure Investment and Finance Board (KIIFB) for capital management. The policies for labour management were defined outside the industry sector.
- The role of the Department of Industries and Commerce (DIC) in this generic context was a policy execution and execution monitoring horizontal across the sector.

However, with the changes in the industries in Kerala from the generic context and with limited developments in the large industry space, the roles of the various agencies have undergone changes. It can be observed from the figure above that:

- The agencies operate their mandates through a land-holding led approach. All industry development agencies have associated land-holdings. The support across the value chain from identification of industries to be housed within these infrastructures and the support to these industries are provided by the respective agencies holding the infrastructure.
- This has led to the agencies of industry development in Kerala having diffused responsibilities across the type of industries as well as the factors of production. There are significant overlaps in the functions with both KSIDC and SIDCO catering to the MSME segment, almost all agencies involved in land development, allotment & infrastructure management, and KSIDC being also involved in capital management in addition to KFC. While this arrangement

has evolved as a division of work-load in the areas where industrial activities are prominent, from an industrial stakeholder/ entrepreneur perspective, this has created multiple interfaces and an associated lack of clarity of the interfaces.

- The role of the Department of Industries and Commerce (DIC) continues to be a policy execution and execution monitoring horizontal across the sector.

In the context of the proposed structure of industries in Kerala (as reproduced below), the key gaps in the institutional arrangements are discussed subsequently:



Figure 16: Proposed Industry Structure with the Key Factors of Industry Development

Table 11: Observations on Alignment of Industry Development Agencies to the Proposed Model

Key Factors of Industry Development	Observations on alignment of industry development agencies
Cluster management	<p>The cluster management principles have been established through the integrated infrastructure of Industrial Estates, Development Areas/ Plots, Industrial Parks and Industrial Zones in Kerala. These are managed by KINFRA, KSIDC, SIDCO and in some cases DIC directly.</p> <p>While extensive focus has been laid by the agencies on effective design for utilization of the limited land available and creation of common infrastructure for the clusters, not adequate focus has been provided on the operationalisation of the cluster mechanism (the integration of related MSMEs, the linkages of raw materials required for the MSMEs within the infrastructure and the market linkage for their products).</p> <p>The result of the above can be clearly highlighted with the following statistics:</p> <ul style="list-style-type: none"> • Less than 20% of the total MSME units in the State have been housed within the infrastructure of the industry development agencies. • While there is certain cluster specific infrastructure created in certain areas, most of the industrial infrastructure have been developed for the generic industries without consideration to the cluster approach. <p>The DIC too follows a reactive grievance redressal model for management of the clusters as against a pro-active monitoring, review and support for integrated sustainable operation.</p>
Working Capital Management	<p>The role of the industry development agencies for providing financial assistance to industries is provided in Annexure 2. The role and schemes of other financial institutions in the Kerala ecosystem have also been detailed in Annexure 3.</p>

Key Factors of Industry Development	Observations on alignment of industry development agencies
	<p>The study of the existing financial support (described above) indicate that there is adequate schemes and support mechanisms available for the industries. It can also be observed that there are overlaps in schemes and support provided by the industry development agencies and the external financial institutions.</p> <p>However, the modalities of the access to these financial schemes and support is limited by the lack of adequate collaterals/ securities by the target group. The support extended by the industry development agencies in removing this bottleneck and facilitating the access to financial assistance is limited.</p> <p>Moreover, the target groups in the proposed industry structure have very limited competency of financial management. Limited or no support to support the MSMEs in these areas have been provided currently.</p>
Talent Management	<p>The talent management support of the existing industry promotion agencies is limited to incubation support to start-ups. However, the entire interface to retain talent within Kerala, to systematically generate ideas for knowledge-based sectors and to work with institutions and industry to align talent to the proposed industry segments and structure is limited.</p>

Summarizing, there is a need for re-alignment of the institutions from their current infrastructure/ land-holding led support role to one that fosters cluster management, working capital and talent management.

There is a need also for a change in the role of these institutions from execution to one that creates and manages enabling ecosystems for the industry sector in the State.

The changes proposed in line with the above observation is discussed in **Sections 4.2, 4.3 and 4.4.**

4.2 Change in Role of Agencies – To Support Hub and Spoke Implementation

The changes in the roles of various institutions (KSIDC, KINFRA, SIDCO, DIC) required to support the implementation of the proposed hub and spoke model (**discussed in Section 3.1**) is discussed here. The recommendations have been proposed under the following heads:

- Overall change in the role of institutions and their interfaces. (**Section 4.2.1**)
- Associated changes in the governance structure of the agencies. (**Section 4.2.2**)
- Change in the industries cadre structure to align to the changes. (**Section 4.2.3**)

4.2.1 Overall Change in the Role of Institutions and their Interfaces

The key elements of operationalization of the hub and spoke model was explained through a framework in the case study in Section 3.1.1. The same framework has been employed to define and align accountabilities for the various industry development agencies in Kerala. The same is represented in the figure below and explained subsequently:

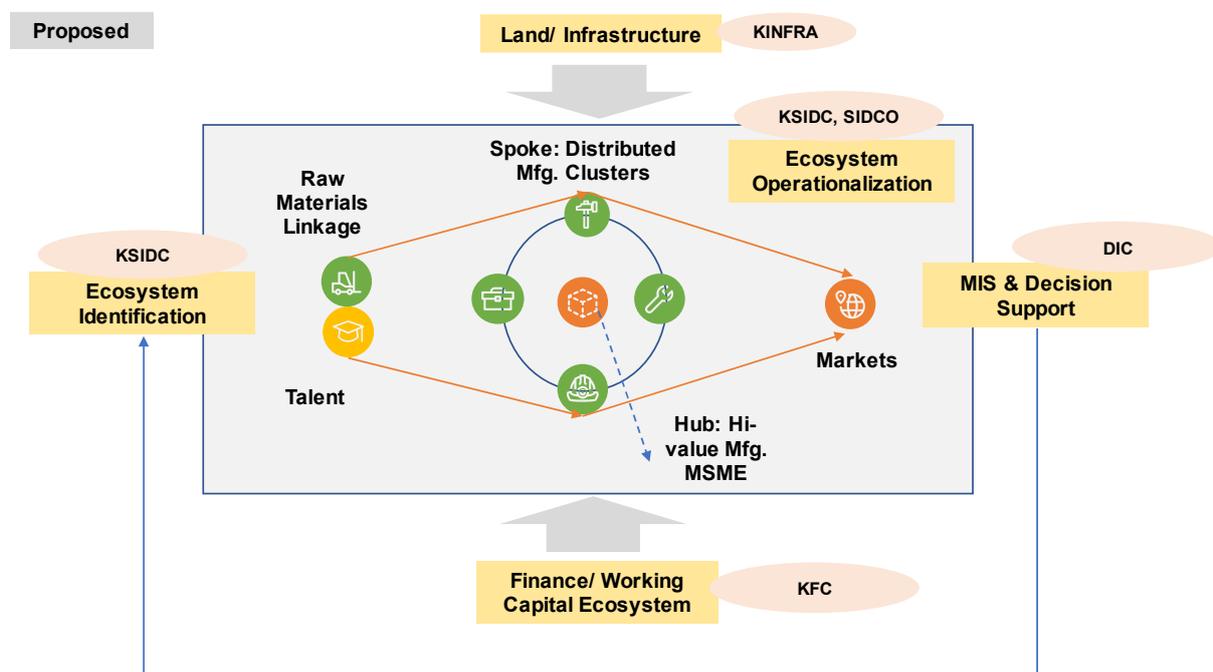


Figure 17: Alignment of Industry Development Agencies to Operationalise the Hub & Spoke Model

Table 12: Role of the Various Agencies for Operationalization of the Hub & Spoke Model

Key Industry Development Agencies	Description of the role
Operationalization of the Hub & Spoke Ecosystem	
KSIDC and SIDCO	In the context of the hub and spoke operationalization, the roles of KSIDC and SIDCO are similar. The focus of these institutions is to identify relevant distributed manufacturing clusters across Kerala and facilitate efficient functioning

Key Industry Development Agencies	Description of the role
Operationalization of the Hub & Spoke Ecosystem	
	<p>of the clusters by enabling necessary linkages – between the MSMEs, raw material linkages, talent linkages and market linkages.</p> <p>While the agencies would interface with other agencies for development/ provision of infrastructure and for financial linkages, they would not be directly involved in management of assets or in delivery of financial assistance to the units directly.</p> <p>A critical proactive and continuous interface with the DIC field ecosystem for MIS & Decision support will be required for KSIDC and SIDCO to undertake their newly defined role.</p>
DIC	<p>The change in the role of DIC represents the critical success factor for the hub and spoke model implementation. The spread of DIC and its existing field ecosystem provides the platform required to proactively monitor the functioning of the hub and spoke cluster ecosystems across the State.</p> <p>The change in role of DIC is a shift from a reactive grievance redressal unit to a proactive information hub providing quality MIS for (1) strategic decision/ policies by the KSPB and the Ministry of Industries and Commerce (2) operational decision support for the ecosystem operationalization by KSIDC and SIDCO.</p> <p>The DIC would, in this proposed role, would also have to function as the first point of call and the single interface at the field level for MSMEs.</p>
Technical and Financial Support to Industries	
KINFRA	<p>The District Industrial Site selection committee shall, in line with the Government Order, continue to be involved in the identification of industrial land and would also function as a single-window for its allotment.</p> <p>The technical inputs for development of industrial infrastructure aligned to the industry segment requirements shall be provided by KINFRA in the proposed setup.</p>
KFC	<p>The financial assistance to the defined hub and spoke cluster ecosystem shall be driven through a single point interface of the KFC. This would involve capital support for setup, financial assistance for incubation of start-ups in the segment as well as working capital support for the MSMEs.</p> <p>While the current role as Financial Institution of KFC of execution of financial assistance schemes and disbursement of financial assistance would continue, the focus is proposed to be on establishing and</p>

Key Industry Development Agencies	Description of the role
Operationalization of the Hub & Spoke Ecosystem	
	managing the financial ecosystem in Kerala. This is further discussed in Section 3.3 .

In line with the description of the roles in the table above, the change in the roles of the agencies is summarized in the figure below:

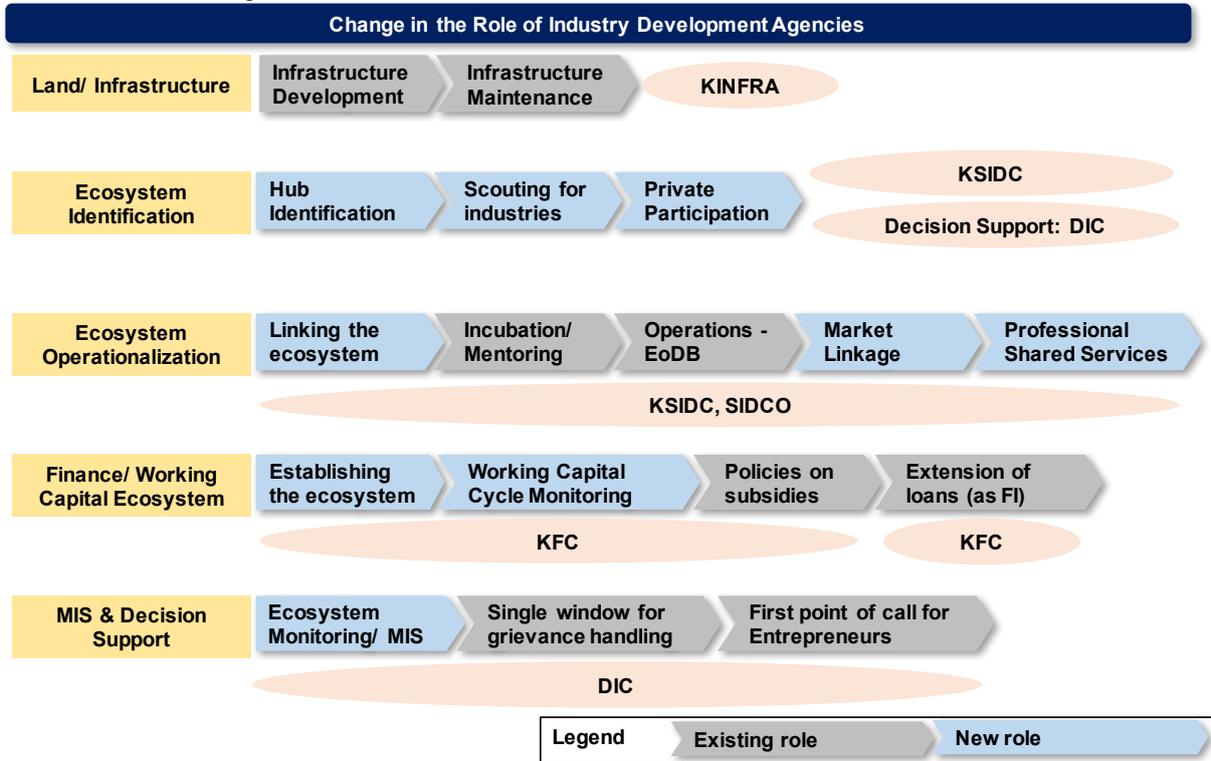


Figure 18: Current & Proposed Roles of Industry Dvpt. Agencies for Hub and Spoke Model

4.2.2 Associated Changes in the Governance Structure of the Agencies

The mapping of the governance structure of the various industry development agencies on the framework of the hub and spoke model is as shown below:

Table 13: Review of the Governance Structures of the Industry Development Agencies

Agencies	Type	Strategic Decision Support	Infrastructure	Ecosystem - Support (Operational)	Ecosystem - Support (Financial)	Field Decision Support
DIC	Govt.	Minister - I&C, Principal Secretary - Industries, Secretary - Industries, Chief Secretary - GoK.	- NA -	Director – Industries (IAS); Director - Directorate Heads, GM - DIC	Finance Secretary (IAS equivalent)	GM - DIC
	External		- NA -			
KSIDC	Govt.	Managing Director - KSIDC, Director - KSIDC	- NA -		Finance Secretary (IAS equivalent)	
	External		- NA -			
SIDCO	Govt.	Head - SIDCO	- NA -	Head - Marketing Division		Head - Marketing Division
	External		- NA -			
KINFRA	Govt.	MD - KINFRA, Chief Town Planner	Labour Commissioner, Chairman - KSEB, Chairman KSPSB, Chief Town Planner.	- NA -	Managing Director KFC, Secretary- Finance Dept. GoK	- NA -

The table above maps the current roles involved in Governance of the industry development agencies across the framework of hub & spoke model operationalization. The table also maps the representation of Government and External (Industry) stakeholders in the governance setup. The gaps in the governance structure has been highlighted in orange and all areas beyond the scope/ role of the agency is highlighted in grey. The key observations and therefore the areas of focus in defining the governance structure of the agencies are as follows:

Table 14: Inputs to the Governance Structure of Industry Development Agencies

Key Observation	Description
Industry representation in the Governance Structure	The current governance structure is predominantly bureaucratic and represents the views of the Government. The representation of industry stakeholders to align the policies and actions of the Government with the requirements of the industry is currently lacking and is an area of focus.
Outside-in perspective for industrial development	The governance structure currently is operationally focussed and has representations that ensure policy implementation. The representations for an outside-in perspective of a top-down strategic planning, policy formulation and subsequent execution is currently non-existent. There is a significant need for an outside-in strategic planning approach grounded by a bottom-up understanding of what works in the Kerala context. The representation for the same in the governance setup is a key gap area that needs to be addressed.
Gaps in functional competencies	Functional expertise in ecosystem identification, field decision support, financial management and supply-chain/ market linkages are not represented in the governance structures. It is necessary for the inclusion of experts in the select field as external independent members of the governance structure. Another critical aspect of the development of the hub & spoke model is the use of technology for industry development. This competency too is not represented in the governance structure and needs redressal.

4.2.3 Change in the Industries Cadre Structure to Align to the Roles

Section 4.1. discussed the change in the roles of the various institutions. The critical success factor among the changes was the change in the role of DIC as a proactive field level monitoring and decision support entity. A review of the cadre structure of DIC was undertaken in this context, the same is represented below and described subsequently:

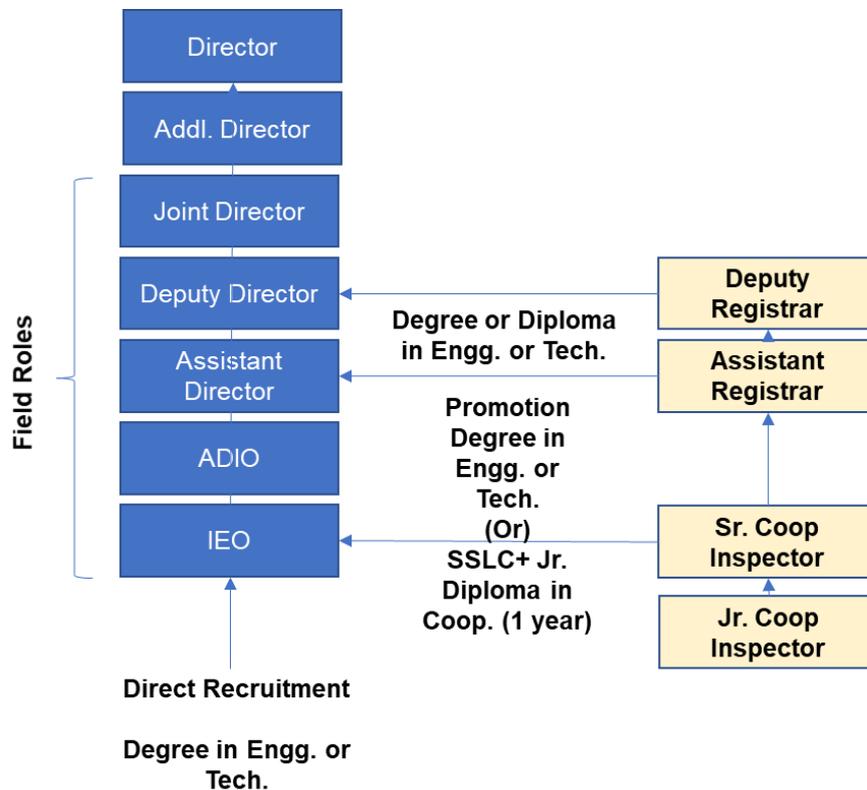


Figure 19: Field Level Structure of DIC and the Associated Cadre Structure

The summary of the cadre structure above is as described:

- The Director of Industries and Commerce under the Government Department of Industries is the apex agency operationalizing the policies and objectives of the government. The Director-Industries and Commerce heads the Directorates of Industries and Commerce, Coir Development and Handlooms and Textiles. The Directorate of Industries and Commerce manages 14 District Industries Centers that forms the nodal point for facilitation in the district.
- Each District Industries Center is headed by a General Manager who is at the level of Joint Director at the Head Office. Each District Industries Center comprises of Managers, Additional Directors or Additional Industries Extension Officers at the District Center. **This represents the field level structure of DIC and the area of focus of this discussion.**
- The induction of personnel to the field level roles are undertaken through a combination of Direct Recruitment of graduates and promotion of Cooperative Inspectors. A Graduate entrant directly enters at the IEO level and is further promoted to ADIEO. 30% of IEO posts comprise of direct graduates while the remaining 70% are promoted individuals.
- The cooperative inspector career path involves induction of a 10th pass individual in the position of a clerk, provision of 1-year training (Cooperative Diploma Program) and subsequent promotion to Junior Co-operative Inspector and Senior Co-operative Inspector.

- The Sr. Cooperative inspector, without graduation can pursue the career in the levels of assistant and deputy registrar and with graduation can assume roles of the assistance and deputy director.

For the role of DIC as a policy implementation body and reactive grievance redressal agency, the cadre structure is aligned with experienced executionary people at the field level managing the same. However, in the proposed role of DIC as a proactive decision support agency, this structure requires change. There is a requirement of a pool of young officers at the field level that constantly interface with the industries, monitor and review and provide inputs for strategic as well as operational decisions. Without disturbing the existing cadre structure of DIC, this is proposed through induction of talent as consultants on short-term contracts.

4.3 Change in Role of Agencies – To Support Financial Ecosystem

The change in the roles of the institution proposed in line with the framework of financial ecosystem is shown in the figure below and discussed subsequently:

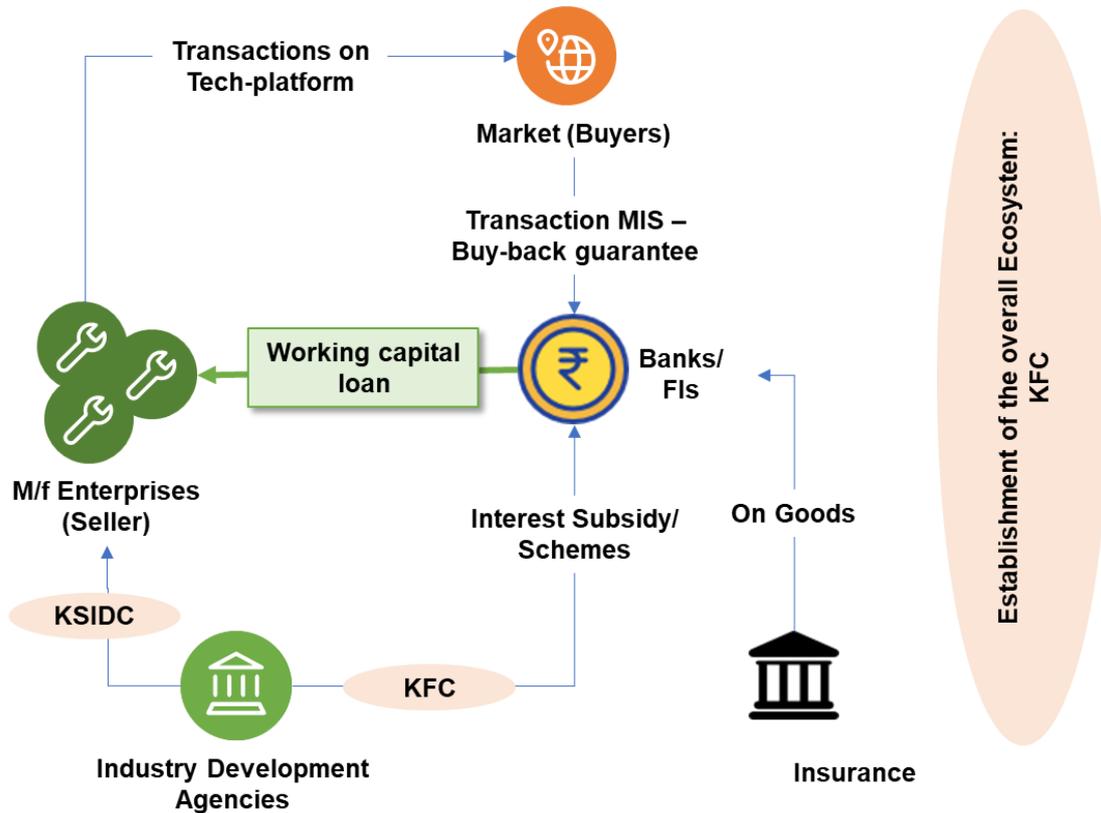
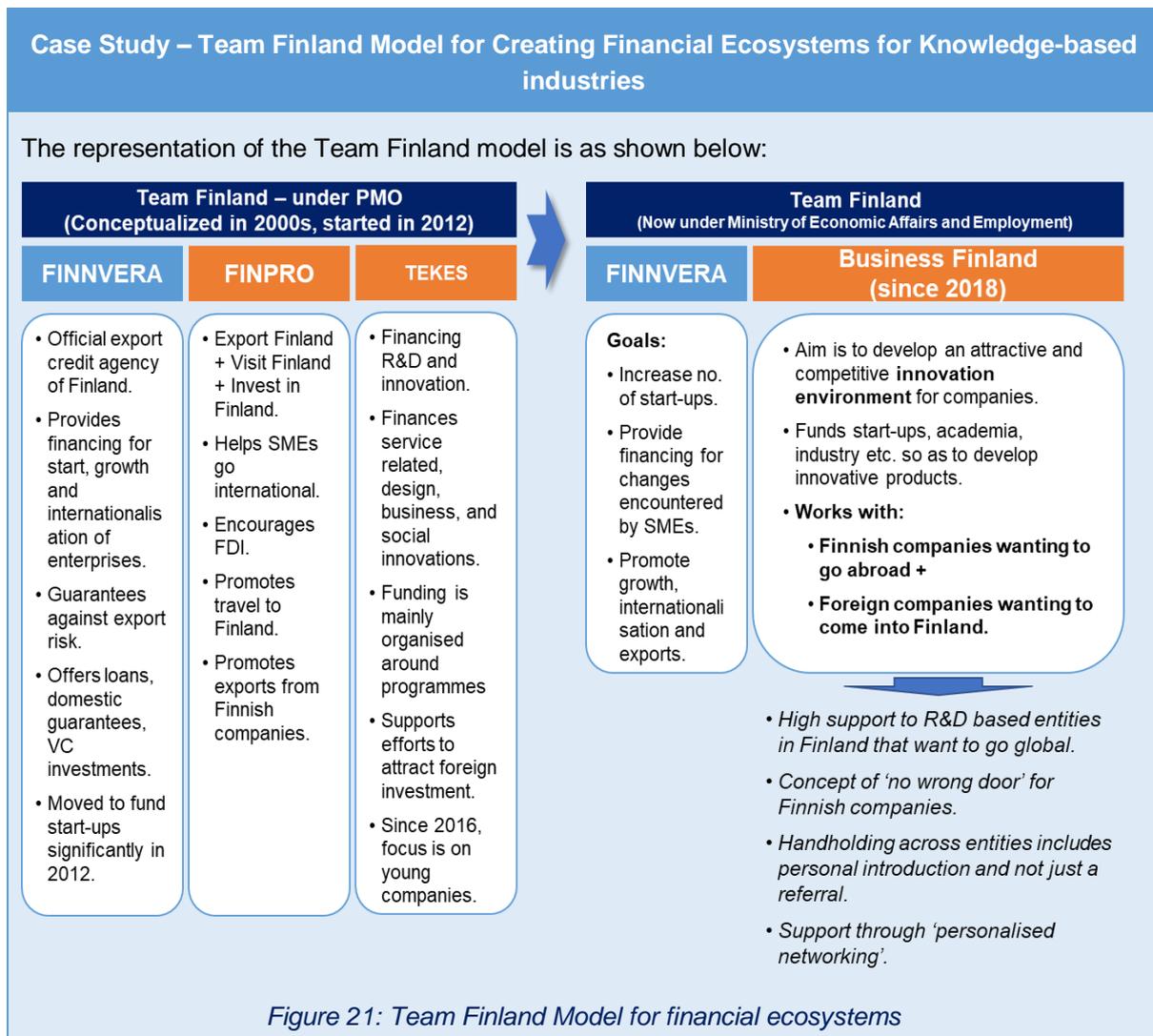


Figure 20: Changes in the role of agencies to support financial ecosystem

Key Industry Development Agencies	Description of the role
Financial Ecosystem	
KFC	<p>As described earlier, the financial assistance to the defined hub and spoke cluster ecosystem shall be driven through a single point interface of the KFC. This would involve capital support for setup, financial assistance for incubation of start-ups in the segment as well as working capital support for the MSMEs.</p> <ul style="list-style-type: none"> Supported by the MIS and Decision support system of the DIC and advised by the cluster ecosystem managers of KSIDC and SIDCO, KFC's role would involve developing appropriate policies for reducing the risk of entry and exit of enterprises in Kerala.

Key Industry Development Agencies	Description of the role
Financial Ecosystem	
	<ul style="list-style-type: none"> • KFC would be involved in interfacing with the Banks/ FIs as well as insurance providers in creating frameworks for extension of financial support to the MSMEs. • KFC would also be involved in, within the framework of the RBI regulations, establishing mechanisms for effective utilization of the funds of high net-worth individuals currently deployed as low return investments in Banks, into the industry sector.
KSIDC and SIDCO	The role of KSIDC and SIDCO in this context would be to provide professional shared service support to the MSMEs to access the financial assistances.

The above concept of the financial ecosystem and the role of KFC in creating the ecosystem has been defined after reviewing international models for knowledge-based industries. A case study of the Team Finland Model is provided below for reference.



Case Study – Team Finland Model for Creating Financial Ecosystems for Knowledge-based industries

The Team Finland model is hinged on the convergence of the actions of 3 Agencies – FINNVERA, FINPRO and TEKES housed under a Program Management Unit for the Business Finland initiative of the Ministry of Economic Affairs and Employment.

The agencies, in their convergent roles are responsible for working with (1) Finnish companies willing to go abroad and (2) Foreign companies interested in establishing units in Finland. The convergent policies and the schemes of the agencies have been aligned to cater to these two stakeholders and now work together to develop innovation environment for companies and subsequently to provide funds for developing innovative products.

The critical highlight of the model lies in the high support for R&D based entities, the concept of “no wrong door” policy for Finnish companies that reduce the entry and exit barriers and a constant handholding support to the industry segments.

The key threads of the Team Finland financial model adopted for Kerala include the (1) Creation of converging ecosystems for targeted funding of enterprises and (2) Professional handholding support and continual engagement with the industries to enable sustainable financial management. A more detailed study of the model in Finland can be adopted for the implementation of the proposed financial ecosystem in Kerala.

4.4 Change in Role of Agencies to Create Talent Ecosystems

The final recommendation in the role of the agencies is in establishing convergences for developing the talent ecosystem required for knowledge-based industries. The same is represented through a Centre of Excellence Framework below and detailed subsequently:

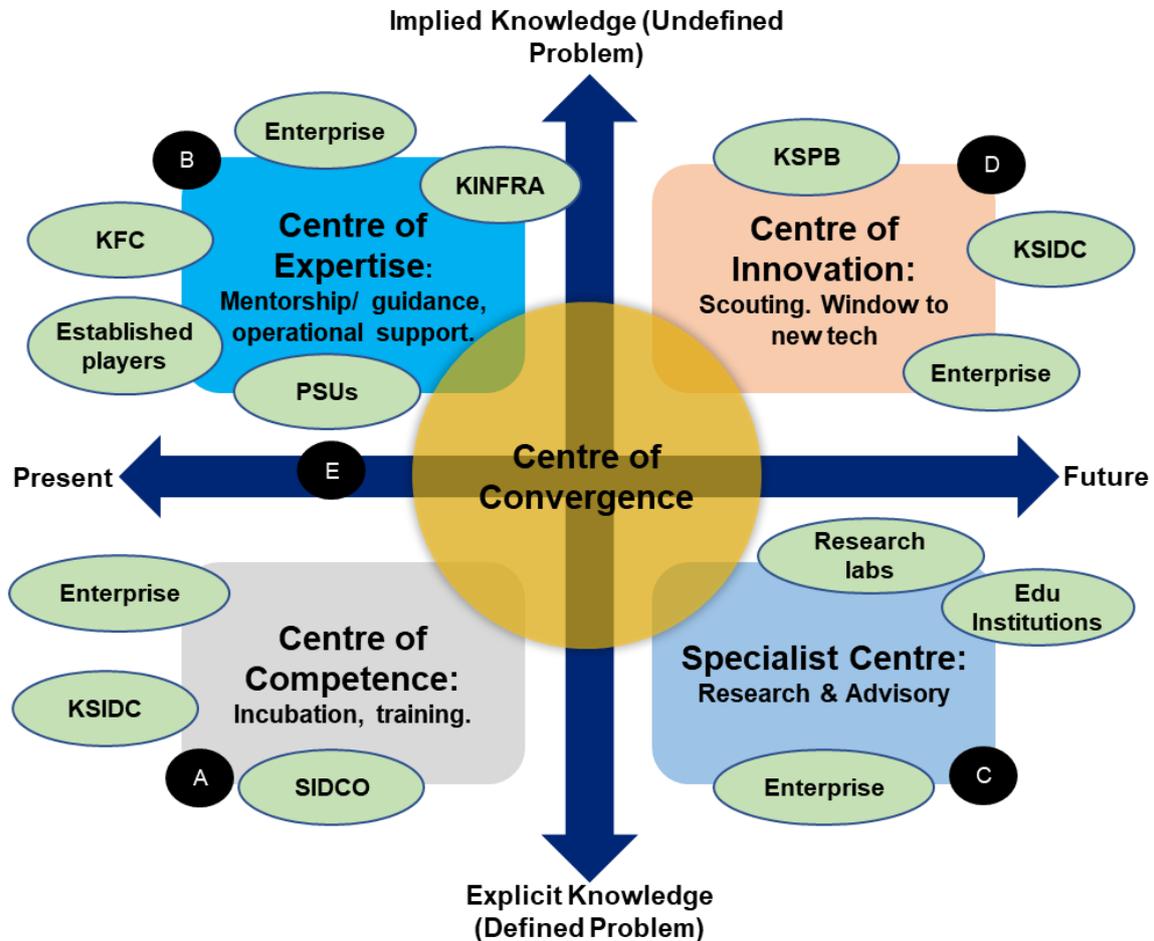


Figure 22: Centre of Excellence Model for Creating Talent Ecosystems

Indicated above is a Concept of a Centre of Excellence (CoE) for the industry promotion agencies in Kerala. What the above concept suggests is that there are four distinct yet dynamically integrated functions of a Centre of Excellence. The four functions and pointers to their role are indicated in the diagram above. Indicative partnership and collaborative organisations are also indicated.

- Centre of Innovation:** Representation of the outside-in perspective of industries required, innovations and new practices will be drawn in through the Centre of Innovation from within India, international practices and progressive research. This is the single-window for scouting for new technologies to establish in Kerala and provides a common platform for exchange of ideas of various topics aligned to industry development. Steered by the Kerala State Planning Board, this Centre of Innovation is proposed to be supported through interfaces with enterprises within Kerala and outside facilitated through the KSIDC interface.
- Specialist Centre – Research and Advisory:** The function of this centre is advisory. The advice may be required along the industry development value chain, in any area, with focus on practical challenges and issues. It will provide for the Government of Kerala, a platform to network with individual experts and experienced enterprises, educational institutions, eminent scholars in India and internationally.

- **Centre of Competence:** The function will provide a platform for incubation and training of enterprise aligned to the requirements of the industries identified by the outside in future perspective and the inside-out institutional knowledge.
- **Centre of Expertise:** A platform for the definition and problem solving in the current context of industries with understanding of ground level realities of Kerala.

In essence, the various recommendations provided in Chapter 3 and 4 can be summarized with the following figure:

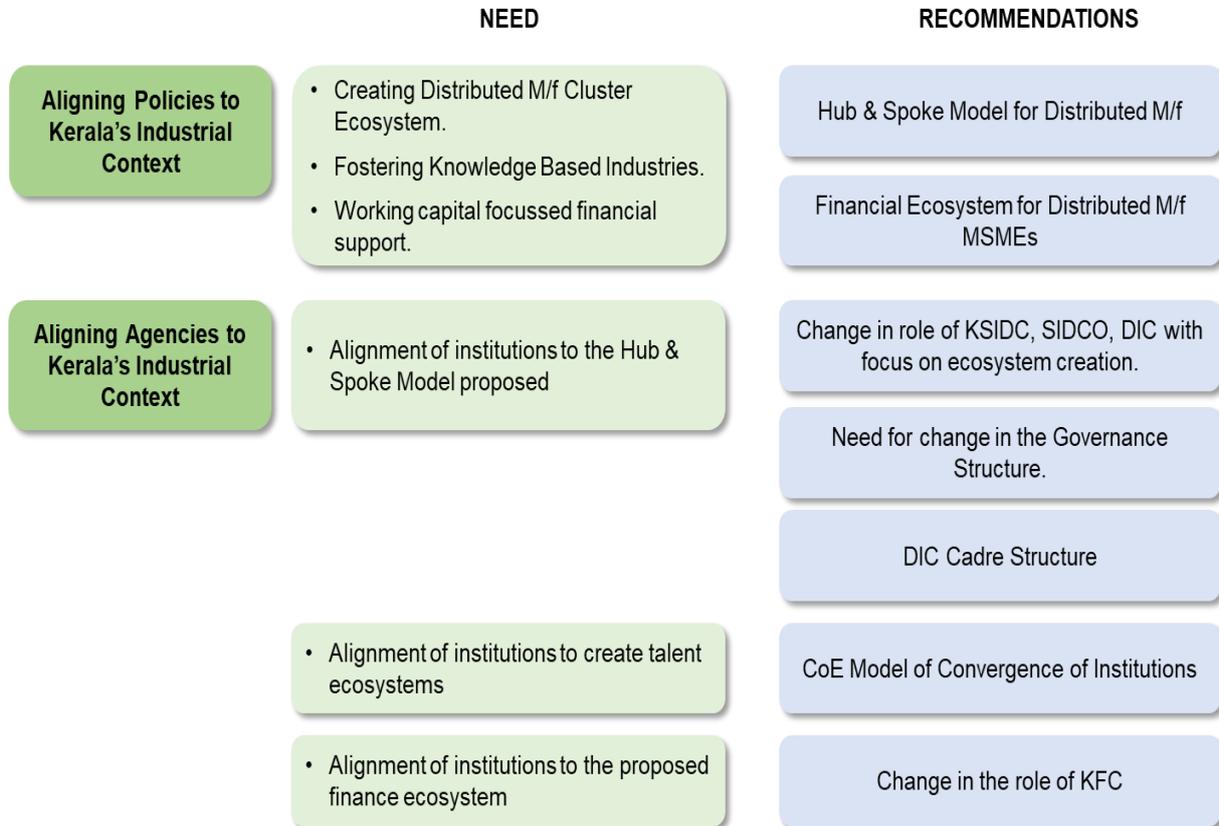


Figure 23: Summary of Recommendations

5

ACTION PLAN FOR IMPLEMENTATION

The summary of the various recommendations of the study was provided in Chapter 4. It is to be noted that the recommendations were already action oriented and included implementation models and specific changes in the role of industry development agencies.

This Chapter provides another granular level of detail for implementation with the specific focus on operational performance monitoring and control.

5 Action Plan for Implementation

The implementation models, necessary financial ecosystems and the associated change in the roles of the agencies were discussed in detail in the previous Chapter. The recommendations were intrinsically action oriented and the same has been further substantiated/ grounded with specific recommendations on:

- Mechanism for performance monitoring and control

The structure of this Chapter, in line with the above, is as follows:

Table 15: Contents of Chapter 5

Section Reference	Discussion Topic	Key Topics Discussed
5.1	Mechanism for performance monitoring and control	A defined mechanism for inclusion of the modified model of industries in the strategic planning exercise and monitoring implementation of the same through a defined performance monitoring mechanism is provided in this section.

Associated case studies, relevant benchmarks/ comparative models have been included as inserts in the above sections to support the discussion.

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5.1 Mechanism for Performance Monitoring and Control

The mechanism for implementation of the proposed recommendations through performance monitoring and control has been discussed under two sub-heads:

- Inclusion of the proposed model in the strategic planning exercise (Section 5.1.1)
- Monitoring and Review Framework (Section 5.1.2)

5.1.1 Inclusion of Proposed Model in the Strategic Planning Exercise

The framework of strategic planning by KSPB was described earlier. The role of the various institutions in the conventional planning exercise is as shown below:

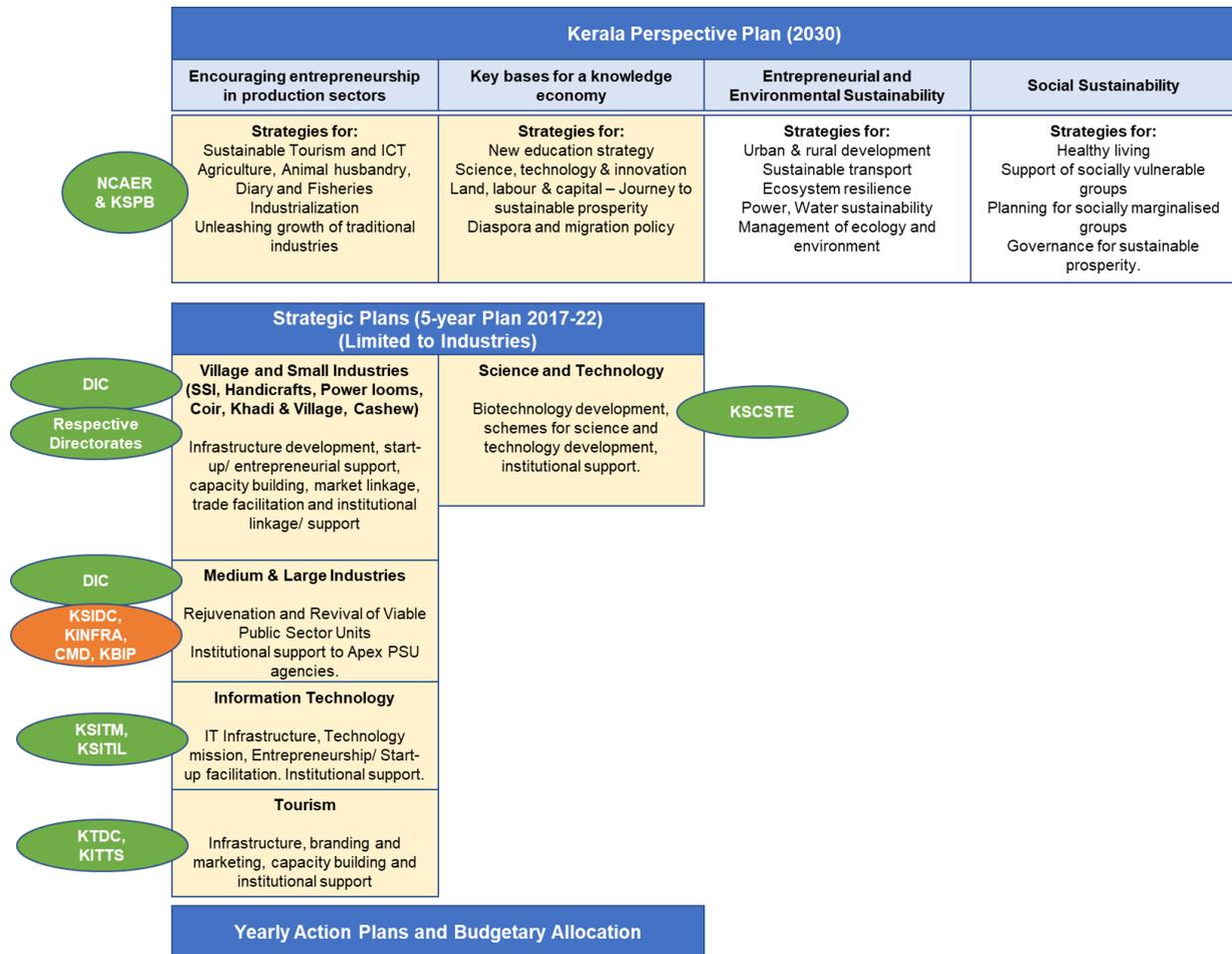


Figure 24: Strategic Planning: Key Institutions in Kerala

The perspective plan, as specified earlier, was developed by NCAER for the Kerala State Planning Board. The Strategic 5-year plan for the various sectors were determined through inputs from the following institutions:

Table 16: Key Responsibilities for Strategic Planning (As-Is)

Area	Sub-Area	Responsibility
Village & Small Industries	Small Scale Industries	DIC
	Handicrafts	Directorate – Handloom and Textiles

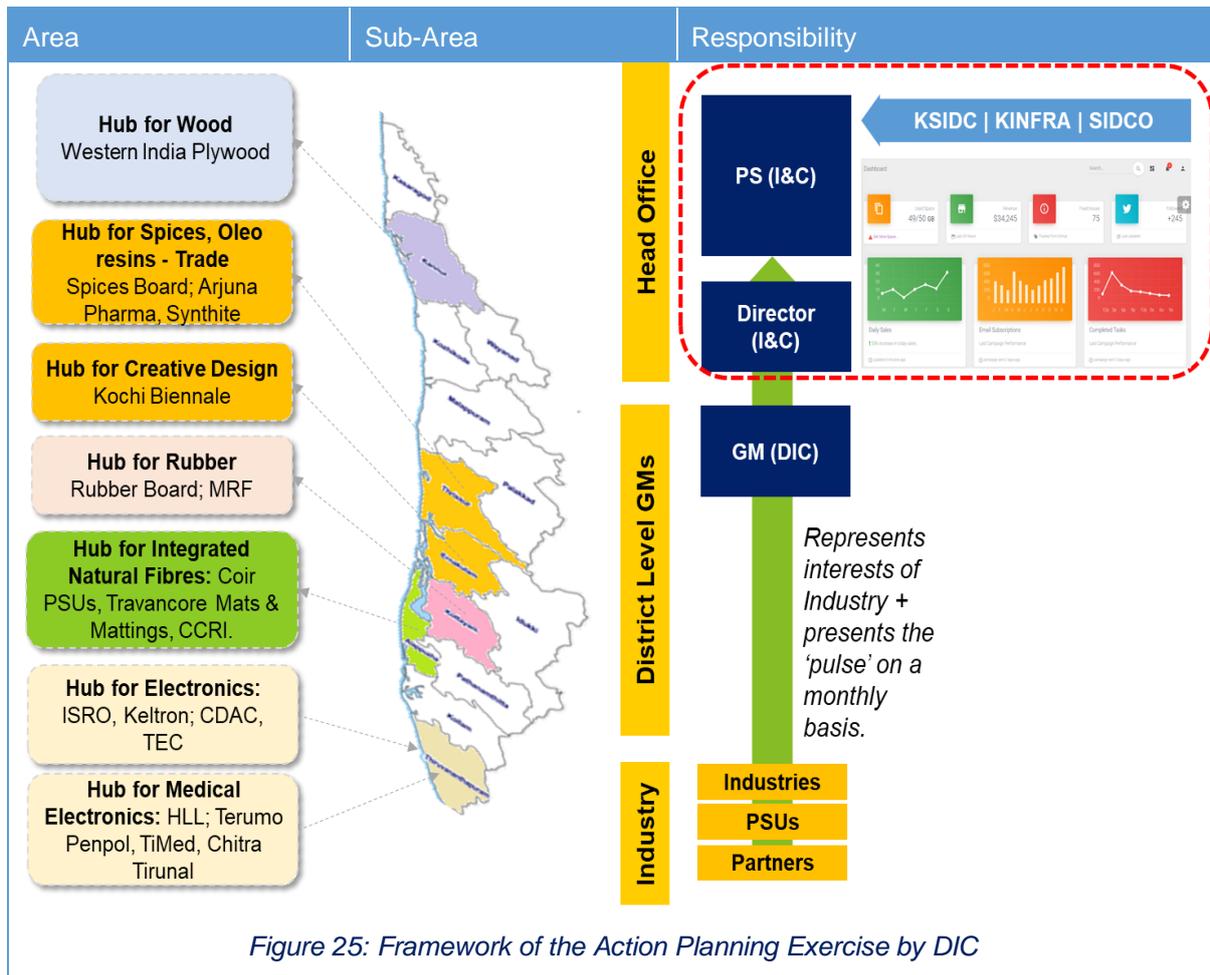
Area	Sub-Area	Responsibility
	Powerlooms	Directorate – Handloom and Textiles
	Coir	Directorate of Coir Development
	Khadi & Village	Khadi & Village Industries Board
	Cashew	DIC
Medium & Large Industries	Rejuvenation and Revival of PSUs	DIC
	Action plan/ allocations for respective industry promotion agency	Prepared by the respective industry promotion agencies.
Information Technology	Information Technology	Kerala State IT Mission, Kerala State IT Infrastructure Limited
Tourism	Tourism	Kerala Tourism Development Corporation
Science and Technology	Science and Technology	KSCSTE

It is proposed to integrate the planning exercise for the highlighted areas through a convergent mechanism as shown below:

Table 17: Key Responsibilities for Strategic Planning (Updated)

Area	Sub-Area	Responsibility
Manufacturing	Hub & Spoke MSMEs for Distributed Mfg.	<p>The District Industry Centres supported by inputs from KSIDC, SIDCO and the associated line agencies will be responsible for the Action Planning.</p> <p>The Planning Board will be responsible for integration of the plan with the outside-in perspective in the area established through the CoE framework and grounded by the bottom-up action planning exercise by DIC, KSIDC and SIDCO.</p>

The illustrative representation of the action planning exercise by DIC is as shown below:



5.1.2 Monitoring & Review Framework

The proposed monitoring and review framework have been explained with the case study of the model implemented in the Coir sector as shown below:

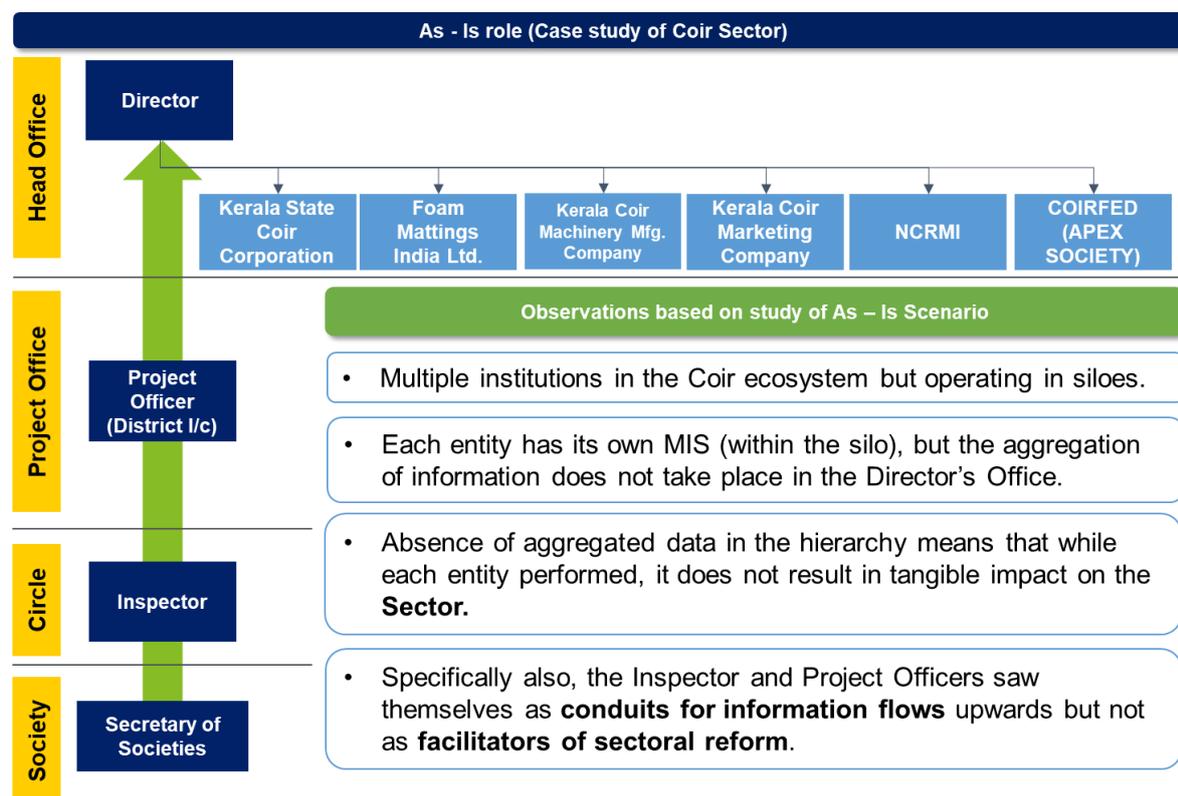


Figure 26: As-Is Performance Review Framework – Coir Case Study

Table 18: Description of the Proposed Performance Review Framework

Area	Case Study of Coir	Implications/ Learning for Industry Sector
As-Is Scenario		
Stand-alone institutions and PSUs	The Coir industry was represented by The Directorate of Coir Development and the individual Coir PSUs operating and reviewing performance as individual entities. There was a mis-match between the objectives of the DCD (fostering field ecosystem of Coir) and the objectives of the individual PSUs (Profit maximisation).	The current situation of the industry agencies in Kerala is very similar to that of the Coir Sector. The DIC is representative of the DCD in the Coir sector overseeing overall industrial performance. The individual PSUs are focussed towards their individual performance, predominantly aligned to their own financial health and not aligned to the overall development of the sector.
Independent distinct data-	The above objective mis-match resulted in dis-connected action planning and	The exact situation of Coir exists in the overall industry ecosystem. The data capture and MIS mechanisms of DIC

Area	Case Study of Coir	Implications/ Learning for Industry Sector
flow mechanisms	<p>linear independent data-flow/ MIS in the Coir ecosystem.</p> <p>The DCD did not have MIS on the complete industry segment and the data was siloed and vested with respective agencies.</p>	<p>and the other agencies are distinct and siloed.</p>
Proposed Changes		
Aligning Performance to Sector Objectives	<p>The Coir Sector review was grounded on the foundation of a Coir 5-year plan which laid out the key responsibilities of the various agencies in Coir.</p> <p>The interfaces between the various agencies were clearly laid out and the review of the agencies were on the overall sector objectives and not on individual financial health.</p>	<p>A similar review of the industries by DIC on a structured strategic and yearly action plan is proposed.</p> <p>The responsibilities of the various agencies in executing the action plan can be mapped in the principle of the recommendations defined in this report and the reviews can be conducted accordingly.</p>
Review/ Data Flows	<p>The following integrated data-flow mechanism and review mechanism was setup for Coir. A similar mechanism can be employed for the Industry Setup</p> <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> </div> <div style="flex: 1; padding-left: 20px;"> <div style="background-color: #4CAF50; color: white; padding: 5px; text-align: center; margin-bottom: 10px;">Proposed Scenario</div> <ul style="list-style-type: none"> Designed an integrated review system in the HQ, that aggregates data from multiple sources. Attendees, agenda, outcomes and accountability for processes defined. Aggregation of data at the HQ enables consolidated monthly sectoral view – enabling decision making. Presence of all stakeholders in the review means that delays are escalated to the highest level within a max of 1 month for redressal. Role of Project Officers changed to enablers of transformation. Now responsible for ensuring that 'business performance' of the Societies improves. </div> </div> <p style="text-align: center; margin-top: 10px;"><i>Figure 27: Proposed Performance Review Framework – Coir Case Study</i></p>	

6

ANNEXURES

The Supporting Discussions and Summary of Key Stakeholder Discussions have been provided in the Annexures

Annexure 1: As-Is Kerala's Industrial Context

The general analysis of the as-is context of industries is provided through an analysis of the primary factors of production – Land, Labour and Capital in the following sections. The role of the local ecosystem in terms of local governance, locational advantages and resources has also been covered in this section.

1.1 Land/ Infrastructure

The review of land/ infrastructure for industrial development in Kerala has been undertaken and presented under the following heads:

- Location Advantages and the Infrastructure Resources on Offer
- Availability of Land
- Cost of Land

Location Advantages and the Infrastructure Resources on Offer

Located in south-western tip of the Indian Peninsula, the state of Kerala, with the Arabian Sea on the west and the Western Ghats on the east, has a varied topography unlike any other state in India. Kerala can be roughly divided into three climatically distinct regions: eastern highlands (rugged and cool mountainous terrain), the central midlands (rolling hills), and the western lowlands (coastal plains).⁶ This unique terrain provides a wide number of resources to an array of industries.

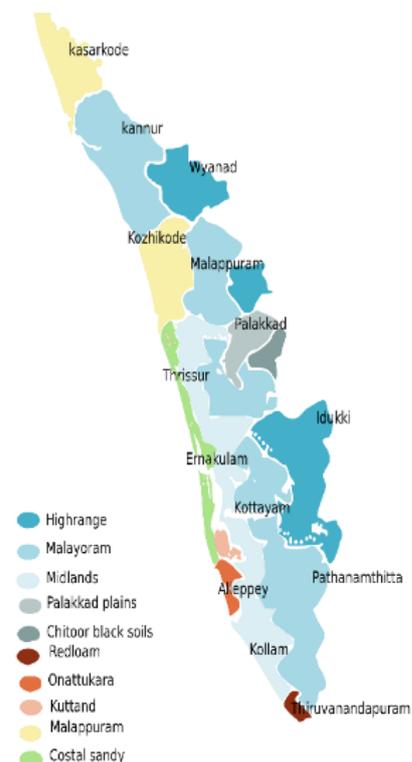
In addition to the geographic positioning, Kerala offers ports, roadways, airports provide a well-connected transport and logistics network to the rest of the country.

Ports: Kerala has a costal length of 585 km and an average width of 60 km with one major port at Cochin and 17 minor ports. Kerala is hence a prime location of exports to the rest of the world.

Roadways: Road density of Kerala is 528.8 Km/100 sq.km and it is far ahead of the national average of 387 km/100 sq.km, reflecting the high population density of the state.

Railways: Kerala is well connected to other parts of the country via railways. State total railway route has a length of 1588 km and covers 13 railway routes.

Metro Rail: The Kochi Metro Rail's commercial services of the 13-km Aluva-Palarivattom section of the 27-km Line-1. Over 600 women from the 'Kudumbashree Mission' have been employed & trained for smooth run of the 1st phase of the metro.⁷

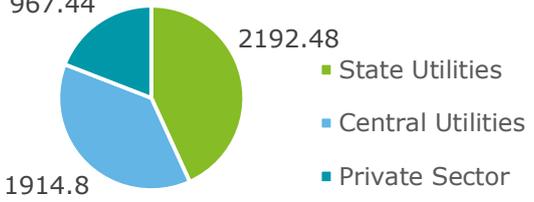
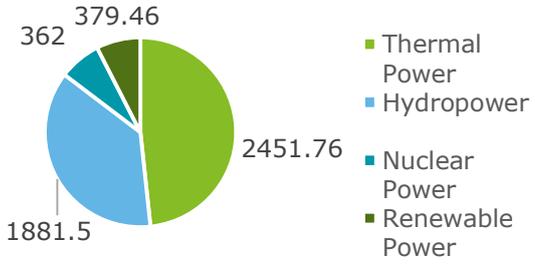


⁶ Center for Development Studies, *Human Development Report 2005*, available at http://www.undp.org/content/dam/india/docs/human_develop_report_kerala_2005_full_report.pdf

⁷ Ibid

Airports: Air Transport plays a major role in the development of tourism both domestic and international. Kerala has four airports at Thiruvananthapuram, Kozhikode, Kannur and Kochi.

Kerala, as discussed earlier, has been a front-runner in terms of assuring power for industries. It has also significantly improved its telecommunication infrastructure to support the industries better. A brief snapshot of the same is as shown below:

RESOURCES KERALA HAS TO OFFER – POWER & TELECOM CONNECTIVITY																			
Power	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Power usage (in MW) as of March 2018</p>  <table border="1"> <caption>Power usage (in MW) as of March 2018</caption> <thead> <tr> <th>Category</th> <th>Value (MW)</th> </tr> </thead> <tbody> <tr> <td>State Utilities</td> <td>2192.48</td> </tr> <tr> <td>Central Utilities</td> <td>1914.8</td> </tr> <tr> <td>Private Sector</td> <td>967.44</td> </tr> </tbody> </table> </div> <div style="text-align: center;"> <p>Source of Power (in mW)</p>  <table border="1"> <caption>Source of Power (in mW)</caption> <thead> <tr> <th>Source</th> <th>Value (mW)</th> </tr> </thead> <tbody> <tr> <td>Thermal Power</td> <td>2451.76</td> </tr> <tr> <td>Hydropower</td> <td>1881.5</td> </tr> <tr> <td>Nuclear Power</td> <td>362</td> </tr> <tr> <td>Renewable Power</td> <td>379.46</td> </tr> </tbody> </table> </div> </div> <p>Source: IBEF Kerala.</p> <ul style="list-style-type: none"> • Kerala is among the prominent Indian states to have achieved 100% rural electrification (under the scheme “Deendayal Upadhyaya Gram Jyoti Yojana”) • The main challenges faced by the energy sector in the State are inadequate capacity addition over the years leading to massive in-house demand supply gap. • Hydel power dominates the supply scenario with negligible share of renewable energy in the energy mix. There is a gap between energy conservation potential and its realization⁸ 	Category	Value (MW)	State Utilities	2192.48	Central Utilities	1914.8	Private Sector	967.44	Source	Value (mW)	Thermal Power	2451.76	Hydropower	1881.5	Nuclear Power	362	Renewable Power	379.46
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Hydropower	1881.5																		
Nuclear Power	362																		
Renewable Power	379.46																		
Telecom and Internet connectivity	<ul style="list-style-type: none"> • Kerala is one of the only two locations in India where both the optic fibre submarine cables converge, giving superb Global Connectivity at unbelievably low rates. • Kerala provides high international connectivity and instant data transfer facilities. Investment bases such as Technopark even provide an in-campus dedicated satellite earth station, which offers global information links that are quite inexpensive.⁹ • The state not only has the highest tele-density, but also the highest penetration of optic fibre cable in the country. Kerala also comes across as the cell phone circle with the highest density in India, with an unparalleled connectivity across 70 different towns. Even in the most remote part of Kerala, state-of-the-art digital exchanges provide voice communication to every nook and corner of the world.¹⁰ 																		

⁸ Indian Brand Equity Foundation, *Kerala State Profile 2018*

⁹ Indian Brand Equity Foundation, *Kerala State Profile 2018*

¹⁰ Ministry of MSME, Government of India, *State Profile of Kerala 2016-17*

Availability of Land

Kerala with its varying terrain and land reform policies have limited land available for industries. This has had a significant bearing on the establishment of large industries in the state.

State	Barren & Unculturable Land		Culturable Wastelands		Total Fallow		NSA % of Arable Land
	Total	Change	Total	Change	Total	Change	
Andhra Pradesh	2031	-66	629	-108	4179	56	67.9
Arunachal Pradesh	38	10	64	29	109	34	50.3
Assam	1408	-47	77	0	129	-33	87.5
Bihar	432	-5	45	-1	975	271	80.8
Chhattisgarh	302	-39	353	19	530	56	84.1
Goa	0	0	53	-3	13	13	66.7
Gujarat	2552	-48	1960	-25	395	-472	81.4
Haryana	104	5	28	4	137	-71	95.2
Himachal Pradesh	783	-40	128	7	82	12	65.9
Jammu & Kashmir	288	-3	140	0	119	24	69.6
Jharkhand	569	5	336	2	2719	360	26.6
Karnataka	787	-6	414	-14	1874	-75	80.0
Kerala	20	-10	95	35	128	18	90.1
Madhya Pradesh	1339	-34	1100	-109	1062	-256	87.4
Maharashtra	1729	185	919	-40	2559	-104	82.4
Manipur	1	0	1	0	0	0	97.9
Meghalaya	132	-4	392	-100	214	-13	27.0
Mizoram	8	-4	7	2	247	43	28.0
Nagaland	2	2	54	-9	154	-12	54.3
Odisha	1057	289	514	105	1498	763	67.5
Punjab	30	-22	23	10	41	5	98.4
Rajasthan	2353	-203	4292	-583	3465	-1251	69.6
Sikkim	0	-54	3	1	9	-8	79.0
Tamil Nadu	489	13	329	-34	2605	265	60.8
Uttarakhand	225	-85	310	-76	127	25	46.8
Uttar Pradesh	479	-127	426	-101	1742	73	86.8
West Bengal	18	-9	30	-9	454	138	90.5
All India	17195	-283	12744	-887	25610	196	77.2

Source: Vijay Paul Sharma, Dynamics of Land Use in India: Perceptions and Realities, 2015; Change is defined as change in area between TE2011-12 and TE2011-02.

The MSME sector growth is also spurred on this constraint of land availability. That said, Kerala does offer a range of infrastructure to the industries in the State. A snapshot of the types of industrial infrastructure and their statistics is as provided below:

Institution for Industrial Development	Industrial Clusters	Industrial Parks	Industrial Estates	Industrial Cooperatives	Industrial Corridors	Industrial Development Zone	Industrial Growth Centers	Special Economic Zone	Development plots/Areas	Land for public sector undertakings
No. of infrastructure blocks	19 Existing/upcoming clusters	24 Industrial parks between KINFRA and KSIDC	125 Mini Industrial Estates. 17 Major Estates	430 Cooperative Societies working	Kochi-Bangalore Industrial Corridor proposed.	4 proposed – Trivandrum, Kochi, Kozhikode and Kannur.	4 (Cherthala, Palakkad, Kuttiyadi and Kannur	16 SEZ as of Dec 2016	37 DA/ DP	40 PSUs
Acreage Acquired	NA	2542.2 Acres (KINFRA) 506 Acres (KSIDC)	240 Acres (Major Estates)	NA	NA	NA	1095 Acres	NA	2443.57 Acres	NA
Acreage Allotted	NA	1632.1 Acres (KINFRA) 47 Acres (KSIDC)	199.6 Acres (Major Estates)	NA	NA	NA	317.4 Acres	NA	2181.23 Acres	NA
No. of units supported	1444 Units	NA	777 Allotted. 683 Working. (In Mini Estates) 857 Working Units in Major Estates	NA	NA	NA	NA	NA	2595 Units Allotted. 2166 Units working.	NA

It can be observed that extensive types of infrastructure are offered to the industries in Kerala. However, the percentage of allotment of the acquired industrial infrastructure is still low. There exist opportunities also of reviewing utilization of existing infrastructure allotted (specifically to PSUs) and undertake effective re-allocations.

Cost of Land

A summary of the average land rates in Kerala in comparison with the rates in Tamil Nadu is as shown below:

Industrial Estates Kerala (INR/ Cent)	KINFRA Lease Premium (INR/ cent)	Tamil Nadu SIDCO (INR/ Cent)
Average: 71000	Average: 1,27,000	Average: 45,000
Range: 30,000 to 1.4 Lakhs	Range: 37,000 to 2.65 Lakhs	Range: 30,000 to 70,000

A significant policy impacting the prices in Kerala is as highlighted below:

“Land shall be allotted only after recovering all costs incurred by the agency. Where necessary, the infrastructure shall be developed in phases and the anticipated cost shall be loaded in the land pricing.”

- **Government Order- Procedures for Identifying and Allotting Land by Entities under the Industries Department**

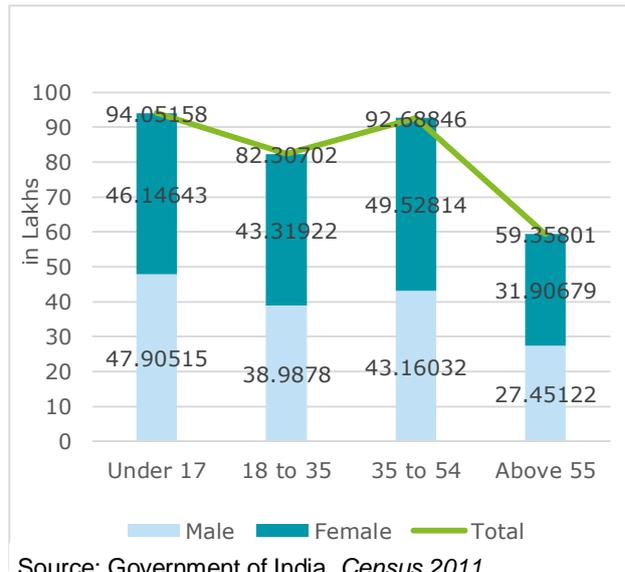
The objective of parks and related infrastructure is to provide businesses with low cost infrastructure or land thereby reducing the burden for enterprises for economic growth. Additionally, by pooling in resources required for businesses certain sectors and aligned industries can be developed at a particular location, thereby reducing costs and channeling resources for the growth of specific sectors.

However, currently the pricing for each plot of land is determined by the costs incurred for acquiring and constructing land as per the government order. Focus is not on providing low cost resources for industrial growth but to recover costs. This is a policy that requires a re-look if industrial promotion is a key objective of the Government participating in infrastructure development for the industries.

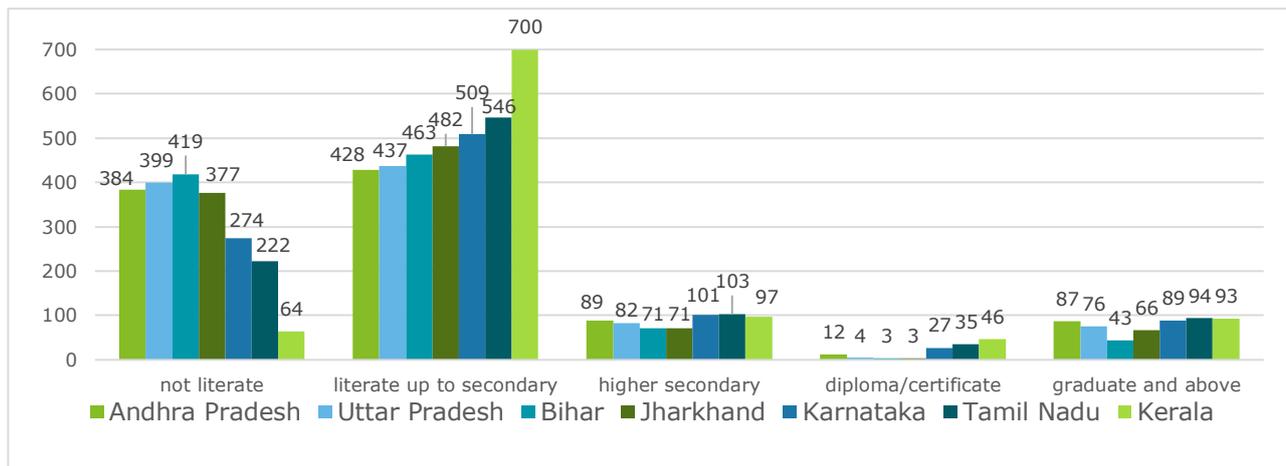
1.2 Labour

Manpower at working age remains the biggest asset that Kerala has to offer. The population of 33.4 million comprises of nearly 54% in the working age group.¹¹ As the state with the highest sex ratio of 1084¹², the young and gender balanced population show immense potential to foster development. The adjoining figure shows the age distribution of the population with the gender divide indicated.

Kerala has large proportions of population that has received some degree of formal education as compared to other states. 797 per 1000 of persons have a higher secondary education. Moreover, the rural female population is more educated than the rest of the country. This is indicative of the overall level of development that exists in Kerala.



Per 1000 Distribution of Persons of 15 Years and above by Level of Education



Source: 5th Annual Employment-Unemployment

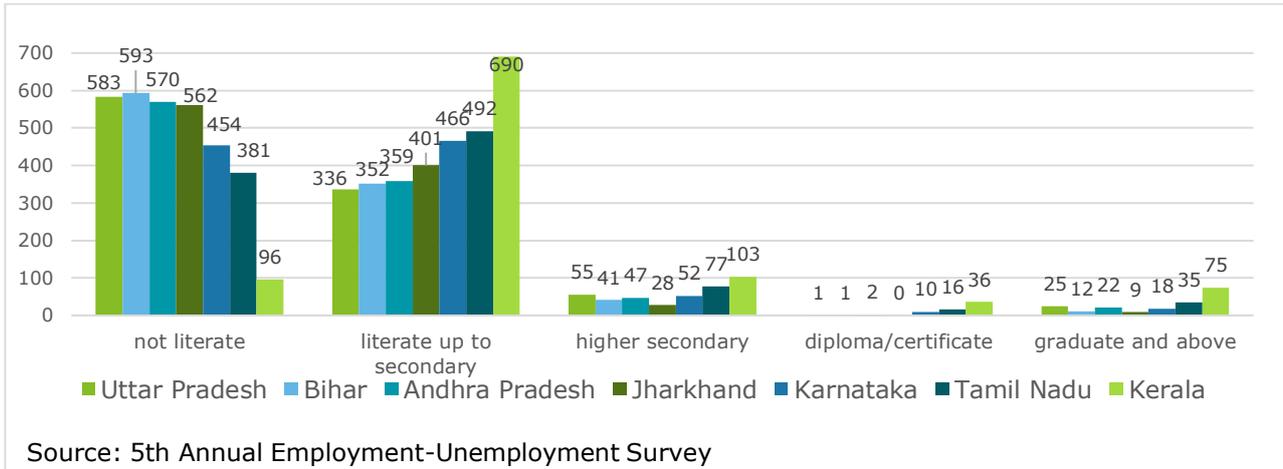
Women's workforce participation is significantly lesser at 24.8 compared to 57.8 for men¹³. Even though women in Kerala have higher education qualifications as compared to the rest of the country, several women opt out of working. Reasons include non-availability of jobs matching their qualifications that make it unappealing for women to be part of the workforce. Additionally, the perception of women staying home is slowly changing but with policy initiatives to fuel opportunities, the perception can be drastically improved adding significantly to economic development.

¹¹ Government of India, *Census 2011*, available at <https://kerala.gov.in/census2011> last seen on 28/08/18

¹² Ministry of MSME, Government of India, *State Profile of Kerala 2016-17*

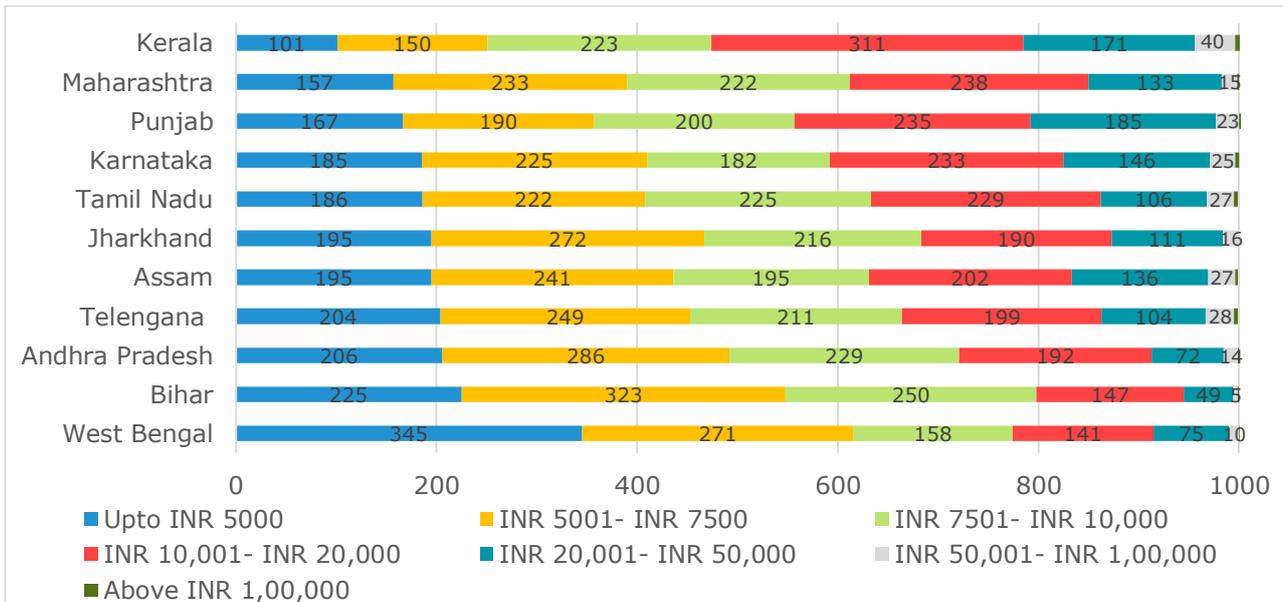
¹³ *National Sample Survey Organisation, 68th round* for the year 2011-12

Per 1000 distribution of Rural Females of 15 Years and above by Level of Education

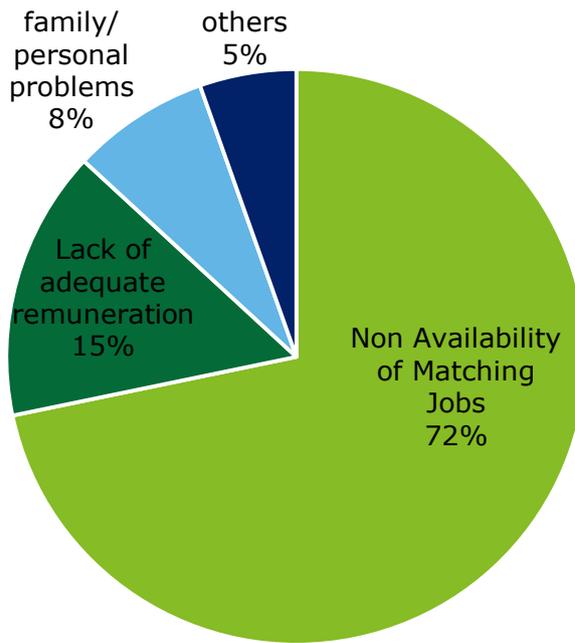


Kerala has a higher proportion of its population in higher income brackets as compared to other states, with a lower proportion in the lowest bracket as well. On comparing the median 600 households we find that a household on average has a higher level of income as compared to other states. This depicts the higher level of lifestyle that people in the state enjoy on an overall level. The minimum wage is higher in Kerala as compared to other states, INR 600, hence the workers command a higher level of income for more skilled work.

Per 1000 Distribution of household by average monthly earnings



The statistics of reason for unemployment in Kerala is as shown below:



Nearly 72% of unemployed graduates in Kerala are unemployed due to non-availability of jobs matching their qualification. Conventional skilled industries on average demand employees with graduate level degrees. This shows the large potential of employees who can be recruited if such industries are set up in the state.

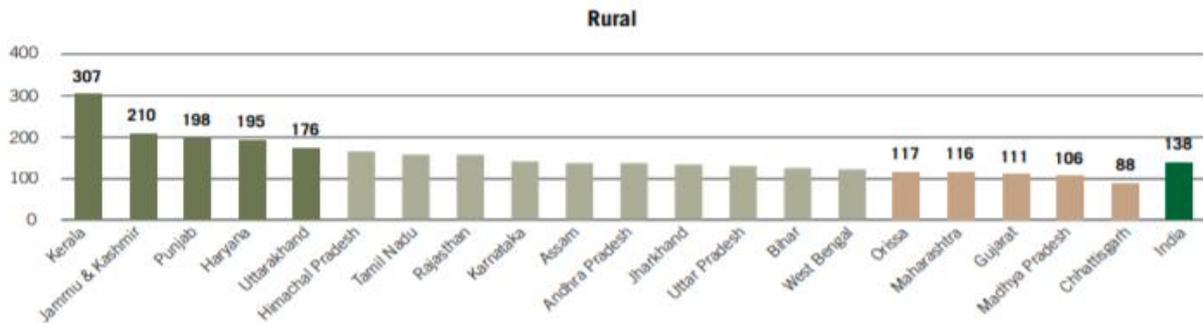
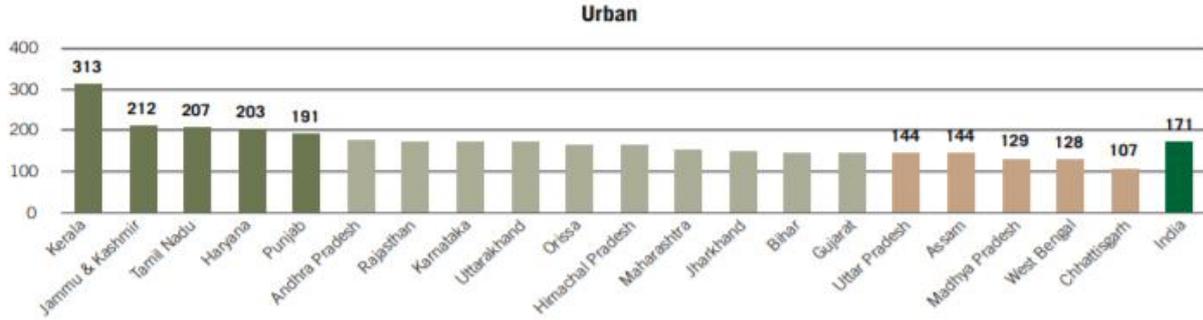
The rate of unemployment for an individual with graduate degree is 20 per cent while for individuals with post graduate degree is 23.3 per cent.

89.7% of job seekers in Kerala have an education qualification of at least secondary schooling and above. However, due to lack of opportunities aligning to their line of education, skill or experience, nearly 56.4 percent Keralites are migrating abroad and to other states in search of better opportunities.

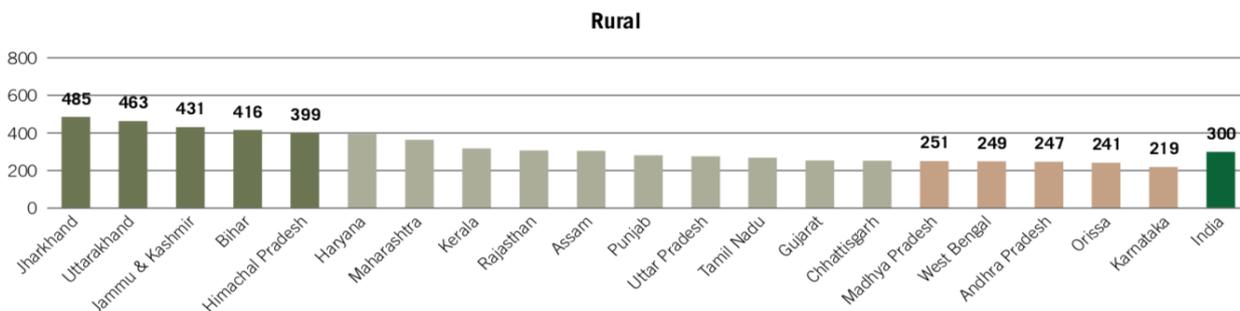
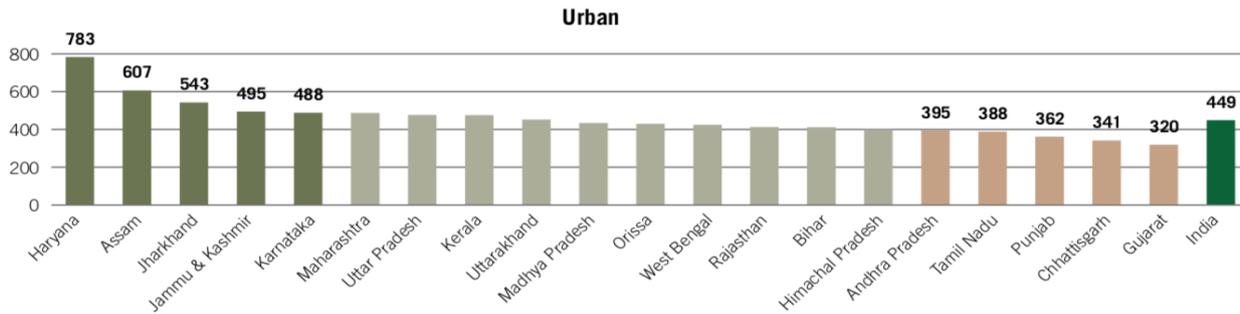
Creation of jobs aligning to those demanded by the educated migrant labour can enhance the potential of the state.

- Kerala has a higher proportion of its population who are more qualified as compared to other states. These workers tend to prefer jobs that align with their qualifications: white collar jobs are preferred to blue collar jobs.
- Despite the high education qualifications of women in the state, even in rural areas, women’s workforce participation is extremely low. The addition of these women to the workforce through concentrated efforts in employment generation can aid in developing new industries.
- The lack of opportunities in the state has resulted in inter-state migration in search of qualified jobs. The creation of sufficient jobs that employ intellectual capital can bring back these resources to the state.

The nominal casual wages in Kerala are higher than the rest of the country, which is visible from the figure below. However, the Nominal Regular Wages are comparable to other states.



Nominal Casual Wages, urban and rural, by state, 2011-12 (INR)
Source: India Wage Report, International Labour Organisation, 2018



Nominal Regular Wages, Urban and Rural, by state, 2011-12

1.3 Capital

The industry/ investment promotion in Kerala has been highlighted through a series of statistics identified by earlier studies as shown below:

Proposed Investments in Kerala (Values in Rs. Crores)

States	2008			2009			2010			2011			2012			2013		
	Pro	Sh	Avg	Pro	Sh	Avg	Pro	Sh	Avg	Pro	Sh	Avg	Pro	Sh	Avg	Pro	Sh	Avg
A.P	1,32,289	8.68	326.64	1,04,998	10.09	329.15	1,76,245	10.15	339.59	1,03,966	6.75	265.22	70,376	12.39	229.24	25,520	4.81	96.67
Gujarat	1,25,376	8.23	345.39	1,42,239	13.67	378.30	1,49,718	8.62	301.24	1,42,680	9.27	262.28	1,26,201	22.22	267.38	94,259	17.78	266.27
Karnat	1,42,284	9.34	677.54	92,054	8.85	514.27	1,40,289	8.08	521.52	94,147	6.11	433.86	47,967	8.45	283.83	10,050	1.90	91.36
Kerala	269	0.02	16.81	171	0.02	21.38	99	0.01	12.38	3,984	0.26	332.00	124	0.02	20.67	14,624	2.69	3,566
Mahar	92,287	6.06	128.71	68,073	6.54	114.60	1,76,259	10.15	232.23	1,33,730	8.69	137.16	70,181	12.36	131.67	53,402	10.07	118.15
Tamil	24,506	1.61	79.05	67,224	6.46	284.85	38,595	2.22	162.85	73,348	4.76	284.29	21,253	3.74	107.88	27,380	5.17	162.98
All India	15,23,852	100	373.04	10,40,259	100	299.36	17,36,322	100	400.44	15,39,728	100	394.80	5,67,868	100	200.80	5,30,086	100	222.07

Sh= Share in %age values, Avg= Average values

Source: Department of Industrial Policy and Performance (2014a)

Table 19: Large Investment Projects Implemented Across States (in Rs. Crores)

	1992-2006	2007	2008	2009	2010	2011	2012	2013
Kerala	1017	0	0	2	0	0	0	0
Gujarat	70588	7474	1334	2195	4565	2148	49616	15478
Maharashtra	29106	1421	2448	3499	1291	4671	7509	30266
Tamil Nadu	9638	1561	1365	1267	1374	235	524	2292
Karnataka	9009	126	750	524	1771	890	1672	4912
Andhra Pradesh	14553	1184	2148	1899	2185	2439	8411	8386
All India	241756	19390	12465	14691	29735	12870	82156	78497

Note: This is based on the number of Industrial Entrepreneur Memorandums (IEMs) actually implemented.

Source: Computed from Department of Industrial Policy and Performance (2014b)

Investment Proposals in MSME Sector (in Lakhs numbers)

	Kerala	Tamil Nadu	India	Share of Kerala in India (%)
2007-08	0.11	0.27	1.73	6.40
2008-09	0.16	0.32	1.93	8.24
2009-10	0.12	0.42	2.14	5.61
2010-11	0.10	0.58	2.38	4.28
2011-12	0.10	0.70	2.83	3.54
2012-13	0.13	0.91	3.22	4.06
Average	0.12	0.53	2.37	5.36

Source: Development commissioner MSME (2014)

It can be seen from the above that the quantum of investments, irrespective of the type of industries has been low in Kerala. This is owing to multiple factors including the ease of doing business, the profile of industries that is concentrated at MSMEs, labour productivity and wages, among other factors.

However, while garnering investments and thereby capital has been a challenge, Kerala faces a greater challenge of management of working capital for sustained operation of the units, specifically the small and medium enterprises. This has been highlighted as a constant theme across the various districts covered as part of the DIC survey of industries 2017-18.

1.4 MSME Ecosystem

Owing to the uniform level of development across the state, Kerala is interconnected and has several hubs for industries. The density of MSMEs is highest in the country. The number of MSMEs in each district has been highlighted in the table below:

District	Registered SSI/ MSME in 2015-16
Trivandrum	34659
Kollam	18036
Pathanamthitta	11136
Alleppey	18489
Kottayam	24771
Idukki	5613
Ernakulam	34497
Thrissur	32849
Palakkad	17970
Mallapuram	14552
Kozhikode	19782
Wayanad	4113
Kannur	13419
Kasargod	7580
Total	257466

Registered MSMEs

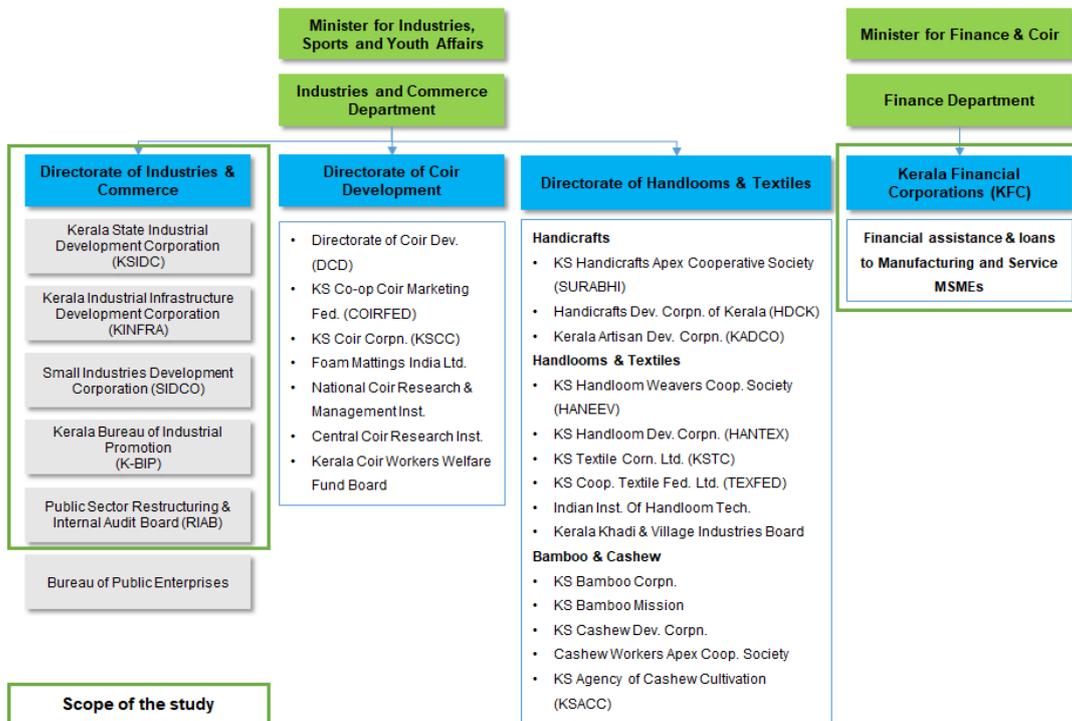
Source: Economic Review 2016, Kerala State Planning Board

Annexure 2: As-Is Mapping and Evaluation of Roles of Agencies

This section analyses the institutions involved in industrial development in Kerala. The analysis has been carried out with an understanding of the following aspects:

- Institutional arrangement and alignment of institutions involved in industrial development in Kerala.
- Mandates of these institutions and understanding how the mandate of these institutions has changed over time.
- Overlaps in mandate that exist between institutions.
- Interface challenges between institutions.

The figure below shows the institutional arrangement for the industry sector in Kerala.



These institutions are meant to provide support to the industries in Kerala. Before analyzing the mandate/ role of these institutions, it is important to understand two things – which are the target enterprises for these institutions and what kind of support do these enterprises require from the institutions.

Target enterprises: As per section 7 of Micro, Small & Medium Enterprises Development Act, 2006 (MSMED Act) enterprises are classified based on their investment size and the nature of activity undertaken by that enterprise. The two broad categories based on nature of activity undertaken are manufacturing enterprises and service enterprises. Each of these categories has their own definition of what constitutes a micro enterprise or a small enterprise or a medium enterprise. The table below summarizes the same.

S.no	Type of enterprise	Investment in plant machinery/ Equipment (in INR Lakhs)	
		Manufacturing Sector	Service Sector
1	Start-ups/ Entrepreneurs	Not defined	Not defined
2	Micro Enterprises	< 25 Lakh	< 10 Lakh
3	Small Enterprises	25 Lakh – 500 Lakh	10 Lakh – 200 Lakh
4	Medium Enterprises	500 Lakh – 1000 Lakh	200 Lakh – 500 Lakh
5	Large Enterprises	>1000 Lakh	>500 Lakh

Type of support: It is important to acknowledge that the support required by each of these enterprises is considerably different. The institutions can provide the following support to enterprises – policy, project planning, business facilitation, physical infrastructure, financial assistance, operations, marketing and promotion. The role of the institutions along the following heads have been mapped below:

- Physical Infrastructure
- Financial Assistance
- Facilitation/ Set Up
- Industry and Investment Promotion
- Monitoring and Review

1.1 Physical Infrastructure

1.1.1 As-Is Context in Kerala

The different types of industrial infrastructure development models adopted in Kerala are as shown below:

Institution for Industrial Development	Industrial Clusters	Industrial Parks	Industrial Estates	Industrial Cooperatives	Industrial Corridors	Industrial Development Zone	Industrial Growth Centres	Special Economic Zone	Development plots/Areas	Land for public sector undertakings
Definition	Groups of interlinked companies, suppliers, and associated institutions – For specific product and services in a geographic region. Focussed at establishing forward and backward linkages along value chain.	'Theme Parks' that are primarily the sector-specific industrial parks on an identified core sector.	Cradle zones for industrial activities in which basic infrastructure and other utility services are provided.	Association of workers who come together to provide necessary assistance and supporting services to the members by undertaking their activities collectively.	Industrial corridors help in flourishing industrial development by ensuring seamless connectivity of roads, rail, air, or sea for the manufacturing clusters and ancillary industries.	Large zones acquired and leased for large scale industrial development .	Joint industrial infrastructure project of the Government of Kerala with the Government of India.	Delineated duty-free enclaves for the purpose of trade, operations, and duty and tariffs. They are the self-contained and integrated geographical regions having their own well-built infrastructure and support services.	Individual plots of land for businesses and entrepreneurs are available for lease or rent.	A union or state government owned enterprise in India where the company stock needs to be majority-owned by the government.
Focus Industries	Micro & Small Enterprises	Sector specific. Including sunrise sectors such as food processing, electronics,	Small scale industries	Cooperatives	Any sector/ industry.	Large scale manufacturing industries	Industrial backward regions (non-sector specific)	Export led industries.	Any business.	Manufacturing and employment generating industries

Institution for Industrial Development	Industrial Clusters	Industrial Parks	Industrial Estates	Industrial Cooperatives	Industrial Corridors	Industrial Development Zone	Industrial Growth Centres	Special Economic Zone	Development plots/Areas	Land for public sector undertakings
		and information technology.								
Government Support provided	Bringing together the value chain for improved productivity.	Assistance in procurement of suitable land; Clearances, Common Infrastructure, Exemptions and incentives, and fast track single window facility	Package of services provided continuously, reliably, and at a reasonable cost. Preferential investment incentives such as exemptions from import or export duties, income tax exemptions, and various other subsidies are also provided.		Industry/ infrastructure integration.	Acquire land, develop the land parcels, and provide the basic and necessary infrastructure facilities.	Basic infrastructure facilities are put in place in all the centres and industrial plots for setting up specialized industrial units. Provided on long lease for a period of thirty years.	Provision of world-class infrastructure, reducing multiplicities in approvals.	Provision of plots of land that are suitable for setting up industries.	Government owns majority stock in the PSU
No. of infrastructure blocks	19 Existing/upcoming clusters	24 Industrial parks between KINFRA and KSIDC	125 Mini Industrial Estates. 17 Major Estates	430 Cooperative Societies working	Kochi-Bangalore Industrial Corridor proposed.	4 proposed – Trivandrum, Kochi, Kozhikode and Kannur.	4 (Cherthala, Palakkad, Kuttiyadi and Kannur	16 SEZ as of Dec 2016	37 DA/ DP	40 PSUs

Institution for Industrial Development	Industrial Clusters	Industrial Parks	Industrial Estates	Industrial Cooperatives	Industrial Corridors	Industrial Development Zone	Industrial Growth Centres	Special Economic Zone	Development plots/Areas	Land for public sector undertakings
Acreage Acquired		2542.2 Acres (KINFRA) 506 Acres (KSIDC)	240 Acres (Major Estates)				1095 Acres		2443.57 Acres	
Acreage Allotted		163 Acres (KINFRA) 47 Acres (KSIDC)	199.6 Acres (Major Estates)				317.4 Acres		2181.23 Acres	
No. of units supported	1444 Units		777 Allotted. 683 Working. (In Mini Estates) +304 working in SIDCO Mini estates 857 Working Units in Major Estates						2595 Units Allotted. 2166 Units working.	
Total Employment	78350	21581 (KINFRA Parks)	4799 in Mini Estates. 7456 in Major Estates.						41917	
Employment. Acreage		8.5 Person per acre	37 Person per acre in						19 Persons per DP/DA	

Institution for Industrial Development	Industrial Clusters	Industrial Parks	Industrial Estates	Industrial Cooperatives	Industrial Corridors	Industrial Development Zone	Industrial Growth Centres	Special Economic Zone	Development plots/Areas	Land for public sector undertakings
			Major Estates.							
Revenue Generated			INR 58.33 Crore						INR 6560.47 Crore	INR 1016.1 Crore turnover (10 profit making and 30 loss making units)
Revenue per unit			6.8 Lac per unit in Major estate.						302 Lacs per unit in DP/DA	

1.1.2 Role of Key Institutions

The role of key institutions based on the type of infrastructure is as shown below:

	Industrial Clusters	Industrial Parks	Industrial Estates	Industrial Cooperatives	Industrial Corridors	Industrial Development Zone	Industrial Growth Centres	Special Economic Zone	Development plots/Areas	Land for public sector undertakings
KSIDC										
KINFR A										
SIDCO										
DIC										

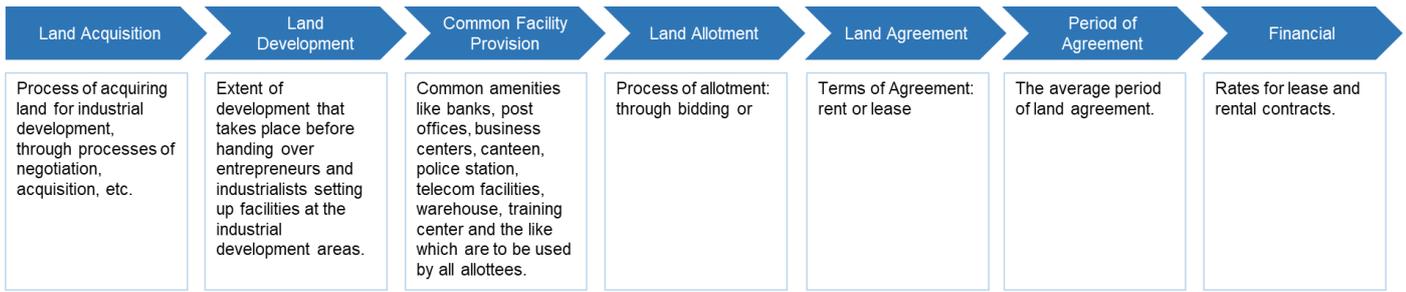
The role of the key institutions with regard to the support extended to the various types of industries is as shown below:

Mandated Role (M)	
	Mandated function of the institution
Current Role (C)	
	Mandated function executed adequately by the institution
	Mandated function partly executed by the institution.
	Mandated function not being executed by the institution/ Performing functions outside the mandate of the institution

Institution		Start Up	Micro/ Small	Medium/ Large
Directorate of Industries and Commerce	M			
	C			
Kerala State Industrial Dev. Corp.	M			
	C			
Kerala Industrial Infrastructure Dev. Corp.	M			
	C			
Kerala Small Industries Dev. Corp. Ltd.	M			
	C			
Kerala Bureau of Industrial Promotion	M			
	C			
Public Sector Restructuring and Internal Audit Board	M			
	C			
Kerala Finance Corporation	M			
	C			

Considering the several models of physical infrastructure adopted by institutions, this section explores the process flow from land acquisition to land allotment. The overlaps between institutions have been highlighted and the extent of development that is executed for each project.

The process flow has been detailed below:



Each step of the process flow corresponding to the institutions has been detailed in this section.

Land Acquisition



Government Order- Procedures for Identifying and Allotting Land by Entities under the Industries Department¹⁴

- At least 75% of the land should be allotable. Land should not fall in ecologically sensitive areas. Water and power availability, or in the absence thereof, possibility of developing these facilities at reasonable cost should be ensured.
- The land selected should be acceptable in terms of proximity to National/State Highways with roads wide enough to permit container trailers to travel, or with possibility of acquiring land for the purpose without public opposition in case wide enough roads need to be developed.
- A District Industrial Site Selection Committee shall inspect and render a report on the feasibility of acquiring any new plot for industrial purpose.
- Development agencies shall ensure that there is not more than a 5-6 year period from the takeover of land to its allotment.
- Land shall be allotted only after recovering all costs incurred by the agency. Where necessary, the infrastructure shall be developed in phases and the anticipated cost shall be loaded in the land pricing. Only those plots where at least 80% of the allotable land can be allotted within 3 years of development shall be taken up for acquisition.
- Allotment of 10 acres and more in Industrial Estates of entities under this Department shall be considered by a State Industrial Land Allotment Committee.
- The fee for applying for allotment of land to the District Industrial Land Allotment Committee shall be INR 5000+ Taxes and to the State Industrial Land Allotment Committee shall be INR 10,000+ taxes.

Industrial Development Institution	Land Acquisition
KINFRA ¹⁵	KINFRA invites offers for purchase of land for industrial purposes which have a minimum area of 100 acres and satisfy certain conditions. ¹⁶

¹⁴ Government Order, G.O.(Rt) No. 732/2017/ID, available at https://www.ksidc.org/wp-content/uploads/2018/02/Land_Allotment.pdf

¹⁵ Information for this section has been obtained from: <http://kinfra.org>

¹⁶ The minimum area of land should be 100 acres or above, preferably single land ownership. Connectivity with road and rail and availability of water and electricity are required. Land should not be under Kerala Conservation of Paddy land and

Industrial Development Institution	Land Acquisition
	Land acquisition as per government order.
KSIDC ¹⁷	Land acquisition as per government order.
SIDCO ¹⁸	(Government order is applicable, no adequate information on whether the process is being followed)
DIC ¹⁹	Land acquisition as per government order.

- All four institutions acquire land as per the government order. The pricing of the land includes all costs incurred by the agency. The pricing incorporates the costs in land development such as construction of infrastructure and common facilities.
- A fee of INR 5,000 and INR 10,000 with additional taxes needs to be submitted for applying for land allotment.

Land Development



Industrial Development Institution	Land Development
KINFRA	KINFRA has 23 projects developing physical infrastructure. KINFRA acquires land, develops the land parcels, and provides the basic infrastructure facilities comprising road, power, water, sanitation & drainage. For some mega projects, sector specific infrastructure such as warehouses, standard design factories, laboratories, etc. are developed.
KSIDC	Each project undertaken by KSIDC is under various stages of development and basic infrastructural facilities such as road, water, power, telecommunication etc. are constructed.
SIDCO	Land/ Sheds are leased out to businesses.
DIC	The Director of Industries & Commerce controls 10 Industrial Development Areas, 25 Industrial Development Plots, 2 Coir Parks and one functional Industrial Estate across the state. Additionally, industrial development areas/plots are available for lease.

wetland Act 2008. Burial ground/worship places are not to be considered. Surplus land under the Ceiling Act is not considered. Plain land is preferable. Land should be free from all encumbrances/liability/legal issues.

<http://kinfra.org/inviting-offers-for-purchase-of-land-for-industrial-purpose.html>

¹⁷ Information for this section has been obtained from: <https://www.ksidc.org/>; *Application for land allotment*, <https://www.ksidc.org/megaprojects/life-science-park/>

¹⁸ Information for this section has been obtained from: <http://www.keralasidco.com/>, land allotment details from http://www.keralasidco.com/index.php?option=com_content&view=article&id=52&Itemid=78

¹⁹ Information for this section has been obtained from: <http://industry.kerala.gov.in/>

- Industrial Parks and estates are the primary models of development adopted by these institutions. Additionally, DIC and SIDCO also provide individual plots of land for lease.

Common Facility Provisions



Industrial Development Institution	Common Facility Provisions
KINFRA	<ul style="list-style-type: none"> Basic infrastructure such as roads, power, water, drainage is provided in most facilities. Common facilities such as Centralized Processing Centre (CPC), Primary Processing Centres (PPCs), Collection Centres, Standard Design Factories (SDF) are built at these parks. Some parks include core facilities or core processing infrastructure which include Cold Storage, Ripening Chamber, Raw Material Warehouse, Finished Product Warehouse, Silos, Pack House, Quality Control Laboratory etc.
KSIDC	<ul style="list-style-type: none"> Basic facilities such as security, roads, administrative buildings, etc. are built at the parks. Standard Design Factories have been built at the parks. Working women’s hostels, telephone and internet connectivity, power and water supply systems and effluent treatment plants are some of the facilities available at the parks.
SIDCO	<ul style="list-style-type: none"> SIDCO has carried out many developmental works like street lighting, internal road and providing water supply to the units in the Industrial Estates and Mini Industrial Estates.
DIC	<ul style="list-style-type: none"> Basic Common facilities such as road, electricity, water, effluent treatment plant, booking facilities, banking facilities, etc. are available for use in common by all industrial units. The charges for using any common facility provided and usage charges of these facilities shall be charged in addition to the lease premium fixed.

- Basic infrastructure such as roads, admin buildings, power and water, effluent treatment, etc. is provided at all properties. Additionally, sector specific facilities such as cold storage, ripening chamber for food processing parks, raw material warehouse, finished product warehouse, silos, etc. at textile parks are some of the common facilities provided at the parks.

Land Allotment



Industrial Development Institution	Land Allotment
KINFRA	Application for allotment(Form A) to be submitted with project profile indicating raw material, process flow diagram, end product and DD of INR 5000 and GST applicable (currently @ 18%)drawn in favour of KINFRA payable at Trivandrum.

Industrial Development Institution	Land Allotment
	Proposal to be placed before District Industries Land Allotment Committee. ²⁰
KSIDC	<p>The applicant shall submit "Application for Registration for allotment of Plots" in the prescribed form, duly filled in along with detailed project report and processing fee of INR 10,000 plus applicable service tax.</p> <p>On scrutiny of the particulars furnished and if found eligible, an allotment letter will be issued, detailing about the lease premium payable and other terms and conditions of plot allotment.²¹</p>
SIDCO	<p>Application for land/shed in Industrial Estates/ Mini Industrial Estates can fill in the application form and email to the concerned authority or submit at the SIDCO office. Accompanying the application form, a few related documents such as attested copy of MSME registration certificate, project report of the proposed unit, identification details need to be submitted along with EMD of INR 3000, scrutiny fee of INR 1000 and cost of application form of INR 30.</p> <p>The applications submitted by entrepreneurs will be scrutinized by an allotment committee constituted for the purpose and the eligible applicant selected. The allotments are made based on the approved recommendations of the allotment committee. The allotment committee will be held once in a month or based on availability of applications.</p>
DIC	The allotment of Industrial land in the DA/DPs after 30/1/2016 are guided by the Rules promulgated under GO (MS) No 17/2016/ID dated 30.01.2016.

- The allotment process for each park is different. The application processing fee at each institution varies from INR 4000 to INR 10,000 with applicable taxes.
- The application is then reviewed by an allotment committee.

Land Agreement



Industrial Development Institution	Land Agreement
KINFRA	<p>The agreements are in the form of leases.</p> <p>Once the proposal is cleared by the Land Allotment Committee, intimation letter (Form B) will be issued to the allottee and allottee shall remit 10% of the total amount of lease premium as Earnest Money Deposit (EMD) within 30 days.</p> <p>On remitting EMD, allotment letter (Form D) will be issued and allottee shall remit 50% of lease premium within 15 days</p>

²⁰ <http://kinfra.org/investor-zone>

²¹ The allotment procedure for Bio360, Life Sciences Park has been taken as reference.

Industrial Development Institution	Land Agreement
KSIDC	<p>On scrutiny of the particulars furnished and if found eligible, an allotment letter will be issued, detailing about the lease premium payable and other terms and conditions of plot allotment. The allottee is required to pay the prescribed lease premium, minimum 50%, within 90 days from the date of allotment.</p> <p>After paying the lease premium in full and after completing the project implementation (within the licence period of two years), the allottee shall be entitled to get a lease on the property for the remaining 28 years</p>
SIDCO	<p>Allotments of land and sheds are made on rental / Outright Sale (ORS) basis. Whenever land/sheds fall idle or the unit holder becomes defaulter of dues, such land/sheds are resumed/evicted and re-allotted to other industrial entrepreneurs. The entrepreneurs who have remitted the full value of sheds/land purchased on ORS are given sale deed.</p> <p>On allotment of the land/ shed, the allottee shall pay the ORS value within 30 days. The allottee shall start the construction of factory building within a period of 3 months and complete the same within 6 months. The allottee shall further start the unit within a period of 1 year from the date of allotment order.</p>
DIC	<p>Once the allottee has accepted the allotment and remitted the prescribed lease premium as down payment as per the allotment letter the allottee is required to enter into the license cum lease agreement within 30 days from the date of allotment.</p> <p>The Licensee shall get the license cum lease agreement registered with the registering authority within 3 months from the date of execution of the agreement at his cost and finish the same before the competent authority for record purpose.</p> <p>If Licensee is unable to commence production within the period, a penalty proportionate to the lease premium needs to be paid.</p> <p>Allotment of land on lease basis. Mortgaging of land for financing business is permitted with the authorized permission for mortgaging lease hold right and change of ownership.²²</p>

- The land agreements for all industrial plots/parks are on a lease basis. The period for remitting a proportion of the lease premium varies between parks.

Period of Agreement



- The period for agreement for all parks is 30 years which can be extended further based on terms and conditions.

Industrial Development Institution	Period of Agreement
KINFRA	Lease period of 30 years.

²² [GO\(MS\) No. 60/2013/ID](#)

Industrial Development Institution	Period of Agreement
	Standard Design Factories ²³ are leased for a period of 10 years.
KSIDC	The lease period is for 30 years out of which the initial two years is License period. After paying the lease premium in full and after completing the project implementation (within the licence period of two years), the allottee shall be entitled to get a lease on the property for the remaining 28 years (Nominal annual lease rent is payable for this period).
SIDCO	(Not available)
DIC	Tenure of lease will be for 30 years. Industrial units obtaining land on lease will be eligible to get the period extended for another 30 years, subject to their satisfying the terms and conditions of the earlier lease.

Financial



Industrial Development Institution	Financial
KINFRA	<p>On remitting lease premium, License Agreement (Form E) to be executed between KINFRA and the allottee, the validity of the Agreement is for 24 months, during which the allottee has to submit the drawings, construct the building, installation of plant and machinery and the unit shall be ready for commercial production. Also note that the balance lease premium is to be remitted in 2 equal instalments with interest @ 12.5 % or such rate fixed by the Corporation from time to time, within 24 months.</p> <p>Once the unit is ready for commercial production, Lease Deed (Form F) will be executed for 28 years. Please note that the deeds are exempted from Stamp duty and Registration.</p> <p>In case of cancellation of the allotment, 10% EMD will be forfeited.</p>
KSIDC	<p>The allottee is required to pay the prescribed lease premium, minimum 50%, within 90 days from the date of allotment.</p> <p>After paying the Lease premium, a Licence agreement will be executed thereafter the allottee will be permitted to enter in to the plot to commence construction activities.</p> <p>The lease premium of land at Life Sciences Park is Rs.373.70 lakhs per acre plus GST as applicable. As part of early bird scheme, KSIDC has reduced the lease premium by 50% for allotment of land to the initial ventures limited to 10 acres. The maximum land to be allotted for a single venture shall be limited to 5 acres. Therefore, the present lease premium of land is Rs 186.85 lakhs per acre (Excluding GST).</p> <p>The allottee is permitted to mortgage the lease right on the plot for availing financial assistance from banks. During Licence period a tripartite agreement may be signed for this purpose.</p>

Industrial Development Institution	Financial
SIDCO	<p>On allotment of the land/ shed, the allottee shall pay the ORS value within 30 days. The allottee shall start the construction of factory building within a period of 3 months and complete the same within 6 months. The allottee shall further start the unit within a period of 1 year from the date of allotment order.</p> <p>If an allottee, after complying all the allotment conditions, finds it difficult to run the unit and wishes to transfer the unit to another allottee or to change the constitution of the firm, they can transfer/ reconstitute the firm for industrial purpose after 2 years of allotment with prior approval of SIDCO by remitting processing fee at different rates based on area of land allotted as follows.</p> <p>C type shed/ 10 cents: INR 2,000/- B type shed/ 20 cents: INR 3,000/- A type shed/ 25 cents: INR 7,500/- Up to 50 cents: INR 10,000/- Up to 1 acre: INR 15,000/- Above 1 acre: INR 25,000/-</p> <p>If the land/ shed are kept unutilized, it would be resumed realizing resumption interest @ 6% on the total cost of land from the date of allotment.</p>
DIC	<p>The value of the land fixed by Government shall be considered as the premium of the land. 40% of the lease premium shall be remitted by the Licensee in full as an upfront payment before executing the license agreement. The remaining 60% of the lease premium shall be remitted by the licensee in 2 equal instalments within one year from the date of execution of the license agreement. The first instalment shall be due six months from date of execution of the license agreement. The lease premium shall carry an interest at 9% of the lease premium (interest will be on the 60% of lease premium only) which is also to be remitted in 2 equal instalment of lease premium. Failure or delayed remittance shall attract a penal interest at 2% of the amount defaulted. Failure in the remittance of the instalments of lease premium dues for a period of more than 6 months shall be considered as a breach in license agreement and the competent authority shall resume the allotted land under proper intimation of the license.</p>

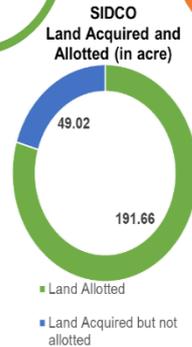
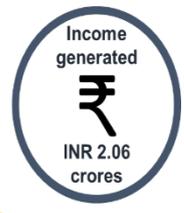
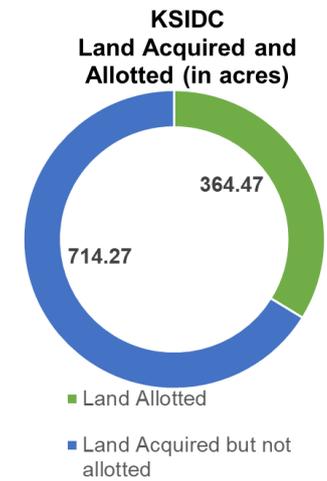
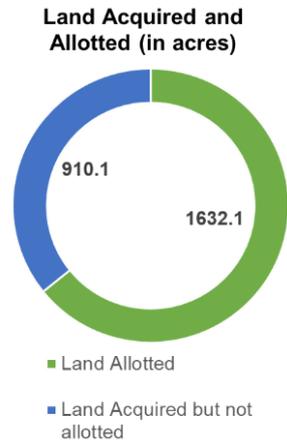
- The lease premium and proportion to be paid to each park varies with institution.
- If the allottee finds it unable to run the unit, each institution charges different form of penalty to the business. This involves repayment of premium paid with additional interest ranging from 6% to 10%.

Key Observations

Some of the key observations from the table above are as follows:

Observation Heading	Description
Mandate/ Policy Related Observations	
Role of Institutions – Asset Based	The role of the various industry development institutions is asset-driven. A specific type of asset is owned and operated by the industry development agency. Almost all support to the industries along the industry development value chain are provided to the industries within the asset managed by the institution. This is irrespective of the type/ sector/ size of industries housed within the asset.
Establishing cluster development through industrial parks	Several sector specific Industrial Parks have been established in Kerala. However, unrelated businesses are currently present indicating a non-alignment of the strategic plan of the park with the sector. This can be a result of non-viability of the unit for the focused sector or other factors.
Financing of Infrastructure – Promotion Vs. Revenue Generation	<p>“Land shall be allotted only after recovering all costs incurred by the agency. Where necessary, the infrastructure shall be developed in phases and the anticipated cost shall be loaded in the land pricing.”</p> <p style="text-align: center;">- Government Order- Procedures for Identifying and Allotting Land by Entities under the Industries Department</p> <p>The objective of parks and related infrastructure is to provide businesses with low cost infrastructure or land thereby reducing the burden for enterprises for economic growth. Additionally, by pooling in resources required for businesses certain sectors and aligned industries can be developed at a particular location, thereby reducing costs and channelling resources for the growth of specific sectors.</p> <p>However, currently the pricing for each plot of land is determined by the costs incurred for acquiring and constructing land as per the government order. Focus is not on providing low cost resources for industrial growth but to recover costs.</p> <p>This is a policy that requires a re-look if industrial promotion is a key objective of the Government participating in infrastructure development for the industries.</p>
Operational Role Related Observations	
Lack of clarity of infrastructure allocation and development – Institutional overlaps	<p>While various types of institutions are involved in augmenting the load of industrial infrastructure provision and development for the industries in Kerala, from a customer view point there is a lack of clarity with regards to the institution to reach out for his infrastructure requirements.</p> <p>The rates of registration, land value etc. and the processes too vary based on the agency approached by the entrepreneur. This lack of clarity will have to be addressed.</p>
Utilization of Infrastructure	<p>Overall Observations</p> <ul style="list-style-type: none"> • Within the structured infrastructure development plans of the Government, only a very small fraction of the total number of industrial units in Kerala is covered. • The employment generated range between an 8 personnel per hectare to a high of about 37 personnel depending on the type of sector supported.

Observation Heading	Description
	<p>Significant acreage of land is available with KINFRA, KSIDC, SIDCO and DIC for allocation to prospective industries. In addition to the same, the land allotted to the PSUs and their utilization would have to be re-visited.</p> <p>Associated Details</p> <p>KINFRA Physical Infrastructure The key observations on the infrastructure handled by KINFRA are as follows:</p> <ul style="list-style-type: none"> <p>64% of the asset has been utilised</p> <p>A total of 2542.2 acres of land have been acquired by KINFRA for various projects, however, only 1632.1 has been utilized as of 2016.</p> <p>Employment per acre is 8.5</p> <p>The employment generated in these parks is 21,581 corresponding to the 2542.2 acquired for industrial purpose.</p> <p>KSIDC Physical Infrastructure</p> <ul style="list-style-type: none"> <p>556.39 acres of land has been acquired but not suitable for industrial purposes</p> <p>The total land acquired by KSIDC is 1635.1 acres while the total land allottable for industrial purpose is 1078.71 acres.</p> <p>Only 33% of the available industrial land has been allotted.</p> <p>364.47 acres of land has been allotted out of the 1078.71 suitable for industrial purpose.</p> <p>SIDCO Physical Infrastructure</p> <ul style="list-style-type: none"> <p>857 units function in 11 parks</p> <p>A total of 909 units exist, but only 857 are working, the remaining 51 units are closed.</p> <p>The combined income generated by all the 857 units in the park is INR 2.60 crores</p> <p>The parks employee a total 7456 employees</p> <p>499 sheds have been allotted to these units</p> <p>79.6% of the acquired land has been allotted</p> <p>A total of 191.66 acres has been allotted out of the 240.68 acres of acquired land.</p>



Observation Heading	Description
	<p>DIC Physical Infrastructure</p> <p>The Director of Industries & Commerce controls 10 Industrial Development Areas, 25 Industrial Development Plots, 2 Coir Parks and one functional Industrial Estate across the state. Additionally, industrial development areas/plots are available for lease.</p> <ul style="list-style-type: none"> <p>262.34 acres of land have been acquired by DIC but are not suitable for industrial purpose</p> <p>2443.57 acres of land has been acquired out of which 2181.23 acres are suitable for industrial purpose.</p> <p>429 units are not working in the DA/DPs and estates owned by DIC</p> <p>2595 units exist in the various DA/DPs and estates while only 2166 units are working</p> <p>92.4% of industrial land has been allotted to units</p> <p>2014.91 acres out of the 2181.23 acres of available land have been utilised</p> <div data-bbox="890 546 1433 1055"> <p>The infographic consists of three main elements: <ul style="list-style-type: none"> A yellow circle containing a factory icon and the text "2166 units". An orange circle containing a person icon and the text "41,917 employees". A donut chart titled "DIC Land Acquired and Allotted (in acres)". The chart is divided into two segments: a large green segment representing "Land Allotted" (2014.91 acres) and a small blue segment representing "Land Acquired but not allotted" (166.32 acres). </p> </div>

1.2 Financial Assistance

1.2.1 As-Is Context in Kerala

Financial assistance in Kerala is provided through a variety of schemes. This assistance has been broadly classified based on the target group.

1. **General Schemes for businesses:** The challenges that exist for new businesses for receiving credit are multi-level. The steps taken by these governmental agencies for industrial development to address these challenges have been included in this section. This includes the qualifying requirements for availing schemes, working capital loans, schemes that cater to building the financial ecosystem, etc.
2. **Schemes for startups:** Startups and entrepreneurs are the essential accelerators for growth in Kerala. However, availability of financial capital to aid growth, expansion and modernization are limited. This section explores the specialized schemes for startups and entrepreneurs in Kerala.
3. **Schemes for MSMEs:** The specialized schemes addressing the challenges faced by these enterprises have been detailed under this section.
4. **Sector specific schemes:** The government as well as several financial institutions has identified several thrust sectors that are emerging in Kerala. Additionally, several sectors find it challenging to receive financial assistance, especially those involving the use of only human capital, a characteristic of most industries in Kerala. Such schemes have been explored in this section.

The schemes are as summarized below:

General Schemes for Business	<ul style="list-style-type: none"> • A working capital revolving fund has been set up by KFC to address working capital needs of businesses, this fund functions on a revolving basis. The enterprise must be eligible to be funded by the corporation. • For businesses that are prompt in servicing liability, a short-term loan can be availed from KFC and KSIDC. Term loans have also been provided by these institutions. • KSIDC focusses on funding projects with larger investments of around INR 2-3 crore. KSIDC requires the promoter directors of enterprises to provide personal guarantees. The debt equity ratio mandated differs for firms that can provide collateral security, thrust sectors have different debt to equity ratios. • SIDCO has introduced a scheme that will enable discounting of outstanding bills of government departments and agencies and thereby ensure prompt payment to suppliers. 	<ul style="list-style-type: none"> • Eligibility requirements for schemes similar to commercial bank requirements for loans. • Working capital: Schemes catering to working capital requirements of businesses have been offered by institutions. However, the available schemes and forms of assistances are not widely known to the industry participants and more efforts need to be made to publicize and market the schemes offered. Another issue could be the lack of know-how and capability to receive such a loan. • Role of governmental institutions in financing businesses: Similar schemes have been offered by banks and governmental institutions. Very few efforts have been made to address the challenges faced by entrepreneurs and businesses for financing credit.
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	<ul style="list-style-type: none"> Existing customers of KFC can avail a credit revolving fund scheme to meet urgent credit requirements. 	
Schemes for MSMEs	<ul style="list-style-type: none"> Discounting bills to ease cash flow for MSMEs and schemes for MSME start-ups are the few specialized schemes offered by these institutions. 	
Sector specific schemes	<ul style="list-style-type: none"> Several schemes for hotels, contractors, etc. for modernization, upgradation and diversification are offered by KFC 	
Schemes for Start ups	<ul style="list-style-type: none"> Working capital requirements for start-ups can be funded through schemes offered by KFC. But the applicant entity must have firm purchase orders from reputed companies and should have successfully purchases orders worth thrice the amount applied for. Venture debt repayment loans are also available but this is limited to IT hardware and software enterprises. KSIDC offers seed funding for innovative ventures and potential start-ups promoted by young entrepreneurs. Seed Funding shall be provided to innovative ventures/potential start-ups promoted by young entrepreneurs, subject to a maximum of Rs.25 lakhs per venture or 90% of the initial cost of the project, whichever is lower. 	<ul style="list-style-type: none"> Intellectual capital is an asset to start ups and entrepreneurs. But banks don't offer loans without collateral security therefore the schemes offered are not viable for banks. The governmental agencies for industrial promotion do not interface with banks to provide the necessary assistance for entrepreneurs to avail loans The extent of assistance offered by agencies such as KSIDC is limited to 50-100 enterprises that are not encouraging to the start-up ecosystem in Kerala. KSUM Support provided limited to few units, there is no scalable policy intervention for incubation currently in Kerala

1.2.2 Role of Key Institutions

The following state governmental institutions offer financial assistance in Kerala:

- The **Kerala Financial Corporation (KFC)** incorporated under the State Financial Corporations Act of 1951, to facilitate financing for industrial development and growth.
- **Kerala State Industrial Development Corporation (KSIDC)** is mandated for industrial and investment promotion in Kerala and offers financial assistance and support to medium and large scale industries in the state.
- **Directorate of Industries and Commerce (DIC)** is responsible for promoting/sponsoring, registering, financing and advising MSMEs in the state. The role of directorate is to act as a facilitator for industrial promotion and sustainability of MSMEs (Micro Small or Medium Enterprise) and traditional industrial sector in the state.
- The **Small Industries Development Corporation (SIDCO)** is a promotional agency incorporated to render assistance to small scale industries in the state.

The role of the institutions in providing financial support to the various institutions is as shown below:

Mandated Role (M)	
	Mandated function of the institution
Current Role (C)	
	Mandated function executed adequately by the institution
	Mandated function partly executed by the institution.
	Mandated function not being executed by the institution/ Performing functions outside the mandate of the institution

Institution		Start- Up	Mirco/ Small	Medium/Large
Directorate of Industries and Commerce	M			
	C			
Kerala State Industrial Dev. Corp.	M			
	C			
Kerala Industrial Infrastructure Dev. Corp.	M			
	C			
Kerala Small Industries Dev. Corp. Ltd.	M			
	C			
Kerala Bureau of Industrial Promotion	M			
	C			
Public Sector Restructuring and Internal Audit Board	M			
	C			
Kerala Finance Corporation	M			
	C			

1.2.3 Key Observations

Observation Heading	Description
Mandate/ Policy Related Observations	
Focus of institutions is on funding and not on creating ecosystems	<p>Banks, other funding agencies extend a variety of schemes for the industry sector. However, the adoption/ utilization of the schemes is limited owing to the distinct challenges of land-holding, lack of securities etc. of the entrepreneur in Kerala.</p> <p>While the institutions specified extend support to the industries, these are neither scalable nor sustainable. There are also overlapping schemes provided by these institutions and those provided by banks and financial institutions.</p> <p>There is a need for a focus on creating an ecosystem for facilitating fund-tie up rather than the institutions like KFC functioning solely as a financial institution.</p>
Financial Management/ Intelligence for MSMEs.	A predominantly MSME driven industry sector, the ability of the industries to sustainably manage their finances is limited. There are no mechanisms currently to provide these support for the industries in Kerala.

1.3 Facilitation/ Set-up

1.3.1 As-Is Context in Kerala

Kerala ranks 20th in the recent Ease of Doing Business Ranking. With the focus on improving the rankings and to better facilitate the facilitation/ set-up of industries in Kerala, The Single Window Clearance Board for speedy issue of various licenses, clearances, and certificates required for setting up of industrial undertakings has been setup. This Single Window Clearance Board is managed by DIC and has Self Service desk at all taluk industries offices of Industries & Commerce Department. There also exists a Micro Small Enterprises Facilitation Council that examines the case filed by MSE.

1.3.2 Role of Key Institutions

While the Single window scheme is implemented by the DIC, there are still multiple overlaps in terms of business setup/ facilitation. This is highlighted with an example: `

Interfaces required for setting up of MSMEs

The key interfaces required for setting up of an MSME is as shown below:

	Registration of Units	Feasibility study/ DPR	Land and Industrial shed allotment	Financial Assistance	Raw materials under Govt. Supply	Plant and machinery under hire/purchase basis	Power/ Electricity	Technical know-how	Quality & Standard	Marketing /Export Assistance	Promotional Agencies
Agencies to be reached out for business facilitation	<ul style="list-style-type: none"> MSME – DI, Thrissur DIC – District Industry Centres 	<ul style="list-style-type: none"> MSME – DI, Thrissur 	<ul style="list-style-type: none"> SIDCO KINFRA DIC Cochin Special Economic Zone (CSEZ) 	<ul style="list-style-type: none"> SIDBI Industrial Finance Corporation of India. Banks. KFC 	<ul style="list-style-type: none"> SIDCO Raw Material Depot State Trading Corporation depot 	<ul style="list-style-type: none"> NSIDC 	<ul style="list-style-type: none"> KSEB 	<ul style="list-style-type: none"> MSME – DI, Thrissur DIC – District Industry Centres 	<ul style="list-style-type: none"> BIS Directorate of Marketing & Inspection.. 	<ul style="list-style-type: none"> Cochin Special Economic Zone (CSEZ) Kerala Export Promotion Council 	<ul style="list-style-type: none"> Kerala Bureau of Industrial Promotion KSIDC KITCO Limited Techno Park Campus

Overall the role of various institutions in business facilitation is as shown below:

Mandated Role (M)	
	Mandated function of the institution
Current Role (C)	
	Mandated function executed adequately by the institution
	Mandated function partly executed by the institution.
	Mandated function not being executed by the institution/ Performing functions outside the mandate of the institution

Institution		Start- Up	Mirco/ Small	Medium/Large
Directorate of Industries and Commerce	M			
	C	Single window implementation agency.		
Kerala State Industrial Dev. Corp.	M			
	C			Nodal agency for single window implementation.
Kerala Industrial Infrastructure Dev. Corp.	M			
	C	All parks set up by KINFRA provide single window clearance mechanism. The central govt. sponsored Textile Park also offers incentives and training and management support.		
Kerala Small Industries Dev. Corp. Ltd.	M			
	C			
Kerala Bureau of Industrial Promotion	M			
	C			
Public Sector Restructuring and Internal Audit Board	M			
	C			
Kerala Finance Corporation	M			
	C			

1.3.3 Key Observations

Observation Heading	Description
Multiple interfaces for industries	<p>While DIC is implementing the single window clearance mechanism, it is clear from the example quoted above that there are multiple institutions involved in providing support for business facilitation for industries in Kerala.</p> <p>While the role of these multiple industries could continue, the need for a single point interface for the customer/ entrepreneur is important. The clarity on the same is currently limited in Kerala.</p>

1.4 Industry & Investment Promotion

1.4.1 As-Is Context in Kerala

The as-is context on investments into Kerala was provided below:

1.4.2 Role of Key Institutions

Institutions	Role in Industry and Investment Promotion
DIC	<ul style="list-style-type: none"> Assistance scheme for Handicraft Artisans, Industrial Cooperative Societies, Entrepreneurship Development Programme, Investors meet, and Entrepreneur Awareness Programme, etc. are some of the programmes and projects undertaken by DIC with a view on industry promotion. Promotion assistance to MSMEs includes organizing exhibitions, fairs, issue of various licenses, certificates, marketing of products, implementation of various quality control orders.
KSIDC	<ul style="list-style-type: none"> An Investment Facilitation Cell to facilitate investors provide necessary information on policies of the Ministries and State Governments, various incentive schemes and opportunities available for investors etc. with the help of a dedicated Investment Promotion (IP) team is set up. KSIDC accelerates the investment options by making traditional industries competitive by modernization, value addition and skill development and promote and support MSMEs as an ancillary to large scale industries as well as a self-sustaining entity.
SIDCO	<ul style="list-style-type: none"> Provides marketing support to MSMEs. Currently, the division has 7 sales emporia and 7 marketing centres- one in each district and 2 marketing cells. In addition, the department has a customer care division as well as a quality control division. During 2010-11, INR 50.71 Crore worth SSI Products have been marketed successfully to various Govt. Depts. and PSU's. During 2012-13, the division achieved a turnover of Rs. 74 crores. Organizes several Industrial Exhibitions and Trade Fairs on behalf of the Small-Scale Sector. Export Import Special Projects Division is aimed at finding out possibilities and suitable directions to the small scale industries in marketing their products in the national and international market.
K-BIP	<ul style="list-style-type: none"> The Industrial Cluster Development programme under MSE-CDP Scheme of Ministry of MSME Gol carry out state activities of the Industrial Cluster Development through K-BIP by promoting industrial clusters in sectors like food processing, terra tile, wood, plastic, bamboo & cane, garments, etc. K-BIP organizes the promotional events of the DIC which includes Business to Business Meets, Workshops, Seminars, Training Programmes, etc K-BIP coordinates the participation of Kerala State in various National and International Events as well as organises events to Malappuram Crafts Mela, Kerala Bamboo Fest K-BIP is the linkage between national and international agencies for technology upgradation, technology development and technology management for the various sectors.

	<ul style="list-style-type: none"> • K-BIP has signed an MOU with Asian and Pacific Centre for Transfer of Technology (APCTT) of UNESCAP²⁴, which enables K-BIP to utilize the services of APCTT to promote Small & Medium industries in the State.
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1.4.3 Key Observations

Observation Heading	Description
Creation of a climate for funding	The financial institutions are limited by the regulations of the RBI whose regulations provide limited flexibility. The need for a formal venture capitalist ecosystem built on the funds available with high net worth individuals and NORCA funds for the industries in Kerala is evident. There is a need for changes in the types of industries/ focus sectors also to drive this investment.
Brand Kerala	There is a need for a convergent approach for creating a brand Kerala with respect to the industry sector in the State. The marketing/ promotion of the same would have to be an integrated effort as against individual melas/ exhibitions of the respective sectors/ industries.

²⁴ United Nations Economic and Social Commission for Asia and the Pacific

1.5 Monitoring and Review

1.5.1 Role of Key Institutions

The DIC is responsible for the monitoring and review of the industry sector in the State. The data flow on the status of industries is captured by the District Industry Centres and are compiled and published yearly. The PSU monitoring and review is undertaken by RIAB.

1.5.2 Key Observations

Observation Heading	Description
Action plan monitoring	The integrated monitoring of the various activities of the industry sector across the value chain with specific focus on implementation of the action plans is a key requirement.

Annexure 3: As-Is Context of Financial Assistance in Kerala

Financial assistance in Kerala is provided through a variety of schemes. This assistance has been broadly classified based on the target group.

1. **General Schemes for businesses:** The challenges that exist for new businesses for receiving credit are multi-level. The steps taken by these governmental agencies for industrial development to address these challenges have been included in this section. This includes the qualifying requirements for availing schemes, working capital loans, schemes that cater to building the financial ecosystem, etc.
2. **Schemes for startups:** Startups and entrepreneurs are the essential accelerators for growth in Kerala. However, availability of financial capital to aid growth, expansion and modernization are limited. This section explores the specialized schemes for startups and entrepreneurs in Kerala.
3. **Schemes for MSMEs:** The specialized schemes addressing the challenges faced by these enterprises have been detailed under this section.
4. **Sector specific schemes:** The government as well as several financial institutions has identified several thrust sectors that are emerging in Kerala. Additionally, several sectors find it challenging to receive financial assistance, especially those involving the use of only human capital, a characteristic of most industries in Kerala. Such schemes have been explored in this section.

The schemes are as summarized below:

General Schemes for Business	<ul style="list-style-type: none"> • A working capital revolving fund has been set up by KFC to address working capital needs of businesses, this fund functions on a revolving basis. The enterprise must be eligible to be funded by the corporation. • For businesses that are prompt in servicing liability, a short-term loan can be availed from KFC and KSIDC. Term loans have also been provided by these institutions. • KSIDC focusses on funding projects with larger investments of around INR 2-3 crore. KSIDC requires the promoter directors of enterprises to provide personal guarantees. The debt equity ratio mandated differs for firms that can provide collateral security, thrust sectors have different debt to equity ratios. • SIDCO has introduced a scheme that will enable discounting of outstanding bills of government departments and agencies and thereby ensure prompt payment to suppliers. 	<ul style="list-style-type: none"> • Eligibility requirements for schemes similar to commercial bank requirements for loans. • Working capital: Schemes catering to working capital requirements of businesses have been offered by institutions. However, the available schemes and forms of assistances are not widely known to the industry participants and more efforts need to be made to publicize and market the schemes offered. Another issue could be the lack of know-how and capability to receive such a loan. • Role of governmental institutions in financing businesses: Similar schemes have been offered by banks and governmental institutions. Very few efforts have been made to address the challenges faced by entrepreneurs and businesses for financing credit.
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	<ul style="list-style-type: none"> Existing customers of KFC can avail a credit revolving fund scheme to meet urgent credit requirements. 	
Schemes for MSMEs	<ul style="list-style-type: none"> Discounting bills to ease cash flow for MSMEs and schemes for MSME startups are the few specialized schemes offered by these institutions. 	
Sector specific schemes	<ul style="list-style-type: none"> Several schemes for hotels, contractors, etc. for modernization, upgradation and diversification are offered by KFC 	
Schemes for Start ups	<ul style="list-style-type: none"> Working capital requirements for startups can be funded through schemes offered by KFC. But the applicant entity must have firm purchase orders from reputed companies and should have successfully purchases orders worth thrice the amount applied for. Venture debt repayment loans are also available but this is limited to IT hardware and software enterprises. KSIDC offers seed funding for innovative ventures and potential startups promoted by young entrepreneurs. Seed Funding shall be provided to innovative ventures/potential start-ups promoted by young entrepreneurs, subject to a maximum of Rs.25 lakhs per venture or 90% of the initial cost of the project, whichever is lower. 	<ul style="list-style-type: none"> Intellectual capital is an asset to start ups and entrepreneurs. But banks don't offer loans without collateral security therefore the schemes offered are not viable for banks. The governmental agencies for industrial promotion do not interface with banks to provide the necessary assistance for entrepreneurs to avail loans The extent of assistance offered by agencies such as KSIDC is limited to 50-100 enterprises that are not encouraging to the startup ecosystem in Kerala. KSUM Support provided limited to few units, there is no scalable policy intervention for incubation currently in Kerala

Schemes offered by financial institutions in India

1.1 Small Industries Development Bank of India

With a focus to creating value and building a supportive financial infrastructure for the growth and development of the MSME sector in the country, SIDBI has adopted a SIDBI PLUS Approach. Formation of network of strong associated and subsidiaries have been thoughtfully diversified to reach out to address both conventional and unconventional needs of MSMEs and start-ups at different growth curves. While some of these are independent SIDBI initiatives, there are others that have been formed through alliances with several state and international entities, all driven by a single point focus to create value, accelerate growth and generate maximum financial, social and environmental benefits to all stakeholders involved.

Institution Building Initiatives of SIDBI – A SIDBI PLUS Approach



With a strong purpose to support, develop and nurture ideas of modern entrepreneurs that are instrumental in transforming the Indian economy, SIDBI has been playing an important role in developing the Venture Capital (VC) eco-system in the country. Through its holistic offerings comprising of credit and support ecosystem with tailor-made initiatives, SIDBI operates thoughtfully designed initiatives that meet the requirements of a modern entrepreneur at every stage of his journey, from idea generation to venture formation to scaling up a business. SIDBI's initiatives have been instrumental in creating a vibrant entrepreneurial support ecosystem where a strong capital flow is made available along

with relevant handholding to ventures. To provide financial resources for Start-ups / MSMEs, SIDBI has been contributing to corpus of various Alternative Investment Funds (AIFs) / Venture Capital Funds (VCFs) for over two decades, which in turn invest at both early & growth stages in Start-ups / MSMEs. SIDBI has committed cumulatively more than INR 3600 crores to over 110 funds under its Fund of Funds operations.

SIDBI does not invest directly in Start-ups, but participates in the capital of Alternative Investment Funds (AIF) registered with Securities and Exchange Board of India (SEBI). SIDBI, thus, contributes to the corpus of Alternative Investment Funds (AIFs) for investing in equity and equity-linked instruments of various Start-ups at early stage, seed stage and growth stage.

#	Name of Scheme	Description
Creating ecosystem for MSMEs		
1	MUDRA Micro Units Development and Refinance Agency Ltd	<ul style="list-style-type: none"> MUDRA has been supporting banks, Micro-finance Institutions (MFIs), NBFCs and other lending institutions through refinancing for onward lending to micro / small business entities, engaged in manufacturing, trading, services activities and activities allied to agriculture. MUDRA also extends funding support to NBFCs and MFIs by way of securitisation of their loan assets, which helps them access debt funds from capital market for their operations Close monitoring of lending at ground level through PMMY has resulted in lending INR 5,71,654.91 crore to 12.27 crore borrowers in last three years. Of these, 74% borrowers were women, 28 % were new loan accounts and 55% SC/ST/OBC category.
2	SIDBI Venture Capital Limited (SVCL)	<ul style="list-style-type: none"> Set up as an Investment Management Company for managing Venture Capital Funds (VCFs), SVCL has continued to provide growth capital to deserving and profitable MSEs across diversified sectors. Currently, SVCL is a prominent Investment Manager for seven funds with a total corpus of INR 1,927 crore.

#	Name of Scheme	Description
Nurturing Start ups		
1	Fund of Funds for Start-ups	<ul style="list-style-type: none"> Establishment of 'Fund of Funds for Start-ups (FFS) at SIDBI for contribution to various Alternative Investment Funds (AIFs) with a corpus of INR 10,000 crore. Introduced with a focussed objective of supporting development and growth of innovation driven enterprises, the Fund of Funds (FFS) facilitates funding needs for Start-ups through participation in capital of SEBI registered Venture Funds.
2	ASPIRE Fund	<ul style="list-style-type: none"> 'A Scheme for Promotion of Innovation, Rural Industry and Entrepreneurship [ASPIRE] programme which inter-alia, aims at creating technology centre network, business incubators including Fund of Funds operations for promoting start-up ventures in the agro Industry. In line with above, The Aspire fund provides support to various Angel / Venture Capital Funds (VCFs) for investing in start-ups / early stage enterprises in the areas of innovation, entrepreneurship, forward backward linkage with multiple value chain of manufacturing and service delivery, accelerator support in the agro-based Industry verticals and sectors which would galvanize the rural economy. The fund size of INR 60 crore has been enhanced to INR 310 crore for a tenure of upto 12 years. The ASPIRE fund has so far committed INR 47.50 Crore.
3	Indian Aspiration Fund	<ul style="list-style-type: none"> India Aspiration Fund set up SIDBI with the support of RBI pursuant to a budget announcement is an INR2000 crore fund introduced by SIDBI with a vision to promote and accelerate equity and equity linked investments in Start-ups and MSMEs. IAF contributes to the corpus of SEBI registered Alternative Investment Funds (AIFs), with sector agnostic investments specifically involving MSMEs as key strategic investment sectors.
4	SIDBI Start-up Mitra	<ul style="list-style-type: none"> SIDBI Start-Up Mitra is a digital initiative that address gaps in the start-up ecosystem. The portal was launched by the Hon'ble President of India on March 17th, 2016. It acts as a virtual platform to bring together all stakeholders, start-up entrepreneurs, incubators, investors (Angel networks / Venture Capital Funds), industry bodies, mentors /advisors and banks to meet the financing and developmental needs of the early stage start-ups and enterprises. The portal is supported by the Department of Science and Technology [DST], Govt. of India and currently boasts of more than 10,245 start-ups, 118 incubators and 90 investors as registered members on the platform
Structural Interventions		
1	CriSidEx The MSE sentiment index	<ul style="list-style-type: none"> Effective policy making is a function of the quality of information at hand. Because data on micro and small enterprises (MSEs) comes with a significant lag, a comprehensive and concise lead + lag indicator of ground-level sentiment becomes a crucial tool for policy makers, lenders, trade bodies, economists, rating agencies and the MSEs themselves.

#	Name of Scheme	Description
2	SIDBI Foundation for Micro Credit	<ul style="list-style-type: none"> • SFMC is the apex wholesaler for micro finance in India providing a complete range of financial and non-financial services such as loan funds, grant support, equity and institution building support to the retailing Micro Finance Institutions (MFIs) so as to facilitate their development into financially sustainable entities, besides developing a network of service providers for the sector. • SIDBI has helped develop a Code of Conduct Assessment Tool, which applies to providing credit services, recovery of credit, collection of thrift, etc., for MFIs to assess their degree of adherence to the voluntary microfinance Code of Conduct formulated by the MFIs. Further to upgrade the tool, SIDBI developed, piloted and rolled out a Harmonized COCA Tool (HCT) in consultation with other stakeholders.
3	Developing MFIs	<ul style="list-style-type: none"> • In keeping with its mission, SIDBI Foundation for Micro Credit (SFMC) identifies, nurtures and develops select potential MFIs as long term partners and provides credit support for their micro credit initiatives. The eligible partner institutions of SFMC, therefore, comprise large and medium scale MFIs having minimum fund requirement of Rs.50 lakh per annum. Large and medium scale MFIs having considerable experience in managing micro credit programmes, • SIDBI provides need-based financial assistance by way of loans to MFIs on an annual basis for on-lending to the economically disadvantaged people, mostly women.

1.2 Financial Corporations of different states

Each State Government may establish a Financial Corporation for the state under the provisions of the State Financial Corporation Act, 1951. Most states in India have established such institutions aimed at providing financial assistance for development and industrialization of the state. A few examples of the schemes and financial packages offered by state financial corporations have been detailed in the section below.

1.2.1 Tamil Nadu Industrial Investment Corporation

Tamil Nadu Industrial Investment Corporation Ltd. is a premier State Financial Corporation established in the year 1949. TIIC fosters industrial development in Tamilnadu by providing financial assistance to industries for purchase of land, machinery and construction of buildings. TIIC provides financial assistance at competitive interest rates for setting up of new industrial units and for expansion / modernisation / diversification of existing industries in Tamilnadu. It also offers loan for service sector projects such as hotels, hospitals and tourism related projects.

While TIIC provides assistance to micro, small, medium and large enterprises, about 90% of the assistance goes to the micro, small and medium enterprises sector. Of this, about 40% goes to first generation entrepreneurs. Thus, TIIC acts as a catalyst for industrial promotion within the State by creating a new generation of entrepreneurs.

TIIC has so far assisted 1, 21,349 units with a cumulative sanction of Rs.15, 783, 95 crores up to 31.03.2017. Some of the schemes offered by TIIC has been detailed below:

#	Name of Scheme	Description	Interest Rate
1	General Term Loan Scheme	<ul style="list-style-type: none"> The scheme is intended to provide financial assistance for new project or to expand / modernise / diversify the existing project. All small scale / medium / large scale industries and service sector units are eligible for financial assistance. For individual private/public limited companies the maximum exposure considered is Rs.30 crores and for groups it is Rs.40 cores. The promoter's contribution shall be 35% for new units and minimum 25% for existing units with good track record. Collateral security shall be offered to the extent of 50% of the loan amount and in respect of highly movable assets that are prone to rapid obsolescence, collateral security shall be 100% of the loan amount. 	12.70 to 12.95
2	Single Window Scheme	<ul style="list-style-type: none"> All Micro and Small units, whose project outlay (excluding working capital margin) is within Rs.200.00 lakhs would be eligible for both term loan and working capital assistance under the scheme. The Corporation considers financial assistance for creation of fixed assets and working capital assistance for Micro and Small units. The total venture outlay i.e. project cost (excluding working capital margin) and working capital requirement shall not exceed Rs.200.00 lakhs. Promoter's contribution shall be 35%. The unit shall offer collateral security to cover 100% of working capital term loan component and to cover 50% of term loan component under Single Window Scheme. 	13.20
3	Micro / Small Enterprises Funding Scheme	<ul style="list-style-type: none"> The scheme is to extend financial assistance to New / Existing Units in Micro and Small Enterprises with overall project outlay of Rs.50.00 lakhs. For New Units, term loan 80% of Project cost subject to a maximum of Rs.40.00 lakhs will be considered. For existing units, term loan of 75% of Project cost subject to a maximum of Rs.37.50 lakhs will be considered. Project Cost shall not exceed Rs.50.00 lakhs in case of New Unit. In respect of existing units, Project Cost including existing project outlay shall not exceed Rs.50.00 lakhs. 	12.70 to 12.95
4	Bill Financing Scheme	<ul style="list-style-type: none"> The scheme aims at financing the MSME and non-manufacturing enterprises with whom purchase orders have been issued by Tamil Nadu Electricity Board (TNEB) / Tamil Nadu Water Supply and Drainage Board (TWAD) / Tamil Nadu Small Industries Corporation Limited (TANSI) (TNEB - for the supply of ACSR conductors / AAC conductors / distribution transformers / power transformers / cables / AB Switches, Pillar boxes, Grills) / Tamil Nadu Newsprint and Papers Limited (TNPL). 	13.70

#	Name of Scheme	Description	Interest Rate
		<ul style="list-style-type: none"> The quantum / limit of assistance will be 50% of the value of the order given by TNEB / TWAD / TANSI / TNPL. 	
5	Entrepreneur Development Scheme	<ul style="list-style-type: none"> This scheme has been introduced with the specific aim of encouraging entrepreneurship amongst persons from economically and socially disadvantaged backgrounds who wish to promote their own enterprise, to generate income and to lead a life of dignity. Eligibility: <ul style="list-style-type: none"> Persons without any asset back up but having relevant qualifications and experience for implementing viable project i.e., first generation entrepreneurs. Ideally entrepreneurs who are engaged in some manufacturing/service/value addition activity shall be targeted under the scheme. The promoters should have knowledge/experience in the particular line of proposed activity. Existing small units requiring assistance for additional machinery / needs additional working capital The minimum loan assistance shall be Rs.50000/-. The maximum loan limit shall be Rs.5.00 lakhs or 30 times on the net salary of the two guarantors put together whichever is lower. Term and working capital loan can be sanctioned as a composite loan as a maximum of Rs.5.00 lakhs. Working capital can be sanctioned to units not exceeding the term loan amount or Rs.50000/- whichever is higher. Working capital can be sanctioned to Artisans not exceeding Rs.50000/- with the proper assessment. Collateral Security : <ul style="list-style-type: none"> Primary assets shall be mortgaged / hypothecated to TIIC. In case of loan for expansion, charge on the existing assets will be extended. Third party guarantee shall be obtained as under:- <ul style="list-style-type: none"> For loans up to Rs.2.00 lakhs - from one person For loans above Rs.2.00 lakhs - from two persons 	13.95
6	Corporate Loan Scheme	<ul style="list-style-type: none"> This scheme is to extend financial assistance for existing / past TIIC assisted units, with good track record for any tangible or intangible business needs such as capex, servicing new orders, renovation of property / assets, reimbursement against self-financed assets acquired in the last one year, funding of intangibles like brand building/marketing, R&D, inorganic business growth, or any other bonafide business need, etc. Eligibility: 	13.95

#	Name of Scheme	Description	Interest Rate
		<ul style="list-style-type: none"> – Large and MSME sectors, engaged in manufacturing, processing and preservation activity; the services sector. – The unit should be in existence and in operation for the past three financial years and should have earned net profit for the last three financial years. – The net worth of the units should be positive and no cumulative losses. – The units should be in standard assets category continuously of TIIC /Banks for the last three financial years. • The minimum quantum of assistance shall be Rs.20 lakhs and the maximum quantum of assistance shall be Rs.100 lakhs per unit. 	

1.2.2 Karnataka State Financial Corporation

Karnataka State Financial Corporation is a state level financial institution established by the State Government in the year of 1956 under the State Financial Corporation Act 1951 to meet mainly the long term financial needs of Small and Medium Entrepreneurs (SME's) in the state of Karnataka.

#	Name of Scheme	Description	Interest Rate
1	Interest Subsidy Scheme for First Generation Entrepreneurs	<ul style="list-style-type: none"> • The objective of scheme is to provide access to large number of First Generation Entrepreneurs²⁵ to cheaper finance for establishment of micro & small enterprises. • Coverage: <ul style="list-style-type: none"> – The scheme covers whole State of Karnataka. – Micro & Small enterprises as defined under MSMED Act with total project cost up to Rs.100.00 lakh are eligible. – Only term loan sanctioned by KSFC to micro & small enterprises are eligible for interest subsidy for the project cost up to Rs.100.00 lakhs. The detailed terms & conditions as specified in the lending policy of KSFC including particulars like Promoters contribution, Debt equity ratio, Security margin, Rate of interest, repayment period etc., are applicable. 	Interest will be subsidised over and above the 8.00 subject to a maximum of 6.00.
2	Scheme for Women Entrepreneurs	<ul style="list-style-type: none"> • Women entrepreneurs can avail term loan from KSFC <ul style="list-style-type: none"> – for establishing new units in small & medium scale sector and service enterprises; 	Effective rate: 4.00

²⁵ First Generation Entrepreneur is defined as an individual / partnership firm / company registered under Companies Act who has floated the venture enterprise for establishing micro & small enterprise for the first time. In case of partnership / company, all partners / directors should be the First Generation Entrepreneurs i.e., an individual / partnership firm / company shall not have any share or holding in any of the existing enterprises

#	Name of Scheme	Description	Interest Rate
		<ul style="list-style-type: none"> – for taking up expansion / modernisation / diversification of existing units; – for the loans sanctioned by KSFC after 12.5.2017 to women entrepreneurs; • Unit should be owned by women entrepreneurs. In case of partnership firms and Companies, the women partners/directors shall hold minimum 51% shares. • The minimum loan size is Rs.5.00 lakhs for all activities, except for existing units going in for expansion / modernisation / diversification. The maximum loan size is Rs.200.00 lakhs. • The unit will be eligible for interest subsidy for a period of 5-years from the date of first disbursement of the loan, even if the repayment period extends beyond five years. The benefits of interest subsidy under the scheme is available only once. 	
4	Term Loan Assistance	<ul style="list-style-type: none"> • This scheme is aimed at providing assistance for establishment of new Tiny/ SSI/ MSI/ Service Units and for Expansion/ Modernization/ Diversification of Existing Units. • Debt Equity Ratio for Loans up To Rs.10.00 Lakh is 3:1 and for Loans above Rs.10.00 Lakh it is 2:1. 	14.00

Annexure 4: Minutes of Meetings

Summary of Meetings Held	
#	Name of the Meeting
1	Inception Presentation for “Evaluation of Policies and Agencies for Industrial Development in Kerala”
Stakeholder Discussions	
2	Executive Director, KSIDC
3	Managing Director, KINFRA
4	Kerala Bureau of Industrial Promotion
5	Chairman, RIAB
6	Secretary, RIAB
7	Status Update on study on ‘Evaluation of Policies and Agencies for Industrial Development in Kerala’
Entrepreneur Survey	
8	Meeting with Robin Alex Panicker and Prasanth Panicker at B-Hub
9	Meeting with Mr. Abraham Mathew, QualiMed Systems
10	Meeting with Founders of FeatherDyn, Maker Village
11	Meeting with Bavil Varghese, Co- Founder and CEO, CEAD
12	Meeting with Co-Founder & CEO, Sector Qube
13	Meeting with Mr. C. Balagopal, Terumo Penpol
14	Presentation to Stakeholders at KSPB

Meeting Information	
Meeting Name / Topic:	Inception Presentation for “Evaluation of Policies and Agencies for Industrial Development in Kerala”
Date/Time	23 rd May 2018, 1500 hours

Sl.	Attendees	
	Stakeholders involved in Industrial Development in Kerala	Centre for Management Development and mByom
1	Mr. Jayan Jose Thomas, Member, Kerala State Planning Board	Mr. Biju. S. Narayan, CMD
2	Dr. M. Beena, Managing Director, Kerala State Industrial Development Corporation (KSIDC)	Mr. Ajit Mathai, mByom
3	Mr. K. Biju, Director, Industries and Commerce	Mr. Mukundhan Muralidharan, mByom
4	Mr. K.A. Santhosh Kumar, Managing Director, Kerala Industrial Infrastructure Development Corporation (KINFRA)	Mr. Arjun Charles, mByom
5	Mr. M.R. Narayanan, Chairman, Confederation of Indian Industry (CII)	Mr. Ashwath Dasarathy, mByom
6	Mr. Saji Mathew, Deputy Director, Confederation of Indian Industry (CII)	
7	Dr. T. Unnikrishnan, General Manager, Kerala Industrial Infrastructure Development Corporation (KINFRA)	
8	Mr. P. Sureshan, Deputy Director, Kerala Khadi and Village Industries Board (KKVIB)	
9	Mr. J. Robert, Manager, SURABHI - Kerala State Handicrafts Apex Co-operative Society	
10	Mr. S. Nizar, Regional Manager, Kerala State Handloom Development Corporation Ltd. (HANVEEV)	
11	Mr. Mushtaq Ahamed, General Manager, Kerala Finance Corporation (KFC)	
12	Mr. K. Sudarsanan, Special Secretary, Planning+ Government Affairs	
13	Mr. J. J. Ranjith, CFO, Kerala State Industrial Development Corporation (KSIDC)	
14	Mr. T. Gangadharan, Joint Director, Directorate of Handloom and Textiles	
15	Secretary, Public Sector Restructuring and Internal Audit Board (RIAB)	
16	Mr. S. Santhosh, General Manager, Kerala Bureau of Industrial Promotion (K-BIP)	
17	Mr. R. Ebin, Real Estate Division, Kerala Small Industries Development Corporation Limited	
18	Ms. S. Saritha, Assistant Manager, Kerala State Industrial Development Corporation (KSIDC)	
19	Ms. P. S. Suni, Manager, Kerala State Industrial Development Corporation (KSIDC)	

Sl.	Objective of the meeting
1	The objective of the meeting was to kick-start the industries study on “Evaluation of Policies and Agencies for Industrial Development in Kerala”. The Consultant presented before the meeting attendees, followed by a brief Q&A session.

Sl.	Discussion Points
1	<p>Mr. Jayan started the meeting by thanking all the stakeholders for attending. He then set the context for the meeting by giving a brief overview of the study. The key points highlighted by Mr. Jayan are as follows:</p> <ul style="list-style-type: none"> • Kerala faces certain unique challenges with respect to land and labour that will need to be tackled innovatively by the industry sector. • The definition of industry has changed and is no longer just conventional manufacturing based industries. To address the needs of new age industry, policies and institutions would have to change accordingly. • There are gaps in policies and overlaps in the mandates of institutions that support industrial development in Kerala. These gaps and overlaps would be studied in detail and recommendations on the same would be provided by the Consultant. • It is also necessary for the study to benchmark best practices in other states and countries. • Certain key sectors in Kerala would have to be given more importance as a part of this study. • The study would not be just a desk study of all the policies and institutions, but it would involve interactions with all the stakeholders involved, both public and private. <p>This was then followed by a brief introduction by each attendee.</p>
2	<p>Mr. Ajit Mathai gave a brief introduction of himself and the team from CMD and mByom. He then presented before the meeting attendees. The objective of the study was to validate and identify the following hypotheses for the study:</p> <ul style="list-style-type: none"> • The first set of hypotheses was on the industry sector challenges that were specific to Kerala as a state (challenges of land, labour and capital in Kerala). • The second set of hypotheses was pan-India industry sector challenges (inability to cater to the changing definition of industry). <p>The presentation also detailed the approach that would be followed by the Consultant during the assignment.</p>
3	<p>The following observations were made by the attendees on the presentation:</p> <p>Dr. M. Beena, MD, KSIDC</p> <ul style="list-style-type: none"> • There is a need to look at institutions and policies that are beyond the industries sector in Kerala. Policies such as the Labour Policy will have an effect on Kerala’s industries sector. • Dr. Beena recognized that there are considerable overlaps between the mandates and functions of institutions involved in Industries in Kerala. The envisaged roles when the institutions were setup long ago to what the institutions undertake currently have resulted in the overlaps over time. For example, she mentioned, that when the institutions were conceptualized, financing for new small businesses was envisaged as a role of KFC, large businesses with KSIIDC and industrial infrastructure with KINFRA. However, these definitions are not aligned to the current functioning of these institutions. • She mentioned that while Kerala had a lot of challenges in the industries sector, the state had one of the best cluster development models in the country. The MSME growth rate of Kerala was also above the national average. • She suggested that the study also consider relevant regulatory bodies and PSUs in Kerala. She also added that similar, relevant policies of other states be studied for their relevance to Kerala. • She stressed that the industrial sector growth is built on a competitive federalism. The need to respond to challenges of other States in tapping industrial investment has to be

Sl.	Discussion Points
	<p>carefully reviewed. Mr. Ajit responded by highlighting the need for creation of a Kerala brand of industries to manage the challenge.</p> <p>Mr. K. Biju, Director, Industries and Commerce</p> <ul style="list-style-type: none"> • He suggested that the study would have to look at locations where there is high intellectual capital, similar to Kerala. • He mentioned that availability and cost of land is a big problem in Kerala. The policies would need to address this. • He also mentioned that there would need to be more knowledge parks, business centres etc. in Kerala. <p>Mr. K.A. Santhosh Kumar, Managing Director, (KINFRA)</p> <ul style="list-style-type: none"> • Mr. Santhosh Kumar stressed on the importance of tackling water and land issues in Kerala. He suggested that the study look at land policies to ensure that land does not become a de-motivating factor in starting businesses. • He also mentioned that the mortality rate of start-ups is very high. There is a need to reduce the risk of starting new businesses. <p>Mr. M.R. Narayanan, Chairman, CII</p> <ul style="list-style-type: none"> • Mr. Narayanan stated that the GDP of Kerala will reduce with the current challenges in the Middle-east. • He mentioned that it is very hard for businesses to get working capital loans. • He suggested that the study identify low hanging fruits that can be targeted. He recommended that the study target the following two sectors: <ul style="list-style-type: none"> – Tourism: there is a need to take tourism to the next level. Certain large-scale tourism projects can be undertaken for this. – Food and value-added products: this sector lacks relevant technology to increase productivity. Policies can be framed to address the same. • Mr. Narayanan suggested that new funding mechanisms would need to be adopted by KFC, KSIDC etc. to support businesses. • He also recommended that the growth of the electronics sector in Bangalore be studied to understand its success. • He also stressed on the importance of connectivity. Better connectivity would allow people to work remotely too and reduce the need for technology and industry parks. <p>Other inputs received</p> <ul style="list-style-type: none"> • Focus of the study should not only be on agro-produce but also on how the natural resources of the state can be used. • Policies should look at ground realities in Kerala. • Models of Singapore and Dubai can be considered as benchmarks for the study. • Distributed manufacturing will be key to Kerala's success. • Shared services will play a key role in the transformation of the industry sector.
4	<p>Overall Comments:</p> <ul style="list-style-type: none"> • While at one level the study would look at the key institutions and policies, there is a need for focussing on specific sectors to derive actionable results. • There was a mention of identifying low-hanging fruits – certain industry sectors that could be tapped and transformed. • Tourism as an industry contributes to 11% of the GDP and has maximum employment potential. The need to lay emphasis on this sector (with an industry perspective) was highlighted. • Food sector in Kerala could benefit with good technology, new machinery and packaging support. Agricultural produce has <10% value addition currently and have tremendous scope for value addition.
5	<p>Mr. Jayan went on to summarize the key points discussed during the meeting. He mentioned the following as the next steps of the study:</p> <ul style="list-style-type: none"> • The Consultant would continue the desk study of the policies and institutions in Kerala and also relevant benchmarks.

Sl.	Discussion Points
	<ul style="list-style-type: none">• The Consultant would also set up meetings with each of the members and their respective institutions for a more detailed discussion.• A detailed drill-down would be limited to maybe couple of sectors with the objective of devising actionable outcomes. <p>He concluded the meeting by thanking the stakeholders for the meeting and their continued support.</p>

Meeting Information

Meeting Name/ Topic	Meeting with Executive Director, KSIDC
Date/ Time	3 January 2018, 10:30 a.m.

Meeting Attendees

1	Mr. Jyothi Kumar, Executive Director, KSIDC
2	Mr. Mukundhan, mByom Consulting and Management Services LLP
3	Mr. Anand M. S, mByom Consulting and Management Services LLP
4	Mr. Ashwath Dasarathy, mByom Consulting and Management Services LLP
5	Ms. Aishwarya Kuruttukulam, mByom Consulting and Management Services LLP

Discussion Points

1	The meeting began with Mr. Mukundhan describing the objective the Kerala Planning Board study and a brief introduction about the team. Mr. Mukundhan asked Mr. Jyothi Kumar's views on the current state of industries in Kerala.
2	<ul style="list-style-type: none"> • Mr. Jyothi Kumar revealed that several policies in Kerala are at a standstill. Information regarding the same is not intimated or communicated widely even if work is underway. He gave the example of the Industrial and Commercial Policy of Kerala 2017 which is still at the draft stage. He also mentioned the lack of any government orders to execute these policies. • He mentioned that the term 'industry' has become too broad and therefore the need for a consolidated Industries and Commercial Policy is debatable. He suggested that since the requirement of each sector has become very specific, introducing separate policies under a broad framework for all industries would be ideal. • He mentioned that the Life Sciences Industrial Policy was underway and is currently at the planning stages. He stated that the life sciences sector requires a different kind of ecosystem and not just the infrastructure that industrial parks provide. Their manpower requirement is also very different and therefore, the need for a separate policy. • He mentioned that in Kerala several projects had great objectives but their implementation processes failed. He recognised the importance of one-to-one assurance in setting up projects such as the Techno Park where perception is key. He stated that once investors start investing in a particular sector in Kerala, the growth of the sector is typically rapid. He elaborated this with the growth in the IT Sector. • He further expanded on the potential of the life sciences sector in Kerala with a special focus is on bio-technology. He stated that South India has a strong presence in this field with institutes such as National Centre for Biological Sciences (NCBS), Bangalore and several other institutes in Hyderabad. He mentioned that Kerala too has potential in Trivandrum where institutes like Rajiv Gandhi Institute for Bio-technology, Sree Chitra Tirunal Institute of Medical Sciences, etc. can play a key role. However, he mentioned that there is a lack of coordination between the institutes and there is a lack of awareness in this sector as well. • He emphasized the fact that a general industrial policy is not going to meet the requirement of all sectors. He validated this with the example of the growing electronics industry in Kerala and its changing needs. • He also felt that the growth of any industry is proportional to the "critical mass" of the industry (human resources, infrastructure, intellectual capital etc.). He mentioned that it is easy to create this critical mass for sector like IT, where space, manpower requirement, infrastructure are less.
3	<ul style="list-style-type: none"> • Mr. Mukundhan then asked Mr. Jyothi Kumar, the challenges faced by MSMEs and why they fail. • Mr. Jyothi Kumar expressed the following views regarding the same:

Discussion Points	
	<ul style="list-style-type: none"> – The fundamental requirement of MSMEs is financial support. This financial support is in the form of debt or equity. While raising money for businesses, MSMEs lose equity sometimes and therefore lose control of their company. New funding mechanisms are required for MSMEs. – He mentioned that micro-level implementation is a failure in Kerala. He stated that the problem is the lack of a leader in the micro level. He said that there might be a visionary leader at the higher level who may not have a ground level understanding. – He stressed the importance of setting up a good performance management system for tracking and monitoring businesses up to the CEO level. He mentioned that this initiative is fairly easy to implement with current technology. – He mentioned that another important aspect is to have the right people at the right positions in the government to support businesses. He stated that especially in the Industries Department that there are several competent people but they lack ground level understanding. – He suggested that there should be a forum for professionals to talk to authorities in the government to facilitate businesses.
4	<ul style="list-style-type: none"> • Mr. Mukundhan then requested Mr. Jyothi Kumar to elaborate on the overlaps that exist between institutions that support industrial development in Kerala. • Mr. Jyothi Kumar stated that the several institutions in Kerala are well conceived but lack an understanding of their respective roles. • KSIDC is involved in financing of enterprises and industrial promotion in Kerala. He believed that the measure of failure for KSIDC is the number of enterprises that choose to go to other institutions for funding and support. He mentioned that KSIDC is able to retain entrepreneurs through its financing program which is its main source of revenue for sustaining their projects. • He mentioned that KSIDC and KBIP are both doing industrial promotions in their own way. He mentioned that KINFRA is also involved in industrial promotion in order to sell their industrial parks. • KSIDC is also doing some infrastructure projects which should ideally be done by KINFRA. He mentioned that KSIDC should not focus on setting up brick and mortar infrastructure for enterprises as that is the role of KINFRA. However, KSIDC can help in setting up ecosystems that will support enterprises. • With respect to financing, KFC finances small scale industries and KSIDC finances medium and large scale industries. He did not see any overlap here. • He mentioned that the government should have a clear perspective while handling projects. He gave the example of growth centres which is given by the Government of Kerala to the DIC and now has been shifted to KSIDC.
5	<ul style="list-style-type: none"> • Mr. Jyothi Kumar concluded by recommending the following: <ul style="list-style-type: none"> – Benchmark electronic and life sciences sector in Karnataka and their respective policies. – There is a requirement for a HR policy for GoK that covers competency requirement, roles, and performance management systems. – Kerala can focus on the following sectors – IT, Life sciences, Bio medical engineering, Electronics, Food processing and Tourism.

Meeting Information

Meeting Name/ Topic	Meeting with Managing Director, KINFRA
Date/ Time	3 July 2018, 12:30 p.m.

Meeting Attendees

Sl.	Attendees
1	Wg. Cdr. Santhosh Kumar, Managing Director, KINFRA
2	Dr. G. Sunil, General Manager (Planning and Business Development), KINFRA
3	Mr. Mukundhan, mByom Consulting and Management Services LLP
4	Mr. Anand M. S, mByom Consulting and Management Services LLP
5	Mr. Ashwath Dasarathy, mByom Consulting and Management Services LLP
6	Ms. Aishwarya Kuruttukulam, mByom Consulting and Management Services LLP

Discussion Points

1	The meeting began with Mr. Mukundhan describing the objective the Kerala Planning Board study and a brief introduction about the team. Mr. Mukundhan then raised a few questions regarding the work that KINFRA does as well as similarities and overlaps with other organizations such as KSIDC, KFC, DIC, K-BIP and RIAB.
2	<p>Mr. Sunil, summarized the functions of KINFRA as follows:</p> <ul style="list-style-type: none"> • KINFRA was established in 1993 as the organization responsible for bringing together land and other resources to facilitate industrial growth. He mentioned that as Kerala is a state that has scarce land resources and an industrial sector that has significant potential to grow, a separate private entity was required to fulfil these goals of the government, which led to the establishment of KINFRA. • KINFRA has 24 industrial parks. He mentioned that Kerala had 3500 acres of industrial land available for use and out of this only 200 acres was left to procure. • KINFRA provides basic infrastructure for enterprises in these parks. These include common facilities like road, water, electricity, common workshops. KINFRA also helps enterprises with statutory clearances. • In the past, land acquisition used to be executed by providing compensation to the owners which has led to several legal cases that result in additional costs apart from the initial compensation given. KINFRA currently uses negotiated purchase model to fulfil their transactions which ensures that there is only a single cost to the land that they acquire. • Up until now, industrial parks have been theme based like food parks, textile parks etc. However, KINFRA has realized that, due to the lack of land availability these parks need to be more general to house a variety of industries. Only food parks will be theme based due to regulations. • Before deciding to invest in a project, KINFRA conducts a demand analysis. If there is substantial demand they move onto the next step of acquiring land suitable for the project with the required resources in proximity of the park. Following this, depending on the land and resources required, an area is chosen and an industrial park is set up. The target industries are largely in the field of MSMEs and nano enterprises. • KINFRA also assists the government in acquiring land for large government projects. KINFRA is the only institute that is acquiring new land. Other organizations maintain their existing infrastructure. • He mentioned that the government has given KINFRA the responsibility of clearing all liability and taking over the land of loss-making PSUs. • He stressed the financial constraint that KINFRA faces as its entire financial resources are availed through a loan from the government at 11-12% interest rate. He mentioned that this is a burden as KINFRA needs to recover the amount as well as the interest

Discussion Points	
	<p>through their projects. He stated that other organizations such as KSIDC, SIDCO receive grants from the government to carry out their activities.</p> <ul style="list-style-type: none"> • He stated that the industrial parks set up by KINFRA are able to employ 20,000 people and accommodate 8000 units.
3	<p>Mr. Mukundhan then asked about the role of KINFRA after setting up these industrial parks. Mr. Santosh Kumar highlighted the following:</p> <ul style="list-style-type: none"> • In an industrial park, only 60-70% of the area is allotted to enterprises, the remaining area is used for common facilities. He stated that out of the 10 lakh sq. ft. of area available only 1 lakh sq. ft. is unused. He also mentioned that the unallotted land is mainly in the North side of Kerala. • Mr. Santhosh Kumar further explained the mode of operations at KINFRA, where several projects are executed as joint ventures and PPP which is decided on a case to case basis. He gave the example of the JV with ITPO where 51% share belongs to ITPO and the rest 49% with KINFRA. He mentioned that the primary objective of such ventures is self-sustenance. He also mentioned that MSMEs tend to be pollution free and hence preferred. The rubber park is a JV with the Rubber Board. KINFRA also has JVs with private sector where the shareholding is 50:50. • In the beginning, only common facilities are provided to enterprises. Once these enterprises mature, other facilities like Standard Design Factories are put in place. Phase 2 of industrial parks start only after this. • In an Industrial Park, KINFRA takes care of the accounting, security, maintenance and upkeep of the park. They employ third party companies to take care of providing these facilities while KINFRA adopts a supervisory role. They also have a separate legal team who deals with the several disputes that they face. • He highlighted the example of Blissful Garments located in a textile park in Palakkad; the business manufacturers entirely for exports and has set up a unit at KINFRA textile park in Palakkad. As per international norms, the third-party manufacturer must be the only enterprise in the building where they function. Even though Blissful Garments only uses three floors out of the five in the building, they pay rent for the other floors so as to follow this norm. These additional payments are adding to the liabilities of the firm and they are incurring losses. • KINFRA charges the entrepreneurs a lease amount and a Common Facility Charge (CFC). For the enterprises that default on payment of CFC, the cost is recovered from land sale to next business. • KINFRA incurs significant costs as land prices have increased in the last few years. He gave the example of Kannur where the cost has increased from INR 30,000 per cent to INR 800,000 per cent. This increases the cost to new businesses. He also mentioned that due to increasing land prices, land subsidy is not a viable option for the government. The industrial parks provide subsidy only for stamp duty exemption and registration fees. • He stated that the government has currently approved leases only for a 30 year per period as compared to the 90 year period that existed earlier. The lease, however, is flexible and can be extended.
4	<ul style="list-style-type: none"> • When asked about the overlap of services offered by KINFRA and KSIDC, Mr. Santosh Kumar said that the institution's core competencies must be carried out. However, there are overlaps between the functioning of KSIDC and KINFRA. He recognised that at a few places, KSIDC also has infrastructure projects for businesses. However, they are not in the same location as KINFRA. A pricing study found that KINFRA is able to provide land at lower rates.
5	<p>Mr. Sunil then explained the organization structure of KINFRA and how they operate.</p>

Discussion Points	
	<ul style="list-style-type: none"> • There are a total of 36 employees at KINFRA. At each park there is a park manager from the KINFRA team who is either a civil or electrical engineer. • KINFRA has a Managing Director and 2 General Managers who are assisted by Deputy General Managers and Managers. They also have staff on contract and expert consultants.
6	<p>Mr. Mukundhan then asked what the learnings have been from setting up these industrial parks.</p> <ul style="list-style-type: none"> • Mr. Santhosh mentioned that for a park to be successful, the location, management and maintenance of the park is critical. Continuous power supply, water supply and other resources are important for the success of the businesses. • Some parks can fail because of location disadvantage. The feasibility study has to be accurate and is crucial before investing in an industrial park. He stressed the importance of having a land bank while planning industrial projects.
7	<ul style="list-style-type: none"> • He shared the details of a central government initiative under the Ministry of MSMEs that has collated the state-wise details of available plots of land. Business can choose land from this website based on their resource requirement. He also mentioned that there were District Land Allotment Committees and District Site Allotment Committees that have details of land available in their district. This has made land allotment a transparent and easy process. • He mentioned that several entrepreneurs have highlighted the problem of the role of local bodies in collecting the building taxes. He proposed the model followed by the Andhra Pradesh government where taxes to local bodies are paid through the industrial park thereby avoiding local problems that occur. He recommended benchmarking Andhra Pradesh and Telangana for the study. He also stressed that there is not enough support provided to entrepreneurs in the form of financing, business modelling, project management etc. • He mentioned the importance of pollution control, ground water use and local perception of the projects undertaken at these industrial parks. He stated that several projects have been stalled due to speculation by local authorities regarding pollution breaches and other problems. • There are no subsidies provided by the government for water, electricity, labour etc. Other states cover close to 50% of the salary of employees in the textile sector. • When asked about the hub and spoke model for industries and KINFRA's role in the same, he suggested that KINFRA could set up the common facilities that are required for the hub. He quoted examples of the cashew and spices industry in Kannur for which KINFRA had done the same. • He also mentioned that facilities like road maintenance and building maintenance should be included as policies taken by the government.

Meeting Information	
Meeting Name/ Topic	Meeting with Kerala Bureau of Industrial Promotion
Date/ Time	2 July 2018, 02:00 pm

Meeting Attendees	
Sl.	Attendees
1	Mr. Rajagopal, Chief Executive Officer, KBIP
2	Mr. Santhosh, General Manager, KBIP
3	Mr. Suraj, Manager, KBIP
4	Mr. Van Roy, Deputy Manager, KBIP
5	Mr. Mukundhan, mByom Consulting and Management Services LLP
6	Mr. Anand M. S, mByom Consulting and Management Services LLP
7	Mr. Ashwath Dasarathy, mByom Consulting and Management Services LLP
8	Ms. Aishwarya Kuruttukulam, mByom Consulting and Management Services LLP

Discussion Points	
1	The meeting began with Mr. Mukundhan describing the objective the Kerala Planning Board study and a brief introduction about the team.
2	<p>Mr. Rajagopal provided the following views with respect to Kerala's industry sector:</p> <ul style="list-style-type: none"> • He stated that there are 2.5 lakh MSMEs in Kerala, out of which 70 – 80% are working enterprises. • He mentioned that Kerala as a state cannot be compared to other states in India. The state has its inherent advantages and disadvantages which are as follows: <ul style="list-style-type: none"> – There is no availability of land and therefore industries opt for a vertical set up. – People in Kerala prefer white collar jobs. – People are educated and aware.
3	<p>Mr. Mukundhan then asked about the institutions that are involved in industrial development in Kerala and whether there were any overlaps between institutions. Mr. Rajagopal expressed the following views:</p> <ul style="list-style-type: none"> • K-BIP was established in 1990 under the DIC purely for micro and small enterprises. • KSIDC caters to the medium and larger enterprises, start-ups/ entrepreneurs and other financial requirements of enterprises. • KINFRA focusses on setting up industrial infrastructure by setting up industrial parks. • SIDCO is only for small industries of the state. However, for a few years SIDCO was involved in activities that were not specified in its mandate. This is no longer the case. • RIAB functions as the interfacing organization between the government and the PSUs.
4	<p>Mr. Rajagopal then went on to detail K-BIP's activities:</p> <ul style="list-style-type: none"> • K-BIP functions as a lean organization with a Chairman, Executive Director, Chief Executive Officer, General Manager, Manager, Deputy Manager, contract staff and support staff. • Cluster Development Program (CDP): K-BIP is the nodal agency in Kerala for CDP. Kerala received the maximum grant (21%) from the Government of India (GoI) as a part of the Small Industries Cluster Development Program (SICDP). He mentioned that Kerala had already started a few initiatives in cluster development prior to SICDP. Therefore, the state was ahead of most other states in India and was also the first to implement 'Hard Interventions' as per this program. <p>A total of 14 projects are underway in Kerala (10 commissioned and 4 running) as a part of this program. Each project is INR 15 crores (70% grant from GoI, 20% grant from GoK, 10% from the beneficiary). All assets as a part of these projects are owned by the state. The program has a monitoring mechanism in place with the state and district level</p>

Discussion Points

	<p>monitoring committees. The rubber cluster of Changanassery, furniture cluster in Thrissur, plywood cluster and rice mill clusters are some of the successful ones. The CDP also funds INR 1 crore or INR 50 Lakhs to micro clusters. In this case, 95% is a grant from GoK and 5% is from the beneficiary. It was mentioned that the CDP has saturated in Kerala.</p> <ul style="list-style-type: none"> • Kerala State Bamboo Mission: K-BIP is the nodal agency for Kerala under the National Bamboo Mission (NBM). 70 – 75% of the funds received under this are used for plantation and the remaining is used for marketing, promotion etc. <p>NBM had not been functioning for a few years. It now has INR 1290 crore budget and approximately INR 300 crores have been allotted for the southern states. The state funds in Kerala have been used for plantation, skill development and the Bamboo Fest. The fest has been hosted for the last 16 years in Cochin and is a success with national and international participation.</p> <ul style="list-style-type: none"> • HACCP Food certification: K-BIP is the only government agency in Kerala to provide the HACCP certification. It was mentioned that India has no national accredited agency for this certification which is important for exports. <p>K-BIP has trained around 35 auditors for this and it is not their main function. A fee of INR 50,000 is charged for the certification. Their clients are primarily 3 or 4 star hotels.</p> <ul style="list-style-type: none"> • National SC/ ST hub: K-BIP is the state nodal agency for developing SC/ ST entrepreneurs. INR 1.5 crores has been allotted in March 2017. However, only INR 40 lakhs has been spent. This is due to the low number of SC/ ST entrepreneurs. <p>District level awareness programs have been introduced, nevertheless, the number of registrations are low.</p> <ul style="list-style-type: none"> • Commerce Mission: K-BIP is the agency for the commercial sector to resolve their issues. Their mandate is to create commercial hubs in Kerala. It was mentioned that the Vizhinjam port maybe set up as a commercial hub. • Industrial Promotional activities: K-BIP provides a platform for MSMEs to participate in international and national meets. K-BIP conducts and participates in 5-6 national and international events every year. Stalls are given for free to the enterprises. • K-BIP's role is also to carry out any quick activities/ functions that the Directorate of Industries and Commerce requires.
5	<p>Mr. Mukundhan then raised a query on why MSMEs fail in Kerala. Mr. Rajagopal mentioned the following reasons for the same:</p> <ul style="list-style-type: none"> • Inability to finance their operations. • Obsolete technology resulting in low efficiency. • Some MSMEs are opened just for availing the incentives and are shut immediately after.
6	<p>Mr. Rajagopal recommended food processing and general engineering as potential focus sectors for Kerala.</p>

Meeting Information

Meeting Name/ Topic	Meeting with Chairman, RIAB
Date/ Time	11 July 2018, 3:00 pm

Meeting Attendees

Sl.	Attendees
1	Dr. M. K. Sukumaran Nair, Chairman, Public Sector Restructuring and Internal Audit Board
2	Mr. Biju Narayan, Centre for Management Development
3	Mr. Mukundhan, mByom Consulting and Management Services LLP
4	Mr. Ashwath Dasarathy, mByom Consulting and Management Services LLP

Discussion Points

1	The meeting began with Mr. Mukundhan describing the objective the Kerala Planning Board study and a brief introduction about the team.
2	<p>Dr. Sukumaran started the discussion by giving a brief history of Kerala's industrial sector.</p> <ul style="list-style-type: none"> • Kerala was one of the first states in India to be globalized and receive exposure to European culture and practices. Between 1700 – 1850, Kerala had adequate land, labour and capital. Compared to other states, Kerala had better technology and the people had developed more skills as a community. Activities in Kerala began with the formation of west coast trading companies that were exporting coir products. After this, the state was involved in plantation, port development and trading, and banking. • In the early 1900s, Kerala had set up various small manufacturing units like soap, tile and brick manufacturing, spinning and weaving mills. There was also the shift from the agrarian model to the plantation model. • Post the 1930s, modernization started in Kerala. In 1940s, the first fertilizer plant (FACT) was set up in Cochin. There was swift entrepreneurship in the state. Other industries like chlor-alkali, Aluminium, power plant etc. were also started. By independence, the state was reasonably industrialized. • In the 50s and 60s, there was an industrial development push from the Centre. There were a lot of public sector funds for Kerala to set up industries. During this period, multiple PSUs like Hindustan Insecticides Limited, Hindustan Machine Tools Ltd., oil mills, and titanium industries were set up. • In the 70s and 80s, there were multiple state level interventions. There was a shift from mechanical based industries to electrical and electronics. During this period, companies like Kerala Electrical and Allied Engineering Company, Kerala Minerals and Metals, Kerala State Electronics Development Corporation Limited and other engineering industries were set up. • Kerala was first to the market with respect to industrialization and globalization, but did not have the ability to become market leaders for various reasons. Post the 80s, the other states continued growing and Kerala stagnated. • He felt that there has been a loss of opportunity in multiple sectors: <ul style="list-style-type: none"> – Natural Gas: In the late 90s, there was approximately a 20,000 crore investment for setting up multiple natural gas plants in Kerala. This however did not provide the envisioned development. Efforts in using CNG in the state (pipeline supply of natural gas to homes, CNG powered vehicles etc.) have been delayed by 15 years. Gas terminals, which were meant to be established in 2003 were commissioned only in 2013. This resulted in a total loss of INR 80,000 crores to the state (opportunity cost). – He also mentioned that the titanium industry and the food processing industry should have grown along with the software industry. However, this too failed to happen.

Discussion Points	
	<ul style="list-style-type: none"> Another issue was that, Govt. of Kerala itself had promoted the belief that Kerala was not ideal for industries and only certain industries like electronics, tourism, IT/ ITES have scope.
3	<p>Dr. Sukumaran expressed the following views with respect to the institutions involved in industrial development:</p> <ul style="list-style-type: none"> KSIDC was established under the first communist party of Kerala in 1962. The party had identified two main reasons for poor industrial development at that time – Technology and Financing. KSIDC was instituted to tackle the technology issue and the Travancore Financial Corporation was created to finance industrial development. The role of KSIDC was to identify relevant projects for the state, bring in investment and create employment. He mentioned the following challenges/ issues in KSIDC: <ul style="list-style-type: none"> KSIDC was initially led by technical professionals from SAIL, and the control later shifted to the bureaucrats. However, over the last 20-25 years, Dr. Sukumaran felt that the role of KSIDC has moved from a governance role to an administrative role. For example, the Ease of Doing Business (EoDB) should be the mandate of DIC and not KSIDC. The size of mega projects in Kerala is only 20 crores, whereas Orissa and Jharkhand are taking up projects worth 9000 crores. The engineers have not updated their knowledge of the requirement of the industry sector. There is no research being done on industrial promotion and development. Duplicity of functions with KINFRA, KBIP and DIC. Dr. Sukumaran mentioned that there is no agency/ platform for sharing knowledge with the industries/ businesses. He suggested that the DIC should take up this role. He also felt that it might be easier to have a single agency with multiple arms that take care of MSMEs, IT/ ITES related industries, Medium and Large Industries, industrial promotion and so on.
4	<p>Dr. Sukumaran mentioned certain other challenges faced by the industry sector in Kerala</p> <ul style="list-style-type: none"> He felt that small scale and large scale industries should coexist in Kerala. The quality and variety of products manufactured by the MSMEs are good. However, they do not get enough support and are facing competition from China. Sectors like coir, spices, biotechnology products, medicinal herbs, textiles have not been maximized. Dr. Sukumaran mentioned examples of multiple innovative small scale industries that exist but are not getting the required attention (e.g. 3D printed zirconium teeth). Labour: <ul style="list-style-type: none"> He felt that the productive hours of a lot of people were not utilized in Kerala. He mentioned that Kerala has a huge population of educated women who can work for at least 3 hours a day. He suggested that new business models like disaggregated procurement and manufacturing would have to be explored to maximize productivity. He quoted the example of a challenge faced by Kerala Minerals and Metals (KMML). KMML was not able to use heavy machinery to extract sand from beaches (due to terrain and space). He had recommended the model of using Kudumbashree units for collecting and re-depositing beach sand. KMML would interface with these units, collect the sand, extract the minerals and return the sand to the units for re-depositing. These Kudumbashree units will also start functioning as guardians of that locality. These models are environmentally sustainable and promote development of local communities.

Discussion Points

- He also felt that the intellectual capital of the state is portrayed as the individual's achievement and not the achievement of the state.
- **Land:** With respect to large scale industries, Dr. Sukumaran felt that the method of land acquisition needs to change. He quoted the example of FACT, who had acquired 2500 acres of land and only used 400 – 500 acres. Another example was that of HMT, who had acquired 1500 acres and only used 25 acres. Land is acquired in large quantities based on future requirement that is never realized. Land needs to be acquired based on the plant layout (maximum of 2-3 times the area of the plant lay out). Earlier practice of staff quarters and schools within the area of the industry does not exist anymore.
- Another important issue highlighted by Dr. Sukumaran was that the knowledge of most institutes in Kerala lies with individuals and is not retained at the institute after the employee retires/ resigns. He quoted the example of KSEB, which used to have end to end capacity in hydel power plants. This knowledge was not documented and is lost.
- Finally with respect to **financing**, Dr. Sukumaran expressed the following views:
 - Banking systems are too rigid. The NPAs of banks are too high and they are not ready to lend. The NPA's of cooperative banks (<5%) are relatively low compared to larger banks (~50%). Even in larger banks, bulk of the NPA is due to a select few large customers. This affects the bank's lending to smaller customers.
 - Government push in terms of capital influx is required at the time of crisis (2008 crisis, GST implementation etc.). Govt. should be able to predict such crisis and ensure support for industries to survive such situations.
 - Capital is available in Kerala. Dr. Sukumaran suggested that there needs to be strategy to engage with Non Resident Keralites Affairs (NORKA) for funding.
 - Government should focus on proving industries financial confidence/ guarantees.

Meeting Information

Meeting Name/ Topic	Meeting with Secretary, RIAB
Date/ Time	12 July 2018, 11:30 am

Meeting Attendees

Sl.	Attendees
1	Mr. Suresh, Secretary, Public Sector Restructuring and Internal Audit Board
2	Mr. Jayakrishnan, Public Sector Restructuring and Internal Audit Board
3	Mr. Biju Narayan, Centre for Management Development
4	Mr. Mukundhan, mByom Consulting and Management Services LLP
5	Mr. Ashwath Dasarathy, mByom Consulting and Management Services LLP

Discussion Points

1	The meeting began with Mr. Mukundhan describing the objective the Kerala Planning Board study and a brief introduction about the team.
2	<p>With respect to the current issues/ challenges faced by the industry sector, Mr. Suresh mentioned the following views:</p> <ul style="list-style-type: none"> • Large MSME base in Kerala: <ul style="list-style-type: none"> – Kerala has a large number of MSMEs and the ratio of MSMEs to the population of Kerala is higher than other states. Most of these MSMEs have a unit level investment under INR 10 lakh (nano and micro industries). He expressed that the policies need to focus on the needs of these industries. – Out of these MSMEs, the maximum number of industries is in agro, dairy and food processing industries. These industries do not have effective backward and forward linkages in place. They also do not leverage the multiple central and state schemes available for the sector. • Lack of support to Service sector: He stated that the service industries need more support from Government. He gave the example of the Entrepreneurship Support Scheme of the Directorate of Industries and Commerce (DIC). He felt that this scheme could support only the manufacturing sector and very little support is given to the service sector. • Clusters model: He believes that the cluster model is suitable for Kerala, but it has to be implemented effectively. <ul style="list-style-type: none"> – He mentioned that there are two kinds of clusters – naturally formed clusters and induced clusters. He felt that Kerala has only induced clusters, which requires the intervention of individuals or the government to be functional. – In most of the cases the motivation for a proposal for an induced cluster is to avail financial support from the government for the creation of a Common facility Centre. Under the MSE-CDP of Government of India , Common Facility Centre (CFC) can be set up with a total project cost of Rs 15 crore and 90% of this investment is given as a grant from the Centre (70%) and State (20%). There has to be system to ensure that such CFCs do provide the service to the cluster members at nominal costs. – Mr. Suresh stressed on the importance of a review mechanism that will help track and monitor the performance of clusters. – He also mentioned that there has to be proper viability study before the proposal for clusters are made. • Cost of financing is high: Mr. Suresh stressed on the need for affordable financing for industries. <ul style="list-style-type: none"> – Kerala Finance Corporation (KFC): The interest rate of KFC at 14 – 16% is not viable for industries. Even if this interest rate drops by a few points, it is still not

Discussion Points

	<p>viable. One of the reasons he felt, was that the KFC reports to the Finance department of Kerala. Therefore, its primary concern is lending and loan recovery and not industrial development of the state. He suggested that KFC should be under the Industries Department.</p> <ul style="list-style-type: none"> – Banks: Banks in Kerala have low Credit to Debt ratio and poor lending appetite. The banks generate revenue in Kerala and choose to invest it in other states for reasons like unviable projects, poor repayment records, sickness among industries, etc. – He stressed that for industrial development in Kerala, ease of entry, ease of exit and friendly financing is critical. <ul style="list-style-type: none"> • Linkages and networking between institutions: <ul style="list-style-type: none"> – Mr. Suresh emphasized on the need for linkages between institutions/ departments for increased efficiency. – He stated that 40% of the plan funds are devolved to LSGs and out of this at least 10% could be utilized for productive sector. This almost equals the budgetary allocation for MSMEs under the Directorate of Industries and Commerce. He mentioned that the DIC and LSGD need to work together to utilize these funds more effectively. There has to be focus on nano and micro clusters based in rural areas. – He mentioned that NABARD has funds allocated for non-farm activities for rural development. Industries Department can also work with NABARD to use these funds for financing rural industries/ cooperatives. – He also mentioned other examples where effective networking could make the system more efficient. <ul style="list-style-type: none"> ▪ The Coir Department has multiple institutions which are doing the same function of R&D, procurement and manufacturing. ▪ Advanced Technical Centre in Cochin has made an investment of ~ INR 150 crore and is equipped with advanced machinery. RIAB is simultaneously receiving proposals from the PSUs for the same machinery. • Tax Department: The taxes for industries are huge. Post GST, the Tax Department is serving notices/ penalties to industries. The role of the department needs to change, and they should counsel MSMEs on the rules and regulations before sending any notices/ penalties. • Mr. Suresh felt that industries should not be set up randomly. They should be set up based on location and resources available. Certain zones can be 'No MSME' zones and have only service industries like tourism. • He strongly believed that the definition of industry needs to change and that this definition should go beyond conventional manufacturing sector.
3	<p>When asked about the mandate of institutions and overlaps that exist, Mr. Suresh had the following point of view:</p> <ul style="list-style-type: none"> • KSIDC's mandate is to bring in industrial investments into the state of Kerala. They are also meant to support medium and large scale industries. However, they are also involved in entrepreneurship development and start up support through We-Mission, business incubation centres and so on. Mr. Suresh felt that there is overlap in this aspect between DIC, SIDCO and KSIDC. He suggested that such overlaps should be avoided for better focus.

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	<ul style="list-style-type: none"> • DIC do provide limited support to start-ups. He also stated that the Start-up mission supported IT/ technology related businesses whereas KSIDC support non-IT related start-ups/ businesses. • There are very few large scale industries/ large investments in Kerala in private sector . KSIDC's role should be to focus on bringing in large investments. West Bengal and Gujarat's industrial development entities could be role models for KSIDC. • KSIDC is also involved in running industrial parks; this is an overlap with KINFRA. He recommended that if KSIDC chooses to establish and run parks it should only be for medium and large scale industries (500 – 1000 acres). • Similarly, KINFRA is also involved in industrial promotion. Its role should be only infrastructure development. The role of promotion and filling up the parks should be with KSIDC and KBIP. • SIDCO is meant to promote and market small industries. However, as an institution, they have been involved in infrastructure, production, trading (bottled water and sand). • The EoDB ranking of Kerala is down by 1 and the industrial confidence in the state is low. Mr. Suresh therefore stressed on the need to study the mandates of these institutions in detail and fix the overlaps. He also emphasized that the government should focus on the role of facilitation and monitoring.
4	<p>Mr. Mukundhan then raised a question on why the mandates of institutions change over time. Mr. Suresh had the following response:</p> <ul style="list-style-type: none"> • Institutions tend to go for the 'low hanging fruit' and the focus shifts from their mandate. • Sometimes institutions deviate from their planned mandate as they are asked to take up certain activities due to policy shifts.
5	<p>Mr. Mukundhan then requested for a brief overview of the role of DIC and the challenges the institute faces. Following were Mr. Suresh's inputs:</p> <ul style="list-style-type: none"> • The role of the DIC is to support MSMEs in the state. The DIC has a strong field presence through its District Industry Centres till the block level. Therefore, the strengthening/ restructuring of the DIC will ensure industrial development in Kerala. • The DIC is meant to provide grass root level training and awareness, identify new projects/ businesses, and manage and disseminate data. • Mr. Suresh is not confident about the accuracy of data collected by the DIC. He mentioned the example of the mapping of MSMEs. DIC states that 1,30,000 MSMEs exist in the state. However, close to 16,000 MSMEs are set up every year. He felt that the number of MSMEs may be a lot more. He stressed on the need for accurate data and planning for industrial development based on a good database. • Mr. Suresh stressed on the need for building the competence level of field level officers and DICs in line with the evolving businesses and complexities of business models. The employees should be allowed to function in core areas for a certain minimum period. • Mr. Suresh also stated that there is over spending of resources towards co-operative sector. The co-operative Inspectors should be able to produce successful enterprises. He felt that the cooperative sector needs to come up with innovative business models. • He also said that the Coir and Handloom sector needs to support private enterprises along with co-operative sector. <p>Mr. Suresh recommended that the GM should have the power to direct employees of other departments. For example, if there is an electrical line issue faced by a business, the GM should have the power to direct the AEE to fix the issue. However, in Kerala, the Collector has to step in to resolve these issues. Earlier in major districts GM – DIC was a role performed by IAS officers.</p>

Discussion Points

6	Mr. Suresh recommended that the mByom team meet the Director – DIC, select GMs, ADIOs and IEOs in the DIC. This would ensure a field level understanding too.
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Meeting Information

Meeting Name/ Topic	Status Update on study on 'Evaluation of Policies and Agencies for Industrial Development in Kerala'
Date/ Time	9 October 2018, 12:30 p.m.

Meeting Attendees

Sl.	Attendees
1	Mr. Jayan Jose Thomas, Member, State Planning Board
2	Mr. Joy N.R., Chief of Industry and Infrastructure Division, State Planning Board
3	Mr. Mukundhan Muralidharan, mByom Consulting and Management Services LLP
4	Mr. Ashwath Dasarathy, mByom Consulting and Management Services LLP
5	Ms. Aishwarya Kuruttukulam, mByom Consulting and Management Services LLP

Discussion Points

Sl.	Discussion Points
1	Mukundhan provided a brief update on the work completed so far for the study. The report on the as-is situation of industries in Kerala was discussed.
2	Mukundhan explained the prepared note on the physical infrastructure and land developed by institutions in Kerala.
3	Some of the inputs provided by Mr. Joy and Mr. Jayan were as follows: <ul style="list-style-type: none"> The organizational strength of the institutions can be included to understand the capabilities of each institution while comparing the mandated and current role of institutions. The organizational structure, manpower and basic qualifications of employees of KSIDC, KINFRA, DIC, and KFC were suggested to be included to the report. KSIDC, KINFRA, DIC can be the primary focus institutions regarding organisation structure while SIDCO, KBIP, Handloom and Coir can be secondary. The amount of investment incurred by individual units in each park can be added as a statistic. An investment benchmark of capital invested vs returns can be mapped. Focus can be primarily on manufacturing sector. Services and Tourism need not be included.
4	The Khadi and Handloom sector was recommended to be included as part of the study.

Meeting Information

Meeting Name/ Topic	Meeting with Robin Alex Panicker and Prasanth Panicker at B-Hub
Date/ Time	22 March 2019, 3:00 p.m.

Meeting Attendees

Sl.	Attendees
1	Mr. Robin Alex Panicker, Chief Product Officer Finotes
2	Mr. Prasanth Prameswaran, Founder, MegaExams
3	Mr. Biju Narayan, Center for Management Development
4	Mr. Mukundhan Muralidharan, mByom Consulting and Management Services LLP
5	Ms. Aishwarya Kuruttukulam, mByom Consulting and Management Services LLP

Discussion Points

Sl.	Discussion Points
1	The discussion began with Mukundhan providing a background on the study undertaken for the State Planning Board on 'Evaluation of Institutions and Policies for Industrial Development in Kerala'. He detailed some of the hypothesis that the team had arrived at based on discussions with several of the stakeholders.
2	<p>Mr. Robin Alex Panicker, is a software engineer who has been in the start-up space in Kerala for years. He is currently an investor in Unicorn Ventures- a INR 100 crore Kerala specific fund. He mentioned that he started in Bangalore as an entrepreneur and is here only due to family reasons and a sense of belonging. Mr. Robin mentioned that Kerala will thrive in a knowledge and creative based economy.</p> <p>Mr. Robin defined a start-up as follows- A tea seller who has a shop and runs his enterprise is not considered a start-up, but if he is able to set up several such enterprise across the city and expand even to other parts of Kerala, he would be considered a start-up. Therefore, this hunger for growth is what defines a start-up.</p>
3	<p>Mr. Prasanth Parameswaran, is the founder of MegaExams, a start-up that provides exam assessment software for institutions and students. He bootstrapped his company for 2.5 years. He has approached several government institutions to serve as clients for the firm. CMD is currently a client of MegaExams however, this relationship was established only because of merit and being a start-up did not provide any advantage.</p> <p>A lot of government institutions, health care and IT organizations have shown interest in the service that his start-up provides, however, there has been no movement beyond the initial interest shown. The Assam State Government also showed interest in his start-up, however, that didn't proceed further. He mentioned that this lack of commitment by governments cost start-ups a lot in terms of capital and resources.</p> <p>He mentioned that there is a disconnect between what is said by the government and the on-the ground reality. He also mentioned that this an early adoptive market approach can help in faster decisions within the government as well.</p>
4	<ul style="list-style-type: none"> • Fund of Funds program: <ul style="list-style-type: none"> – The government has allocated a INR 25 crores fund for Kerala start-ups. This corpus of funds is used to fund start-ups as well as other investment funds. Mr. Robin mentioned that the Government has put in INR 20 crores in Unicorn Ventures while the remaining INR 80 crores are brought in by the investors. – However, even though KSUM reports that over 1500 start-ups are there in Kerala, Mr. Robin believes that the number is close to 100 all over Kerala. This distinction he stated is because of the definition he uses for a start-up which is an enterprise that is hungry for growth, a factor not accounted as per the definition used by the government.

Discussion Points	
	<ul style="list-style-type: none"> – Several companies are making use of this Fund of Funds program but are just registering their companies in Kerala, while their offices are in Bangalore. The Government should ensure that steps are taken to ensure that these companies have incentives to create jobs in the state and not just exclude them. – The program is not achieving its objective of attracting start-ups and thereby creating actual jobs in the state.
5	<ul style="list-style-type: none"> • Companies in Bangalore are able to create and grow because of the early adoptive market that exists in the city. He mentioned that start-ups are able to market their products and understand the problems that exist at an early stage. • Mr. Robin mentioned that Kerala has advantages of an efficient education and health system as well as abundant natural resources. These aspects need to be positioned as strengths for start-ups.
6	<p>Start-up – Government Relationship</p> <ul style="list-style-type: none"> • Ecosystems created by the Government: The government (KSIDC), enforces a parental control on the start-ups in Kerala where they are dictating business ventures. • One of the positive aspects of the Kerala Ecosystem is that there is accessibility within the government officials. A start-up can meet the IT secretary, Ministers as well as the Chief Minister, however, not much moves beyond that. • Mr. Robin mentioned that a USD 200 million project for IT infrastructure began in 2012, however, the work for the project has only begun in 2019. The project was undertaken by risking the professional career of the individual who was driving this. • He also stated that the government approaches start-ups with an idea or service that they want and not with a problem. He gave the example of a start-up being approached to build an app to share documents for MLAs for daily sessions and other meetings. Mr. Robin mentioned that there was no need for a new platform and this could be done via WhatsApp. • He iterated that start-ups need problems to solve and the Government should not dictate solutions. The government should outsource their requirements, so that there is an opportunity for building intellectual property. • He mentioned that a healthcare start-up started by Mr. Leo, is used by Israeli Defense Forces and European Defense Forces, but he has no incentive to come to Kerala. • There is a reluctance of the government to adopt technology which can be seen in the programs by ASAP and other government initiatives. There is a disconnect between what they are expected to do and what they do. • Mr. Robin also mentioned that there is a lack of information on the support provided by the government. For example, Kerala government offers a 100% exemption for the patent scheme for start-ups, however, very few start-ups are aware of such a scheme. • The support provided by the government for B2B start-ups are very minimal. • No additional state government subsidies and exemptions are provided for start-ups. Mr. Robin stated that if a GST 1% cess can be charged due to the floods, then a GST rebate can be provided for start-ups.
7	<p>Knowledge Based Economy</p> <ul style="list-style-type: none"> • Mr. Robin mentioned that Bangalore has talent because it is able to attract talent. This is possible only if the social environment is also conducive to such a culture. He mentioned that the government can intervene by ensuring that such an environment exists, this can be in the form of having pubs and lax regulations related to the consumption of alcohol. He stated that Kerala has a great healthcare system that can be accessible by everyone,

Discussion Points	
	<p>schools that all comply with high standards of education. The connectivity and mobility of the state should also be highlighted.</p> <ul style="list-style-type: none"> • He mentioned that the TechnoPark brochure includes pictures of houseboats, Kathakali, etc. which are not selling points to businesses hoping to set up in Kerala. The number of CBSE and International Schools, Hospitals, etc. are the points that need to be highlighted. • Mr. Prasanth also mentioned that there is a social stigma related to freelancers who work from home, which needs to change. The B-Hub facility at Mar-Ivanios College runs with zero government support.
8	<p>Risk of Entry and Exit</p> <ul style="list-style-type: none"> • Several start-up companies have fallen into the debt trap through the funding program offered by KFC and KSIDC. Due to this debt, these companies are not eligible for external investments and hence are trapped. The program provides a convertible fund of INR 25 lakhs. The clause in this program states that conversion happens at par, therefore a sum of INR 25 lakhs need to be put in to get out of it. • A start-up faces a lot of risk, 90% fail and can't pay back. The procedure used by the vehicle used has boomeranged and the situation would have been better if the government hasn't intervened. As the start-ups that had failed could shut their business down.
9	<p>Funding</p> <ul style="list-style-type: none"> • There is a misconception that funding is the most required factor for a start-up. This is not a true and the best way to support a start-up is through an early adoptive market. The government can contribute to creating such an ecosystem by ensuring that start-ups are preferred for providing certain services to government facilities. For example, a hospital can ensure that their Health Management System is provided by a start-up. • The funding required for a start-up at an early stage is not too much and this can be availed through government schemes and through the available investors. • The Fund of fund programs is a good initiative however, the objective should be to naturally push up the start-ups. This program is also enabling other funds to run the show. • If funds are available, delinking of funds is important.
10	<p>Mindset Change</p> <ul style="list-style-type: none"> • Investors consider mentoring and funding a charity work that is provided by them. This attitude needs to change, as investors should look at start-ups that are able to prove their businesses. • The government agenda is largely targeted at spending money. Events are organized by KSUM just to tick of events in their calendar year. An event organized by KSUM at Leela Hotel, where several investors and the Sheik of Sharjah attended, incurred an expense of INR 38 lakhs of which INR 30 lakhs had to paid to Leela Hotel. The start-ups didn't receive an opportunity to interact with the investors or the Sheik and therefore, there was close to no outcomes from the event. • KSUM employs more people than the start-up ecosystem in Kerala and functions as an event management organization. • For the transformation of the start-up ecosystem, a market led approach needs to be adopted and thereafter, the talent and funds will come in automatically.
11	<p>Government Initiatives and Institutions targeted at start-ups</p> <ul style="list-style-type: none"> • Makers Village is an incubator by IIIT(M), the institution is doing really well and has filed more patents than any incubator in Kerala. The hardware start-up ecosystem is thriving, IoT and AI based industries are advancing.

Discussion Points	
	<ul style="list-style-type: none"> • Start-up Village has several problems. • KSIDC will stop incubation and will control FoF. KSUM will host 2-3 events a year and bring start-ups to pitch to KSUM and will allocate brands. • Knowledge Economy is cluster based. IT parks in every district not the solution. Government should move out IT Infrastructure, there was once a need, now not required. • Sri Chitra Hospital also offers incubation facilities for start-ups. These start-ups too stay for that period and move out.
12	<p>Other challenges</p> <ul style="list-style-type: none"> • There is no data on funding, or the birth-death rate of a start-up. Such statistics need to be captured. • Start-ups in Kerala are not talking to each other. There are several start-ups that are selling the same product but not aware of their competition. There is not much of a network and these start-ups can come together as well.
13	<ul style="list-style-type: none"> • The positive aspect of the start-up ecosystem in Kerala is that all the problems can be solved. The government needs to realign its thought process. The productivity loss in Bangalore is an example of a problem that cannot be solved.

Meeting Information	
Meeting Name/ Topic	Meeting with Mr. Abraham Mathew, QualiMed Systems
Date/ Time	25 March 2019, 10:30 a.m.

Meeting Attendees	
Sl.	Attendees
1	Mr. Abraham Mathew, Director, QualiMed Systems.
2	Mr. Ajit Mathai, mByom Consulting and Management Services LLP.
3	Ms. Aishwarya Kuruttukulam, mByom Consulting and Management Services LLP.
4	Ms. Lekshmi J H, mByom Consulting and Management Services LLP.

Discussion Points	
Sl.	Discussion Points
1	Mr. Ajit Mathai provided a background on the study undertaken by mByom on behalf of the Kerala State Planning Board on the 'Evaluation of Institutions and Policies for Industrial Development in Kerala'. An overview of the general hypotheses arrived at based on the previous discussions with various stakeholders was given.
2	<p>Mr. Abraham Mathew, after completing his graduation in engineering from the College of Engineering, Trivandrum did an executive MBA from XLRI, Jamshedpur. He started off his career with WIPRO on peripherals like printer design, he moved on to medical devices and worked as a part of the blood bag and the equipment development team at Terumo Penpol where he headed the product development department.</p> <p>Mr. Abraham currently runs his own medical equipment manufacturing and assembly firm, QualiMed Systems at the Kochuveli Industrial Estate, Thiruvananthapuram. Mr. Abraham mentioned that he had setup his firm in Kerala because of family and other personal reasons. Mr. Abraham also mentors start-ups in the field of medical equipment manufacturing at the Sri Chitra Incubation facility. Mr. Abraham mentioned that the kind of products sourced from Kerala are expected to be different in quality than the ones from Delhi or Bombay because of the lower overhead costs in the latter.</p> <p>Some of the points highlighted by Mr. Abraham regarding the Industrial Ecosystem in Kerala as well as other problems faced by his industry have been detailed below.</p>
3	<p>Business Model</p> <ul style="list-style-type: none"> Mr. Abraham mentioned that he follows a business model well suited for the Kerala ecosystem, with 4-5 vocationally skilled employees (ITI and Diploma qualified). The design, packaging, quality control as well as branding is ensured by QualiMed. The other components of the equipment are outsourced to other entrepreneurs located in close vicinity. The drawings of the design are provided by QualiMed, the quality of work is inspected from time to time. The components are assembled at the factory, powder coated and then supplied to the dealers. The plant usually functions at 70-80% capacity. The unit can function at full capacity when required by employing more workers. As the number of orders are not consistent varying from huge tenders to just 15-20 orders at a time, Mr. Abraham considers subcontracting as the ideal method for running the unit. The professional equation maintained by the suppliers ensure that the same design is not replicated by competing firms. For better quality requirements components like motors are also imported from China. The quality and grade of such components are pre-ensured. Mr. Abraham mentioned that he follows the Japanese model of management which has also given way to the Tirupur ecosystem in Tamil Nadu.

Discussion Points	
	<ul style="list-style-type: none"> • When asked if the land reforms in the 1960s have affected the current employer-employee relation in the work ecosystem in Kerala he stated that the decentralized approach of manufacturing followed by the firm also keeps his subcontractors content as they are entrepreneurs themselves and not employees. • Mr. Abraham said that he has also provided loans to the subcontractors for procurement of machinery in order to develop components when banks do not provide loans which also aids in keeping up the rapport between the firm and the suppliers. • QualiMed Systems interfaces with dealers, who are professionals who provide sales, marketing and after sale services. Therefore, the firm does not incur huge fixed overhead expenses. • The capital expenses are also reduced by using fiber glass instead of plastics in the products as the scale is lower than in mass manufacturing. • Mr. Abraham believes that the current model would be applicable even if the firms expands to 4-5 times the current size, as the orders of medical equipment are not uniform. • When asked if the business model followed was similar to that followed by V- Guard, he mentioned that though V- Guard started out in a decentralized manner in Kerala they later ventured out to other states, maybe due to structural constraints. • When asked if Shared Administrative Services could aid the working of the firm, he said that such services are already being availed.
4	<p>Market</p> <ul style="list-style-type: none"> • QualiMed Systems currently supplies medical equipment in India and also in 14 other countries. • In order to ensure credibility of their products, the testing is done from reputed organizations like TuV Reyhmland. • He highlighted that the products are first launched in Kerala for a period of 2 years, then countrywide for an additional one year and then after receiving feedback and confidence in the efficiency of the product is achieved, to other countries. • When asked about the stages when the products are required at hospitals, Mr. Abraham mentioned that though majority of the requirement comes in the construction stage and other initial stages, certain mandatory equipment are required as standards are being upgraded and structural transformation of hospitals occur on international lines. • As an example, he quoted that in India chemotherapy was usually administered with the patient lying down on cots which was contrary to the practice in the western countries where administering treatment on couches created a positive attitude among the patients which aided in their recovery. The practice is now being adopted in Indian hospitals like the RCC, AIIMS, CMC Vellore and St. John's hospital who procured products from QualiMed Systems. • When asked about venturing into other markets, he mentioned that he was looking into non-standard products like motorized devices and chairs for Gynecology purposes which ensures comfort and safety. • He also mentioned that knowledge based- niche products are those that are expected and in-vogue in the industry at the time. • The after-sale services are taken care off by the dealers. He also stated that the firm's complaint rates are one of the lowest in the industry. He also mentioned that majority of the complaints coming in are due to water logging after the floods in August 2018.
5	<p>Financial Assistance- Capital Requirements and Working Capital</p> <ul style="list-style-type: none"> • Mr. Abraham started off his firm from a rented house and simultaneously worked as a consultant for a few companies in Delhi which provided him the initial capital to get his

Discussion Points	
	<p>business off the ground. The capital investment was provided by his dealers as loan in return for future supply.</p> <ul style="list-style-type: none"> • For the working capital, he approached Syndicate Bank who demanded collateral but he later got a mortgage certificate from the Industries board and DIC which aided in him getting funding on the basis of the CGTSME scheme for INR 10 lakhs. • Mr. Abraham says that even under the CGTSME scheme he could not get a loan from the local branch of the bank and had to take initiative and meet the Chief Manager for this purpose. He stated that his education aided him in doing so and also that the system would be unfair to a lesser educated person. • Mr. Abraham is involved in export of medical equipment and to increase his competitive edge and credibility, he had his products tested to CE standards by a reputed testing agency. This is considered a capital expenditure of INR 8-9 lakhs which recurs every 5-6 years as the standards are revised and use personal funds for this purpose. • Apart from this he has an overdraft loan account of INR 20 lakhs. He feels that streamlining the process of bank loans with existing schemes would aid entrepreneurs in the future as well.
	<p>Challenges with the system</p> <ul style="list-style-type: none"> • Issues with the tax structure: Though the implementation and adaptation of GST has been smooth, legacy problems such as sales tax, notices being raised 2 years in retrospect without adequate details creates a lot of paperwork and red tape for the entrepreneurs and can be considered as hectic and unnecessary. • Delay in payment from government side: Delay in processing of input tax credit and payments from the government side creates unnecessary financial burden and paper work for the entrepreneurs. He mentioned that once he received a refund of INR 1.5 lakhs but after one year a notice was issued stating some paperwork issues and INR 50,000 had to be paid back and after one more year INR 1 lakh had to be paid back. • Mr. Abraham also mentioned that he had received an order for 250 multipurpose chairs for government hospitals with budgeted funds, but as payment has not been made for the past 5 months, he is not able accept further government orders or process the current order. • Absence of a single window interface between the government and the private sector for grievance redressal. He also mentioned that the inspections by various departments are not streamlined or carried out in time which affects the productivity of the firm. • He stated that there is large waiting list in the industrial estates and allotting of land to the same people based on political preferences, which affects entrepreneurs who are in actual need of land. Certain firms maintain a single employee to retain the land allotted even though there is no productive activity going on in the premises. He highlighted that other parameters like electricity consumption and GST could be used to weed out such firms. He also mentioned that people acquire land to resell it as business which also reduces the chances for genuine entrepreneurs. Mr. Abraham suggested that transparency in the resource allocation process should be a huge consideration going forward so that there is optimum utilization.
6	<p>Benefits of working in Kerala</p> <ul style="list-style-type: none"> • Lack of trade union influence in industrial estates enable smooth functioning of the firm without many unnecessary delays. • The state provides a workforce with necessary skill level for the medical industry (welders, diploma holders etc.) • The greater accessibility to bureaucrats and politicians in the state provides a competitive advantage when compared to other states.

Discussion Points

7

Other Suggestions

- Mr. Abraham mentioned that the Telangana government is incentivizing business for opening units in the state and also spreading the word through other channels like testing agencies which the Kerala government can also implement.
- As the firm is involved in exports, multiple filings of the same report are to be submitted to various agencies like the bank, GST, RBI etc. Mr. Abraham suggested that an integrated platform could be implemented for this purpose so that unnecessary administrative work is reduced.

Meeting Information

Meeting Name/ Topic	Meeting with Founders of FeatherDyn, Maker Village
Date/ Time	2 April 2019, 10:30 a.m.

Meeting Attendees

Sl.	Attendees
1	Mr. Akhil Gopalan, Co-founder, FeatherDyn
2	Mr. Rajeev Chandrasekharan, Co-founder and CEO, FeatherDyn
3	Mr. Rajendran Ambadi, mByom Consulting and Management Services LLP
4	Mr. Ashwath Dasarathy, mByom Consulting and Management Services LLP
5	Ms. Aishwarya Kuruttukulam, mByom Consulting and Management Services LLP

Discussion Points

Sl.	Discussion Points
1	Mr. Ashwath Dasarathy provided a brief summary of the objective of the Kerala Planning Board Study undertaken by the team. The study aims to understand the Industrial Scenario in Kerala and the impact of the efforts made by the Government through its institutions and policies.
2	Mr. Akhil Gopalan, provided a brief background on the firm and its founders. Some of the key points have been highlighted below: <ul style="list-style-type: none"> FeatherDyn, established in March 2018, is developing a drone that can be used for long ranges. They want their product to be used for surveillance facilities as well as move into logistics in later stages. The team comprises of 5 employees. The founders used to work in TeamIndus, a private profit aerospace company in Bangalore. Mr. Akhil has a PhD from IISc (Indian Institute of Science), Bangalore and the other founders have graduated from IISc and IIST (Indian Institute of Space Technology).
3	Why Kerala? <ul style="list-style-type: none"> Mr. Akhil mentioned that the team had initially considered Bangalore to base their start-up. He mentioned that IISc has an incubator as well. However, the facilities offered by Maker Village attracted them to Kerala. Mr. Akhil stated that Maker Village is considered one of the foremost incubator facilities dedicated solely to hardware start-ups in the country. He highlighted that Maker Village is a joint initiative of union ministry of Electronics and Information Technology of Kerala and IITMK, Thiruvananthapuram as well as support from KSUM.
4	Funding <ul style="list-style-type: none"> Kerala start-up mission provides support to the start-ups in the form of a soft loan of INR 5 lakh that has a 1 year moratorium with an interest of 6%. FeatherDyn has availed this loan. KSUM has provided INR 2 lakh support through their Idea Grant program, Mr. Akhil Mentioned that they will receive more support as they progress to later stages of their product development. Mr. Rajeev mentioned that KSUM provides a total of INR 12 lakh as support to start ups in the form of grants across 3 stages. The start-up is able to get additional support through funds and grants provided by private companies as well as government companies primarily oil companies. FeatherDyn received equity funding from GAIL through such a program.
5	Maker Village selection <ul style="list-style-type: none"> Start-ups undergo a panel interview where they pitch their idea and plans for the company, selected start-ups are taken into the incubation facility.

Discussion Points	
	<ul style="list-style-type: none"> Mr. Akhil mentioned that the interview panel was flexible and had agreed to undertake the interview process via skype as the members were unable to travel to Kerala for the process.
6	<p>Facilities Provided by Maker Village</p> <ul style="list-style-type: none"> The Maker Village Facility also has a FabLab which was developed with MIT. The lab provides best in class technology at a low cost to the start-ups. 3D printing, laser cutting, CNC machines, etc. are some of facilities provided. Mr. Akhil highlighted that Maker Village has been able to provide the necessary support and facilities required for their start-up. He also stated that additional infrastructure and facilities are being developed. Mr. Rajeev mentioned that Maker Village and KSUM has provided support for building up their idea as well as provide opportunities to connect with angel investors, venture capitalists as well as external funds. Legal workshops as well sessions on entrepreneurship are held regularly at the centre. The team was preparing for HardTech, an event organized by Maker Village to be held on 5th and 6th of April. The event provides a platform for the start-ups to display their products as well meet potential investors, diplomats and customers.
7	<p>Government Interactions</p> <ul style="list-style-type: none"> The founders highlighted that their firm's interactions with KSUM have been smooth. KSUM organizes an Idea Day every month where start-ups can pitch their ideas. Mr. Rajeev mentioned that they have a dedicated site for college students as well. Moreover, government agencies have shown interest in acquiring their products. Mr. Rajeev mentioned that, EyeRov, an underwater robotic drone company was incubated in Maker Village is being piloted by Kerala Police and other government and private organizations.

Meeting Information	
Meeting Name/ Topic	Meeting with Bavi Varghese, Co- Founder and CEO, CEAD
Date/ Time	2 April 2019, 11:30 a.m.

Meeting Attendees	
Sl.	Attendees
1	Mr. Bavi Varghese, Co-founder and CEO, C Electric Automotive Drives Pvt. Ltd. (CEAD)
2	Mr. Rajendran Ambadi, mByom Consulting and Management Services LLP
3	Mr. Ashwath Dasarathy, mByom Consulting and Management Services LLP
4	Ms. Aishwarya Kuruttukulam, mByom Consulting and Management Services LLP

Discussion Points	
Sl.	Discussion Points
1	Mr. Ashwath Dasarathy provided a brief summary of the objective of the Kerala Planning Board Study undertaken by the team. The study aims to understand the Industrial Scenario in Kerala and the impact of the efforts made by the Government through its institutions and policies.
2	<p>Mr. Bavi provided details on the product developed as well as other aspects of the company.</p> <ul style="list-style-type: none"> CEAD provides motor drives for electric vehicles which replaces the motor engine in traditional 2-3 wheelers. Mr. Bavi mentioned that this product ready exists in the market, however, CEAD focuses on providing a motor driver suitable for the Indian market which is cost efficient and climate resilient. He revealed that the company has completed their prototype and is currently rolling out their first product into the market. The team comprises of 7 members excluding the two founders. They have completed their product R&D and are moving into quality control, marketing and sales. Mr. Bavi mentioned that they hope to expand by next year. Mr. Bavi mentioned that Maker Village is a known electronic incubator since 2011-12. CEAD was registered in 2018 and officially joined Maker Village in Nov 2018. Mr. Bavi stated that the firm has also received equity funding from GAIL. CEAD is looking for mass production of their product; the electric rickshaw market is over 2 lakhs. He stated that there is a need for the sales and marketing team to be strong at the current stage of his start-up.
3	<p>Challenges faced in Kerala</p> <ul style="list-style-type: none"> Industry and Accessibility: Mr. Bavi mentioned that the Electronics Industry in Kochi area is just coming up and don't have a lot of suppliers for materials, therefore the start-ups need to travel to Bangalore to procure minor parts for their product development. Mindset in Kerala: Graduates in Kerala are interested in going to Bangalore as the job opportunities are high, Mr. Bavi stated that a mindset change is required to convince the graduates that Kochi has opportunities as well. The type of jobs currently sought after are largely in the fields that will eventually get automated, the sector of innovation and design that start-ups focus on will always have opportunities. Job opportunities in Kerala: Currently most large corporations with offices in Kochi have jobs that are largely process validation. He stressed that with technological improvements such skills will become obsolete. He highlighted that start-ups work in the space of creation and design and this perception needs to be passed on to graduates and the youth through interactions in campuses as well as social media. Manufacturing in Kerala: The firm is considering product manufacturing in other states as it is not viable in Kerala.
4	Funding

Discussion Points	
	<ul style="list-style-type: none"> • CEAD receives Industrial Support through the Japanese company, Renesas, a joint venture of Hitachi and Mitsubishi. • The firm also received seed funding of INR 5 lakhs from Maker Village • They have also applied to Central Government Schemes such as Nidhi Prayas from the Ministry of Science and Technology. • The firm also participates in events outside Kerala mainly in Chennai, Bangalore, Delhi, Mumbai and Pune to establish contacts and attract investors as well as customers.
5	<p>Advantages of Kerala</p> <ul style="list-style-type: none"> • Resource availability is there, high human capital but a perception change is required. • The Maker Village plan has been very aggressive, they have lots of labs and equipment. The execution is taking its time as it is a government entity.
6	<p>Facilities at Maker Village</p> <ul style="list-style-type: none"> • Incubation facilities like IIT Business Park in Chennai provides a seat for INR 6000-7000 for a month with limited working freedom. Maker Village provides a seat for INR 3000 per month. • The facilities offered at FabLab have been helpful to the start-up. Metal FabLab is also underway which is not available in other cities in India.

Meeting Information	
Meeting Name/ Topic	Meeting with Co-Founder & CEO, Sector Qube
Date/ Time	2 April 2019, 12:00 p.m.

Meeting Attendees	
Sl.	Attendees
1	Mr. Nibu Alias, Founder, SectorQube
2	Mr. Rajendran Ambadi, mByom Consulting and Management Services LLP
3	Mr. Ashwath Dasarathy, mByom Consulting and Management Services LLP
4	Ms. Aishwarya Kuruttukulam, mByom Consulting and Management Services LLP

Discussion Points	
Sl.	Discussion Points
1	Mr. Ashwath Dasarathy provided a brief summary of the objective of the Kerala Planning Board Study undertaken by the team. The study aims to understand the Industrial Scenario in Kerala and the impact of the efforts made by the Government through its institutions and policies.
2	<p>Mr. Alias provided a brief background on his firm and the founders. Some of the key points highlighted have been detailed below:</p> <ul style="list-style-type: none"> The company develops home appliances, their latest product a fully automatic roti maker which is ready to hit the market. The firm manufacturers smartphone controlled washing machine, ovens and other home appliances as well. The team comprises of 7 members who work in product development. Another team of 25 members work and sit out of other home appliances companies. Godrej is working with the company on the above projects and they plan to set up an IoT platform as well. Mr. Alias stated that the company was made in 2012 right after college with the aim of developing a mobile based platform where the user could download recipes. The home appliances were intended to guide them on cooking the recipe. However, the founders realized that manufacturing requirements for such a product is too high and not available in India. Such technology is available in China but the lack of an IP protection in China discouraged the team to take this further. He stated that through media coverage the company was able to garner support for their product. Mr. Alias mentioned that they do face delays in machinery manufacturing, availability of time, salary as well as funds play a role.
3	<p>Funding</p> <ul style="list-style-type: none"> The firm received funding from Unicorn Ventures which is supported by KSUM. They also received soft loaning funding from KSUM. Mr. Alias mentioned that a Venture Capitalist from Singapore mentioned that one of the reasons why they didn't invest was that the firm was out of reach. He also stated that the start-up ecosystem in Kerala does not comprise of VCs, only Angel and Seed funder exist. The firm is able to generate 10-12 lakhs from these funds, the firm is able to acquire the remaining 4 lakhs from their product sales. Mr. Alias stated that the funds are available, the government should provide support to investors so that they can assess start-ups and ensure their growth.
	Labour pool in Kerala

Discussion Points	
	<ul style="list-style-type: none"> Mr. Alias mentioned that they didn't find qualified developers and hardware product developers in Kerala, the firm instead focused on hiring passionate people who had the basic skills required and more importantly had machine skills as well searching skills.
4	<p>Challenges in Manufacturing in Kerala</p> <ul style="list-style-type: none"> The firm is still deciding on the location they want to manufacture their product out of. Mr. Alias took the example of V-Guard and mentioned that most manufacturing based firms in Kerala have their head offices in Kerala but undertake manufacturing processes in the neighbouring states. He mentioned that there are lot of political problems with manufacturing in the area. Firm is looking at Coimbatore and Gujarat for manufacturing assembly line. Mr. Alias mentioned that the government should focus on making Kerala a great hub for R&D which is it's advantage.

Meeting Information	
Meeting Name/ Topic	Meeting with Mr. C. Balagopal, Terumo Penpol
Date/ Time	22 April 2019, 11:00 a.m.

Meeting Attendees	
Sl.	Attendees
1	Mr. C. Balagopal, Founder, Terumo Penpol
2	Ms. Aishwarya Kuruttukulam, mByom Consulting and Management Services LLP

Discussion Points	
Sl.	Discussion Points
1	<p>Ms. Aishwarya provided a brief summary of the project undertaken by the mByom for the Kerala State Planning Board. She highlighted the hypothesis substantiated through the study on land, labor and capital. She mentioned that the main objectives of the discussion as follows:</p> <ul style="list-style-type: none"> Understand the characteristics of successful industries in Kerala and learnings from their growth. The industrial ecosystem that Kerala should move towards based on the above. The governmental role and institutional support required for the shift.
2	<ul style="list-style-type: none"> Mr. Balagopal summarized the hypothesis provided as a factor market approach and highlighted that fixing the problems associated with these industries does not ensure that industries will be set up in Kerala. He stated that this classical approach has its gap as it considers each factor as a market but Mr. Balagopal stressed that this approach has not been superseded by any other model either. He mentioned that the type of industrial development that is being undertaken in India involves states competing with each other to offer incentives for industries. He mentioned that what is happening in India has not been witnessed anywhere in the world, US is now experiencing this phenomenon. Mr. Balagopal mentioned that since global capital is flexible, industries are footloose and can move anywhere. Industries are set up in locations that provide stability, tax benefits, concessions, and cheap labour. Footloose industrial capital has resulted in industries moving anywhere where they are welcome. He mentioned that the East Asian Tigers offered this during the wake of globalization. The province of Penang, Malaysia set up one of the first Industrial Parks in the world, a little-known company at the time, Intel took advantage of this and now has grown to what it is known today. The current industrial policy focuses on attracting footloose industrial capital looking for concessions, which need not be the case. This type of industrial policy bidding away the country's wages, land rates and these industries can walk out if they find something unsatisfactory. He also mentioned that second generation of industries do not understand what the first-generation industries did right.
3	<ul style="list-style-type: none"> Mr. Balagopal took the example of Synthite founder, Mr. C. V. Jacob who utilized what Kerala has to offer to grow into the INR 2500 crore spice empire. This company was established in the 1970s in Kerala with resources from Kerala. He also highlighted the example of Terumo Penpol that now employs 1,600 people and is the largest blood transfusion company in the world. The company is now looking to expand 50% by investing INR 150 crores.
4	<ul style="list-style-type: none"> Mr. Balagopal mentioned that the pattern of land use in Kerala is very unique. Land for Industrial purposes requires the removal of dwellings that are homestead farms of the people- providing both livelihood and a home for these families.
5	<ul style="list-style-type: none"> Mr. Balagopal then further detailed the Industrial investment in Kerala since independence. He mentioned that the Eddayar Belt developed by the Diwan of Travancore, C. P. Ramaswami Iyer provided concessions and incentives as well as port facilities, raw

Discussion Points	
	<p>materials and land to attract industries to the state. During this period, several large-scale industries set their base in Kerala such as the Indian Aluminium Company, FACT (Fertilizers and Chemicals of Travancore Limited) and other chemical and metallurgy based companies in Kerala.</p> <ul style="list-style-type: none"> • The next period of industrial development in Kerala, Mr. Balagopal emphasized, was during the 1970s, largely driven by public investment. Institutions such as the Center for Development Studies, Sri Chitra Thirunal Institute of Medical Sciences and Technology, Forest Research Institute and several other institutes were established during this period. KELTRON established as well as the expansion of the Indian Telephone Industries Limited was undertaken during this time. • The start-ups set up during the period can be considered the collateral benefits of these big industries. A host of non-industrial entrepreneurs flourished in this period. Mr. Balagopal stated that no incentives were provided for these entrepreneurs to establish themselves during the time.
6	<ul style="list-style-type: none"> • Mr. Balagopal thereafter underlined the difference between an entrepreneur and a MNC Project Manager. An entrepreneur from the area, will try to minimize risk profile by being in a territory he is familiar with while ensuring that other factors are accounted for in his chosen area, while an MNC Project Manager looks at all the options available, forms a checklist of pros and cons and chooses the location for setting up an industry. Kerala was characterized during the 70s and 80s as an unstable and unfriendly state to industries due to the red flag. • He took the example of the Marwari community who came from a place that was inhospitable and not suited for industries. They took their entrepreneurial spirit and their understanding of capital and money to sectors suited to areas they settled in.
7	<ul style="list-style-type: none"> • Mr. Balagopal mentioned that factor markets are a necessary but not a sufficient condition for industrial growth. • In the 70s and 80s, a burst of entrepreneurs built enterprises such as Synthite, P.V. Steels, Anna Aluminium, this paved way for newer businesses such as Plant Lipids, Kitex and more. • He also stated that for the IT sector a factor approach works. The private investment worked faster in this sector throughout India. He gave the example of Gurgaon, that provided adequate infrastructure and thereby attracted the talent suited for the industries.
8	<p>Mr. Balagopal mentioned the following points regarding Kerala's Industrial ecosystem.</p> <ul style="list-style-type: none"> • He mentioned that Kerala has been a victim of profiling. There needs to be change in perception of the state. • Mr. Balagopal mentioned that labour cost in Kerala is high is a misrepresentation. He stated that availability of labour for certain jobs are low. However, for skilled jobs Kerala is comparable to other states. • He mentioned that industries that have wage cost/total cost as a smaller percentage should only consider Kerala for setting up its industry. If gross margins are small, then they should not be in that business in Kerala. Therefore, labour intensive industries like the traditional cashew and coir industries have shifted to Tamil Nadu and other states, due to the absence of innovation and technology in these sectors to sustain them.
9	<ul style="list-style-type: none"> • Mr. Balagopal took the example of the company he founded, Terumo Penpol and his experience with the government. He stated that factors such as hartal, corruption and others are always highlighted by several businesses as the major problem in Kerala. He stated that these businesses don't understand the reasons for their success. • He stated that his company faced several challenges in the acquisition of land for the expansion of his facility. He also mentioned that uninterrupted power system had to be

Discussion Points	
	used as the machines were dependent on power and the availability of electricity wasn't reliable.
10	<p>Mr. Balagopal highlighted the government's role in industrial development, the main points have been highlighted below:</p> <ul style="list-style-type: none"> • The government can offer a shared services facility, where training can be provided to individuals. These units can be run as partnerships with the private sector. He mentioned that the government can provide apprenticeships programs where the trainees work in the factory and get trained. The private company can make use of these trainees to undertake its operations. • Each DIC can take up the role of a facilitation centre for industries in the district and provide incubation facilities as well. Most businesses don't know where the office of the DIC is or the respective managers of the centre. Each DIC Manager should go and visit each business enterprise in their district, and understand the problems faced by the unit and provide support through road access, power support, land provision and more. • He gave the example of the Kovalam area that attracted a wide variety of tourists and employed around 10,000 people in the area, where 9,900 was by private sector and public sector was just 100. However, the condition of roads in the area were the poorest. • The government should support high value adding, high technology based manufacturing industries that employ skilled and high paying labour. • The government should invest in skill development and in Industrial Training Institutes (ITI), polytechnic and other skilling institutes. The government need not build new institutes, existing ITIs should be revamped and the machinery should be replaced with modern equipment. This can exist as a PPP model. Land and all overheads will be provided by government, private firms can bring their machines and employ the apprentices. Government will cater to their salary. He mentioned that the skilling centres can have one shift run by apprentices that are provided certificates at the end of the course. Current courses don't provide much support to the employability of the candidates as they are not adequately skilled with the machines. • Mr. Balagopal also mentioned that current units only function during the day, new companies can use these units during night shifts. • Mr. Balagopal highlighted that the state tends to focus on the problems of the state but not factors such as high HDI, high social awareness, harmonious communal equations which should be given more value. He mentioned that these factors that were earlier treated as trivial and unimportant now play a role.
11	<p>Mr. Balagopal mentioned that the characteristics of successful businesses in Kerala are as follows:</p> <ul style="list-style-type: none"> • Start-ups that are willing to take risks • Employed technology • Made use of local resources and raw materials • High value adding Industries • Grew organically • Took their time to grow over a period of 20-30 years

Annexure 5: Minutes of Meetings of Draft Report Presentation

Meeting Information	
Meeting Name/ Topic	Presentation to Stakeholders at KSPB
Date/ Time	17 June 2019, 2:00 p.m.

Meeting Attendees	
Sl.	Attendees
1	Mr. Jayan Jose Thomas, Member, Kerala State Planning Board
2	Mr. Joy, Chief (Industries), Kerala State Planning Board
3	Ms. Mridul Eapen, Member, Kerala State Planning Board
4	Mr. Biju, Director, Directorate of Industries and Commerce
5	Wg. Cdr. Santosh Kumar, Managing Director, KINFRA
6	Mr. Jyothikumar, Executive Director, KSIDC
7	Mr. A. K. Nair
8	Mr. Van Roy, Deputy Manager, K-BIP
9	Dr. G. Suresh, Director, CMD
10	Dr. Lenin G, Manager, SIDCO
11	Mr. K. G. Madhavan, District Resident, KSSIA Trivandrum
12	Ms. Sangeetha K. R., Deputy Director, KSPB
13	Mr. P. Sreekumar, Director, BPE
14	Ms. Chandini K.K., Deputy Director, KVIB
15	Ms. P. G. Thankamma, President, Surabhi
16	Mr. Anil, Secretary, Surabhi
17	Mr. Solomon Das T. R., Assistant Director, Directorate of Handlooms and Textiles
18	Mr. Sudesh T. P, KSPB
19	Ms. Bindu P. Varghese, SS division
20	Mr. Saneesh Kamark
21	Mr. Hafsa Beevi P., Regional Manager Hanveev
22	Mr. Siyad A, Junior Production Superintendent, Hanveev
23	Ms. Githanjali Sethu, Zonal Head, CII
24	Mr. Biju Narayan, Center for Management Development
25	Mr. Ajit Mathai, mByom Consulting and Management Services LLP
26	Mr. Dhruv Goyal, mByom Consulting and Management Services LLP
27	Mr. Ashwath Dasarathy, mByom Consulting and Management Services LLP
28	Ms. Abhilasha Jain, mByom Consulting and Management Services LLP
29	Ms. Aishwarya Kuruttukulam, mByom Consulting and Management Services LLP
30	Mr. Aditya Mathai, mByom Consulting and Management Services LLP
31	Mr. Hari Kalyan, mByom Consulting and Management Services LLP

Discussion Points	
Sl.	Discussion Points
1	<p>Mr. Ajit Mathai presented the key observation on the 'Evaluation of Policies and Agencies for Industrial Development in Kerala'. The key point mentioned are as follows:</p> <ul style="list-style-type: none"> • He highlighted the nature of Kerala's Industrial Context and the alignment of policies and institutions to cater to this.

Discussion Points	
	<ul style="list-style-type: none"> • He emphasized on the evolved local system, high literate and talent ecosystem that is conducive for distributed manufacturing in fragmented land holding in Kerala. • The way forward he stated was to set up high value and technology based industries that attract high talent. This should be combined with a financial ecosystem that reduces the risk of entry and exit and provides sustainable working capital. • A hub and spoke model can be adopted for distributed manufacturing catering to high value manufacturing MSME. • Case Studies on the Coir Ecosystem that can be adopted by the DIC for building accountability was also discussed. • A Centre for Convergence Model was recommended for the existing institutions that emphasizes on knowledge based industries which is talent centric with the investment of ideas.
2	<p>Mr. Biju, Director, Directorate of Industries and Commerce</p> <ul style="list-style-type: none"> • Mr. Biju mentioned that there are several fundamental issues affecting industries that needs to be addressed on a broader level. He affirmed that the current approach by all institutions for industrial development follows an outside-in perspective that needs to change. • Industrial Hub in Kerala: While choosing a hub in Kochi, a port based development that is export oriented is important. A shift needs to happen from blue collar workforce to white collar workforce which is suited for the talent available in Kerala. • Land rates not capped: A major challenge faced by the industrial development institutions is that there is no capping on the land price which results in this cost being transferred to the entrepreneur. A policy change is required to change this. • Quality of talent: The levels of education for talent below an Engineering degree is very low, they do not have adequate skills suited for industries such as communication and presentation skills. There is no uniform policy for talent. • Perception of labour: Additionally, he mentioned that there is perception problem of labour in Kerala that is not attracting industries. • Lack of understanding of institutions at Industry Level: Policies and Industrial Development Institutions have failed to understand the problems at an Industry Level. • Interactions with the government: He mentioned that there is a systemic problem of governance. There should be limited interactions between an entrepreneur and civil servants on this front.
3	<p>Mr. Jyothikumar, Executive Director, KSIDC</p> <ul style="list-style-type: none"> • He highlighted there is a difference in approach towards MSME and large industries. Infrastructure and financing continues to be the major challenge faced by MSMEs. • Dilution of Ownership in MSMEs: He stated that MSMEs are diluting ownership as there are depending on family funding. He mentioned the importance of timing for financing of MSMEs. He took the example of West Bengal that has a corpus to support MSMEs. • He stated that Angel funding is focused on start-ups at their initial stages. Test marketing ecosystem should also be made available for start-ups. • Mr. Jyothikumar mentioned that shared manufacturing spaces have also been highly successful for entrepreneurs as equipment is expensive.
4	<p>Wg. Cdr. Santosh Kumar, Managing Director, KINFRA</p> <ul style="list-style-type: none"> • Land prices: He mentioned that the land cost in Kerala is very high as it a densely-populated state. Large land sizes are not available and the land policy of each institution

Discussion Points	
	<p>is different. Policies to control land cost need to be put in place as well as policies for MSMEs to come set up.</p> <ul style="list-style-type: none"> • Perception of Labour: IT/ITES industries in Kerala are not affected by hartal/ strikes and hence such industries have suited Kerala. There are several Keralites in big industries however, most are outside the state.
5	<p>Mridul Eapen, Member, Kerala State Planning Board</p> <ul style="list-style-type: none"> • Ms. Mridul Eapen mentioned that the hartal exception should be accommodated into existing parks.
6	<p>Mr. Anil Kumar</p> <ul style="list-style-type: none"> • He mentioned that the per ton cost is cheaper in Kerala, however, the ease of doing business is very high. • 2-25 industries have closed down in Kochi as the investments are not bringing in the returns.
7	<p>Mr. Joy, Chief (Industries), Kerala State Planning Board</p> <ul style="list-style-type: none"> • There should be new models for Industrial Parks in Kerala apart from current model of providing leases and common facility services. • There should be a R&D institutional support such as a maker space for start-ups. He also mentioned that an integrated traditional mall can also be set up.
8	<p>Some other points mentioned were:</p> <ul style="list-style-type: none"> • There is excessive land available at the PSUs. There should be more infusion technology and better management and autonomy for functioning of the PSUs. • The government is not paying on time to contractor's, vendors, etc. this is affecting the health of several MSMEs.