

**A NEOTERIC APPROACH TO THE
ECONOMIC ARCHITECTURE OF KERALA:
IN THE WAKE OF 2018 FLOODS**

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**KERALA STATE PLANNING BOARD
GOVERNMENT OF KERALA**

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DECLARATION

I hereby declare that this research report entitled “**A Neoteric Approach to the Economic Architecture of Kerala: In the Wake of 2018 Floods**” is an authentic record of the research work carried out by me under the guidance of Dr K. Ravi Raman, Member, Kerala State Planning Board, for the Internship Programme 2018-19, Kerala State Planning Board. No part of it has been previously formed the basis for the award of any degree, diploma, associateship, fellowship or any other similar title or recognition of any other University or Institution.

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ABSTRACT

Kerala was ravished by severe flooding in August 2018 due to an unusually excess rate of monsoon rain. The severity of the disaster has had repercussions at multiple levels including casualties caused by landslides and waterlogging. A seemingly unnoticed causality is said to be the economy of Kerala which is struggling to meet the ends. Although Kerala is one of the most prosperous states concerning social progress, the revenue generation system of Kerala has not been able to match up with that of its spending pattern. The public finance setup of Kerala has not been at its best due to a lack of adequate revenue generation in line with the kind of aggressive social spending of a welfare state. It is imperative in the wake of such a massive disaster to adopt a neoteric approach in order to align the state public finance in the right track to expand its revenue base. This paper will analyse the context of the need for a neoteric economic approach and attempts to recommend an integrated framework which is capable of putting the state economy on the track for an expansive push.

INTRODUCTION

The adverse effect of an excess percentage of monsoon rains resulted in superlative levels of damages which were brought on by the devastating floods in the State of Kerala. This disaster triggered a massive fundraising campaign for the relief and rescue efforts to be undertaken. Help poured in from all sections of the society and countries across the world. However, the idea of dealing with rehabilitation and relief efforts through crowdfunding or other assistance is not a sustainable way forward. The damaged caused by this disaster totals to almost three fourth of the Gross Plan Outlay 2017-18. On the other hand, the state is struggling with its public debt touching 30.75% of GSDP.



Source: Sphere India

At this juncture, it is imperative for the state government to look ahead of the relief and rehabilitation operations and take a step forward to a positive growth framework. The revenue base on its own will be large enough to take care of at least three fourth of the expenses in the medium term, without fuelling the public debt at an unprecedented rate or taking further loans to finance public expenditure. Kerala is known for its progressive social development indicators and high rate of literacy. On the contrary, it is also known for its high debt ratio, fiscal deficit and revenue deficit.

Items	2016-17 Actuals	2017-18 Budgeted	2017-18 Revised	% change from BE 2017-18 to RE of 2017-18	2018-19 Budgeted	% change from RE 2017-18 to BE 2018-19
Total Expenditure	1,02,383	1,19,602	1,11,352	-6.9%	1,27,093	14.1%
A. Borrowings*	26,440	25,279	22,082	-12.6%	23,881	8.2%
B. Receipts (except borrowings)	75,934	93,846	88,577	-5.6%	1,03,136	16.4%
Total Receipts (A+B)	1,02,374	1,19,124	1,10,659	-7.1%	1,27,018	14.8%
Revenue Deficit	-15485	-16,043	-13,080	-18.5%	-12,860	-1.7%
<i>As % of state GDP</i>	-2.5%	-2.1%	-1.9%	-	-1.7%	-
Fiscal Deficit	-26,448	-25,756	-22,774	-11.6%	-23,957	5.2%
<i>As % of state GDP</i>	-4.3%	-3.4%	-3.3%	-	-3.1%	-
Primary Deficit	-14,332	-12,124	-9,248	-23.7%	-9,019	-2.5%
<i>As % of state GDP</i>	-2.3%	-1.6%	-1.3%	-	-1.2%	-

Notes: BE is Budget Estimate; RE is Revised Estimate. '-' sign indicates deficit; '+' indicates surplus.
Sources: Kerala Budget Documents 2018-19; PRS.

Table 1: Budget 2018-19 – Key Figures (₹ Crore)

A juxtaposition of the characteristics as mentioned in Table 1 calls for immediate intervention in the way the state generates its revenue. In this context, it is important to point out that the Kerala market is mostly unexplored and not saturated. The combined factors of geography, market potential, increasing returns to scale and an accelerated rate of increase in the efficiency of governance will contribute to making Kerala's growth and development experience an exciting one for everybody, more so for Keralites.

The top sources of revenues from the state's own base are Vehicle tax, Stamp duty, Excise duty and revenue received from tourism which solely amounted to ₹33,383.68 Cr (Direct and Indirect).

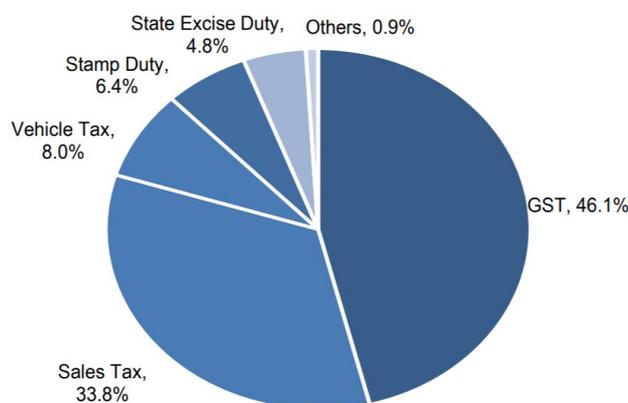


Figure:1 Composition of Tax Revenue 2018-2019

(Source: PRS India Kerala Budget Analysis 2018-19)

A government with a will to make a change for the medium and long-term rather than limiting to a short-term needs to concentrate on the meso level analysis. A long-term vision for growth and development will help the economy get back to a healthy state, it requires sophisticated planning with an eye for the long term. Today, cities are known as the economic powerhouse of any region and such a tall statement have stood the test of time and statistics.

The ever-increasing integrational requirements of regions and local systems to that of the global economic patterns have led to an inflated sense of global and regional convergence of economies without requiring any intervention. Many scholars of economic geography have predicted the “death of distance” and the “end of geography”. While in reality, the difference in growth and development has been intensifying increasingly, and the inequalities are also found to be increasing at an unprecedented scale.

The growth and development pattern of the erstwhile Trivandrum under the Travancore Kingdom is not the same as it is today under the Government of Kerala. Thus, it becomes an important point to understand the causes, rise and fall of local economies. In this paper, attempts are made to understand the complexities and patterns of growth and development in Kerala so as to relate it with the macroeconomic picture. It is vital to understand the structural inefficiencies of the regional economy and to rectify it while aiming to tap into potential sources of income.

REGIONAL DEVELOPMENT: CONTEXT

Firstly, ever since the early 1990s, the economic system has become more internationalised and highly competitive. The requirement of having an advanced knowledge economy in order to have an edge over other competitors is now at the peak. The fundamental question of what is perceived to be as the perfect growth and development model has been increasingly posed. Factors like uneven growth, growing inequalities in terms of social groups as well as geography has raised many questions regarding what policy and long-term vision a government ought to carry forward.

Secondly, the structure of governance and the manner in which new branches or institutions facilitate it has had a prominent role in the creation of new complexities. Thirdly, each territory has its own comparative advantage. Such advantages should be evolved and polished over time to generate greater resources for the use of public benefits. Facilitation of interventions requires scientific policy-making based on data and analytics. Lastly, the question of development models has taken a new turn in this era of globalisation. It now speaks of quality than mere quantity. The quality is measured in terms of Physical Quality of Life Index (PQLI), Happiness Index, Human Development Index (HDI), the output of which shows the impact of efficient, effective and sustainable policy measures.

State-wise Growth of Net State Domestic Product

(At Factor Cost: Constant Prices)
(Percentage) (Base: 1980-81)

States	Growth Rate	
	1980-81 to 1989-90	1989-90 to 1997-98
1. Gujarat	63.14	72.58
2. Maharashtra	71.81	64.80
3. Andhra Pradesh	57.61	72.82
4. West Bengal	43.16	65.76
5. Kerala	27.96	59.08
6. Madhya Pradesh	38.69	51.65
7. Tamil Nadu	58.88	58.64
8. Rajasthan	77.51	52.08
9. Karnataka	61.91	51.26
10. Haryana	70.78	45.71
11. Punjab	65.54	37.71
12. Orissa	52.02	14.88
13. Uttar pradesh	53.45	27.27
14. Bihar	47.50	13.74

Source Handbook of Statistics on Indian Economy 2000, Reserve bank of India

Table 2: Growth of Net State Domestic Product

A sustainable development model in itself has the potential to drive several new rounds of economic growth if planned and implemented strategically. The Kerala model of governance ought to include not only income generation and job creation but also one that encompasses various aspects of quality of life, the pursuit of happiness and ingredients of a comprehensive welfare state which is capable of supporting every citizen attain self-actualisation.

A significant concern while opening up the national economy was the power of globalisation to instil competition in the most remote sector of the economy. Such a high level of competition by global players could adversely affect the regional dynamics of the economy which are often characterised by half matured, low technology production techniques, inefficient management systems subpar to global players and insufficient capacity.

It is also worth noting that whilst these debates took place, scholars like Romer and Fischer wrote at length about the benefits an economy could reap by opening up. However, these opportunities are made use of only by a few regions to its best possible potential from a territorial point of view. According to Andy Pike and Andres Rodrigues-posedè, the regions which have been able to reap benefits from the opportunities offered by an open economy can be categorised into three winning regions.

1. Large Metropolitan Regions:

- Headquarters of large corporations
- High flow of Foreign Direct Investment
- Consumer-based value service providers
- Major business locations
- Several types of consultancies

Stroper in 2003 remarked in one of his papers that “the economies of agglomeration derived from such concentration of production factors are leading to the attraction of research and development and design architecture to global metropolises of city regions”. An example of such a concentration pattern can be seen if one observes the flow of FDI to Spain, where, 75% of FDI goes to Madrid, the capital of Spain. This gives rise to a dual economy in which high paying and high productivity jobs coexist with low productivity and poverty, triggering a growing informal sector.

2. Intermediate Industrial Region

This category of winning region is characterised by cheap labour, high accessibility and existence of high-quality human capital. Example: Mumbai and Bangalore.

3. Tourist Regions

This niche area which is a melting pot of converging policies has the potential to generate huge amount of revenue and jobs. A successful territory is Bali, Indonesia.

There are exceptions to the categorization above owing to the dynamics of the area in the globalised world. However, it is also important to acknowledge that more than not, the regions which are backward or struggling to tap their own potential are scrambling with the problem of trying to align themselves with that of the latest and emergent conditions prevailing across the world economy. The key word here is “Adaptation”, the ability to adapt to changing conditions is an essential factor in deciding the direction and success of a regional economy.

The globalised world is now facing a massive threat of delocalisation as seen in the industrial and agricultural sectors. The service sector faces comparatively less threat when compared to the other sectors as it requires face to face contact or cheap labour in most areas. Traditionally, many markets and economies thrived due to their comparative advantage, in contrast, these regions are now faced with stiff competition due to technological advancement and a higher rate of labour productivity in competitive territories.

Correspondingly, the regions without any comparative advantage are finding it extremely difficult to erode into new markets due to stiff competition faced from the inside as well as outside resulting from the opening up of the markets. Under a monopoly or oligopoly framework, industries take advantage of the market situation and generate huge profits, given that they are equally efficient as their counterparts elsewhere. Economic processes like these results in more significant economic and social polarization.

Economic prosperity has come in many countries like China at the cost of growing inequalities, territorially and socially. The need of the hour is to understand and inculcate such changes in the context and to adapt to such changes not only at the policy level but also at the societal level.

INVESTMENT COMPETITION: BETWEEN LOCALITIES

It is fundamental to deconstruct the concept of competition between localities in order to completely understand the ongoing tussle and hustle. Investments generate income and employment in a locality. It can be summed as the contest for mobile capital and labour with which an opportunity arises for several rounds of economic transaction and redistribution. At the local level, it is true that the competition for investment is a much easier concept to digest than at the national level as the movement of capital and labour within a national economy is easier. Thus, the idea of competition between localities may yield utility when applied to a regional context.

Unlike nations, there will always be the question of going out of business for corporates as well as localities. The probability of nations running out of business is much less than corporates or localities, and this arises if they are not handled properly. Allentown, Pennsylvania is a prime example where mishandling the dynamics of a locality resulted in fleeing of employers and thereafter, the city went down a financial spiral. Many other regions have gone out of business due to external factors like out-migration and abandonment. As a part of a nation state, localities or regions might not always be offered with many policy instruments. For instance, currency devaluation as an economic instrument to shape the intensity of economic activities is available to a national government while a regional government has limited policy instruments.

More specifically, the reasons as mentioned earlier makes it a thumb rule for local economies to compete based on their predominant comparative advantage. Camagni remarks that:

“What really counts nowadays are two orders of factors and process: in an aggregate, macroeconomic approach increasing returns linked to cumulative development processes and the agglomeration of activities; in a microeconomic and micro territorial approach, the specific advantages strategically created by the single firms, territorial synergies and co-operation capability enhanced by an imaginative and proactive public administration, externalities provided by local and national governments and the specificities historically built by a territorial culture.” (Camagni 2002: 2405, original emphases).

It is implied that localities should and can infiltrate the arena of regional competition. In contrast, it is also imperative to look at the other side of such competition. Many scholars like

Arbix (2001) have severely criticised territorial competition. An example that they provided is the competition between Brazilian states to attract Foreign Direct Investments which resulted in exaggerated benefits and inflated offers which were financially non-viable. Such offers brought these states to the brim of economic activity, risking bankruptcy of treasuries. It can, therefore, be understood that such type of competition which consists of exaggeration and non-viable incentives result in offsetting the benefits and undermining the output of those negotiations.

Pose point out that:

“The bidding wars, presented by state governments as their main – and almost only – development strategy, are a pure waste since they do not lead to a significant increase in welfare at the local, or the national level.”

In the modern context, the competition model will be incomplete without adequately managing the consumption side. It is vital to attract investments, but at the same time, it is equally important to create an environment for generating consumption activities. The best example of this competition will be those which are held to gain the hosting rights of world sporting events like the football world cup, Asian games. These events will provide the locality with the right dynamics of investment and consumption. It also gives an opportunity for the locality to build large-scale planned infrastructure in the region. Therefore, it is necessary to recognise the kind of competitions that have the potential to create a positive effect and the ones which are wasteful.

<i>Zero sum</i>	<i>Growth enhancing</i>	<i>Network enhancing</i>
Pure promotion	Training	Internal networking
Capturing mobile investment	Fostering entrepreneurship	External (non-local)
Investment subsidies	Helping new firms	Benchmarking assessments
	Business advice	Airline and air-freight links
Subsidised premises	Uncertainty reduction	Scanning globally for new knowledge
	Coordination	
	Infrastructure investment	

Sources: Adapted from Cheshire and Gordon (1998: 325); Malecki (2004: 113)

Table 3: Policies used as a part of the regional competition

DESIGN OF DEVELOPMENT POLICIES: IN THE CONTEXT OF COMPETITION

It is the need of the hour to have an alternative development strategy that is efficient, competitive and sustainable in the long run. In order to increase the efficiency, the government must ensure that the state has the capability and capacity to respond and adapt to the global challenges and changes. It can be only ensured when the economy can shuffle factors of production and skills. The focus must be put on the creation of assets and resources in order to fulfil the needs, both short and long-term as well as the aspirations of the region. However, a universal formula to capacity building and development strategy does not always work, and it should be looked into keeping the context of the region into consideration.

Mere reproduction or reapplication of development policies has more often than not created little to no impact in aiding the regional economies to generate sustainable development outcomes or employment opportunities in the long term. One of the most popular regional development approaches is the traditional top-down policy which consists of supply-led policies. The approach stems from the policy belief that a lack of accessibility options and the absence of industrial tissue caused by infrastructural deficiency is the main issues at hand and if the administration solves that issue, it could well be on a growth trajectory. Unfortunately, this approach does not always work and in every context.

According to the fifth annual employment-unemployment survey 2015-2016, Kerala's unemployment figure stands at a staggering 12.50% well above the national average. Job creation has been a severe long-standing concern for the state administration. Development policies are usually structured along two vision. The first vision could be called categorised as infrastructural endowment. Ashauer's (1989) research finding fuelled perceptions that infrastructural investment and improving accessibility was the best way forward for lagging areas. Thus, investing in infrastructure was seen as an input and the output of which was expected to be employment generation, FDI and thereof. The example of Italian Mezzogiorno shows us that such an approach may not always yield the expected result and that infrastructure investment alone may not be the solutions for structural inefficiencies of an economy. Researchers like Philippe Martin and Vanhoudt has in fact proved through their research work that infrastructure investment results in constant negative economic returns in the EU.

The second vision is based on industrialisation through a top-down approach. The introduction of a large company to an area with a fragile industrial fabric was looked at as another way to induce growth in a region. It is looked at as a catalyst which could spur growth and other allied variables in a region. However, such an approach has seen more failures in the globalised world than success. The root of sustainable development ought to be innovation and dynamism.

The policy of state procurement, subsidies, monopolistic and protectionist practices have, to a far extent, succeeded in lending a helping hand to the producers of the domestic market and thus, protecting the national and regional market. However, such policies in the long term cut off the domestic products against global ones when it comes to world standards and quality. The consumer may be asked to pay a higher price for a lower quality product than what is available on the international market. It is to be noted that in most of the cases, the biggest barrier to a development strategy is the structural inefficiency of the economy or the way the system is designed to work. The structure of institutions and economy in itself can be a threat to the development strategy when it is characterised by red-tapism.

The idea of borrowing to finance the everyday functions of a government does not instil confidence in an economy; it instead showcases the fragility of the economic condition of the region. There have been several instances where governments focus on removing the infrastructural/development bottlenecks and expect that sustainable development will follow. Example: Focusing only on the infrastructure part while ignoring the educational reforms needed to compete with world standards. The infrastructural push will definitely help the region get noticed by large firms, but if skilled labour is not available in the region, then it offsets the benefits gained from the investment on infrastructure and results in the creation of imperfect accessibility to markets. Investments should ideally have a dynamising and multiplier effect on the environment and economy respectively. However, less competition for local manufacturers through protectionist policies and greater accessibility to large corporates through investment opportunities creates dependency on external economic actors.

The top-down approach creates a vacuum and results in little to no participation of the public in the long-term economic vision planning. Every regional context calls for a contextual approach to the working of institutions. However, the practice of replicating institutional structures, policies without taking into consideration the local context, societal values, makes it less efficient. If a local development strategy has to be successful, it should entail the use of

local competitive advantages, use of local resources which are locally owned and managed. Such an approach would require participation from the public as well as social dialogue.

<i>Traditional development policies</i>	<i>Local and regional development</i>
1 Top-down approach in which decisions about the areas where intervention is needed are taken in the national centre	1 Promotion of development in all territories with the initiative often coming from below
2 Managed by the national central administration	2 Decentralised, vertical cooperation between different tiers of government and horizontal cooperation between public and private bodies
3 Sectoral approach to development	3 Territorial approach to development (locality, <i>milieu</i>)
4 Development of large industrial projects, that will foster other economic activity	4 Use of the development potential of each area, in order to stimulate a progressive adjustment of the local economic system to the changing economic environment
5 Financial support, incentives and subsidies as the main factor of attraction of economic activity	5 Provision of key conditions for the development of economic activity

Source: Regional and Economic Development, Andy Pike.

One of the significant contradistinction between a traditional development policy approach and a local development policy approach is that, whilst the traditional approach focuses on the industrial and sector wise advancements, the local approach looks at the potential of the local economy and tries to make use of the available resources and soft power of the local region keeping in mind the economic, social and institutional context of the territory. Kerala has a rich cultural and social background which has the potential to fuel economic progress in the medium to long run, but it will require a strong and continuous political will and an unbiased approach to development. Therefore, a balance between the top-down approach and a bottom-up approach would facilitate best outcomes.

PARALLEL TRANSVERSAL FRAMEWORK

A Parallel Transversals framework based on the threefold scheme proposed by Vazquez Barquero is used in this paper as a development roadmap for a macro picture which is inclusive of the meso level nuances. A parallel transversal theorem in mathematics is defined as “If three

or more parallel lines are cut by two transversals, then they divide the transversals proportionally”. The Parallel Transversal framework when applied to the aforementioned policy design context, paves the way for a framework which has an element of transversal as well as parallel lines calling for coordination, organisation and simultaneous identification of local assets. The first line of the framework involves factors and elements which are common to that of the traditional approach like infrastructure building, proper and efficient transport network, advanced communication networks and the facilities for the development of human capital which includes cultural, health and education facilities.

The second line implies the design and implementation of the regional development strategy. A comprehensive strategy taking into account, the comparative advantage, resource bottlenecks, organisation of stakeholders along with the participation of outside experts. These strategies are to be based around three axes:

- Improvement of the competitiveness of local firms
- The attraction of inward investment
- The upgrading of human capital

The idea here is to balance the dynamics of a regional economy by avoiding over-emphasis on only a few elements. Time, effort and energy put into attracting inward investment without being able to provide quality labour force or investing in massive social education programs, without creating employment opportunities are some examples of unbalanced, short vision strategies. The schemes and programs aimed at improving the labour skills have to be synchronised with the effort to boost local firms.

The design of the aforementioned framework has the potential to balance and contribute to the sustainable development of the state as well as employment creation opportunities. When the local economy is based on local resources and comparative advantages, the economy is said to be at a much more stable and sustainable condition without overly depending on external factors and thus, it positions itself in a better off-market situation.

The final line of the design stands for improvements at the organisational and institutional level. Convergence of policies or transversal lines calls for newer forms of cooperation among departments and various government wings. Complex governance systems and structures could increase the gestation period; therefore, as the economy grows, the institutions must also make changes to itself in a way that it positions itself to rise to the aspirations of the citizens.

SWOT ANALYSIS

A SWOT Analysis of Kerala's economy is useful to understand the strengths, weaknesses, opportunities and threats faced. This analysis forms an integral part of the paper as it contextualises the aforementioned strategic framework. The analysis focuses on understanding the nuances of the economy which are both tangible and intangible; also, appropriate importance is given to the evolving trends in the Economy.

<p style="text-align: center;">STRENGTHS</p> <ul style="list-style-type: none"> • Social Progress • Literacy Rate • Tourism Sector • Cultural and Historical Heritage • NRI Presence and Remittances • Social Welfare Schemes • Service Sector • Availability of Skilled Human Resources • Movie Industry 	<p style="text-align: center;">WEAKNESSES</p> <ul style="list-style-type: none"> • Fiscal Deficit • Blue Collar Jobs • Population Density • Ecology and Susceptibility to Natural Disasters • Unemployment and Underemployment • Closed Higher Education System • Import-dependent • Infrastructure
<p style="text-align: center;">OPPORTUNITIES</p> <ul style="list-style-type: none"> • Tourism circuits • Health Tourism • Public Transport • In-Land Water Transportation • Revenue Push via Enforcement Activities • Aesthetic Aspect • Education • Marketing of Local economies • Sports • Fourth Revolution • Ayurveda • Vizhinjam Mother Port 	<p style="text-align: center;">THREATS</p> <ul style="list-style-type: none"> • Growing Fiscal Deficit • Economy Vs Environment • Brain Drain • Dependence on Foreign remittance • The Opportunity Cost of Loans

STRENGTHS

- **Social progress:** In terms of social progress, Kerala was rated the best by the social progress index report with an overall point of 68.09, published in November 2017. The Human Development Index, Low infant mortality ratio and Gender ratio, all of which act as an attestation to the aforementioned social progress.
- **Literacy rate:** Kerala has the second highest literacy rate (93.91%) among the states of India after Tripura (94.65%). Widely subsidized transport fares facilitate the access for rural students to higher educational institutions in cities.
- **Tourism Sector:** Kerala is blessed with aesthetic and beautiful locations which are conducive for tourism related activities. The Total Revenue (direct & indirect) from tourism during 2017 was ₹33383.68 crores, showing an increase of 12.56 % over the previous year's figure ₹29658.56 crores. Whilst total tourist arrival to Kerala during the year 2017 was 1,57,65,390 showing an increase of 10.94% over the previous year.
- **Cultural and Historical Heritage:** Kerala has a rich cultural and historical heritage, from being a matriarchal society to the richest temple in the world. The Malabar region, Kingdom of Cochin and the Travancore state united to form the present-day Kerala. The rich heritage could be used as a soft power to drive the revenue base upwards. The State of Rajasthan has successfully used their cultural and historical heritage to attract tourists and have cleverly made use of soft power in other sectors as well.
- **NRI Presence and Remittances:** The commercial exploitation of oil in the 1950s and 1960s opened up big job opportunities for Keralites who then migrated to Gulf countries. Several rounds of economic activity fuelled by oil money demanded more skilled and semi-skilled workers. The survey conducted by noted demographers K. C. Zachariah and S. Irudaya Rajan for the Centre for Development Studies (CDS), puts the total number of Keralites living abroad in 2014 at 2.40 million, 90% of the emigrants are in West Asia. In 2012, the state was the highest receiver of overall remittances to India which stood at ₹49,965 crores (31.2% of the State's GDP), followed by Tamil Nadu, Punjab and Uttar Pradesh. S. Irudaya Rajan describes the situation as "Remittances from global capitalism are carrying the whole Kerala economy". The

Presence of NRI's abroad has helped Kerala's revival after the 2018 flood as they received help from NRK's extensively.

- **Social Welfare Schemes:** The State provides a host of schemes and programmes for children, women, senior citizens, differently abled persons, mother and child, adolescents, destitute, orphans, transgenders. 41 Schemes are listed by the Social Justice Department ranging from Employment for Transgenders to Educational Assistance of Children of Prisoners. Kerala model of development emphasizes the need for a welfare state and works toward the same.
- **Service Sector:** Kerala's economy is one among the small lot of economies which defied Rostow's take-off theory and moved on to a massive service sector contribution from an agriculture dependent economy status. The service sector has the maximum contribution (63.1%) to GSDP. Manufacturing and agriculture contribute 25.6% and 11.3% to the GSDP, respectively.
- **Availability of Skilled Human Resources:** Kerala has an abundance of skilled manpower so much that it exceeds the demand of the local economy. When eighth five year plan ended in 1997, Kerala had only 15 engineering colleges with an annual intake of 4844 students but at present there are altogether 169 engineering colleges with an approved annual intake of 55665, which means that annual intake of students in UG engineering colleges in Kerala constitutes 3.78 per cent of all India UG students intake.
- **Movie Industry:** Movies could be seen as a source of soft power. Among other film industries in India, the Malayalam movie industry is considered to be one of the best in terms of both quality of movies as well as originality of scripts.

WEAKNESSES

- **Fiscal Deficit:** The fiscal position of the state deteriorated in 2016-17 as compared to 2015-16 concerning revenue, fiscal and primary deficits. Revenue deficit increased from ₹9657 Cr in 2015-16 to ₹15484 Cr in 2016-17 and the fiscal deficit increased from ₹17818 crores in 2015-16 to ₹26,448 Cr in 2016-17. The fiscal position is predicted to deteriorate further owing to the extra rehabilitation expenses that will be incurred from 2018. It is because of the high fiscal deficits that have been typical of the State finances,

capital expenditure (CAPEX) has suffered hugely. This is one of the reasons why Kerala does not enjoy quality infrastructure in comparison with several other Indian states.

- **Blue collar jobs:** A wide majority in Kerala looks down upon blue-collar jobs even though thousands of Keralites do such jobs abroad and elsewhere in India. Over two lakh migrant workers move to Kerala annually, and there are over 25 lakh such workers in the State to fill this void according to estimates of Thiruvananthapuram-based Gulati Institute of Finance and Taxation.
- **Population Density:** The biggest problem caused by higher population density is the potential loss of 'green-belt' land impacting the quality of life. Many people value green spaces as an essential factor in judging the quality of life. Rising population leads to more demand for transport infrastructure, but with the increased density of buildings, there is limited space for new roads.
- **Ecology and Susceptibility to Natural Disasters:** Kerala is an environmentally rich and fragile state. Economy and Environment are two concepts which do not always go hand in hand. Kerala, with lush greenery, may not be the first preference for manufacturing sector enterprises as many environmental clearances will have to be gained before proceeding to set up a factory. Kerala is also highly susceptible to climate change and natural disasters due to its geographical coordinates.
- **Unemployment:** The rate of unemployment in Kerala is disproportionately high when compared to that of other states in India and is double the rate of national average. Whilst Kerala is ranked second in terms of literacy rate in India, it is also ranked third among Indian states with regard to highest unemployment rate which now stands at 12.5%.
- **Closed Education System:** The educational institutions affiliated with Regional Universities in Kerala are considered to be a closed system by students from the rest of India. An attestation for such a situation can be observed when one looks at the number of applicants or seats allocated to students of other states in Kerala when compared to the performance of the neighbouring states like Karnataka and Tamil Nadu. Only four

higher education institutions are listed in the NIRF ranking which includes centrally funded institutions as well.

- **Import-dependent:** According to estimates, around ₹1,000 crore worth of vegetables are imported into Kerala yearly. The State produces only five lakh tonnes (approx.) of vegetables out of a total annual requirement of around 25 lakh tonnes. Heavy dependency on other states is a cause of grave concern. Self-sufficiency projects must be planned and implemented at local level.
- **Infrastructure:** In the wake of 2018 floods, the biggest challenge that is being faced by the Kerala Government is rebuilding infrastructure. Road infrastructure connecting various cities in Kerala cannot be compared with that of its neighbouring states. Key infrastructure projects and time taken to plan and execute those are becoming a hurdle to the economic development of the region.

OPPORTUNITIES

- **Tourism circuits:** Kerala has the potential to develop multiple tourism circuits, which can be combined together to present tourism packages. These circuits should be used to attract tourists and circuit-based hop in and hop off bus services should be provided.
- **Health Tourism:** The number of patients from outside the state consulting doctors and visiting hospitals in Kerala has been on a rise. It is most noticeable in the case of Maldivian nationals. Major hospitals should join hands with the government in promoting medical tourism and Ayurveda.
- **Public Transport:** Proper timekeeping and routes catering to the needs of citizens should be prioritised. Using Kerala's competitive advantage that is, IT and technology based innovations, efficiency and capacity of public transport should be increased drastically.
- **In-land water transportation:** Inland water navigation system is an integral part of transportation in Kerala. There are 44 rivers, several backwaters, canals and lakes in Kerala, which offers a good network of water transport within Kerala. Using solar technology and wind power, boats could be run energy efficiently without causing pollution to the water body.

- **Education:** With a broad educational infrastructure, Kerala is positioned to be a hotspot for research and student activities from across the Nation and the world. If proper infrastructure and quality of education are assured, Kerala could be well on the road to a multicultural student campus. From an economic point of view, this has the potential to make several rounds of economic activity. Research and Innovation help the state move forward.
- **Marketing of Local economies:** Proper marketing of local economies such as Aranmula for Aranmula Mirrors, Kuttanad's Coir industry or Thiruvananthapuram's IT infrastructure should be marketed vigorously in order to create a brand for such economies. Creation of a brand is an essential aspect of attracting skills, resources and investments.
- **Sports:** Kerala has an inherent advantage when it comes to sports and athletics competitions. Athletes from Kerala are poised to be champions at various international and national level competitions. The edge that Kerala has over sports should be used effectively to influence the lifestyle management of citizens which will ensure the longevity of life and high fitness levels. Developing Kerala as a hub for sports and coaching activities by providing state of the art facilities and quality training will ensure that sportspersons from across India will be attracted to Kerala.
- **Fourth Revolution:** Kerala with the present IT infrastructure, investment and skilled labour available in this sector, has the potential to play a major role in the fourth industrial revolution as it is marked by emerging technology breakthroughs in a number of fields, including robotics, artificial intelligence, nanotechnology, quantum computing, biotechnology, the Internet of Things, the Industrial Internet of Things (IIoT), fifth-generation wireless technologies (5G), additive manufacturing/3D printing and fully autonomous vehicles.
- **Ayurveda:** Integration of western and Ayurvedic medicine has enormous potential for synthesising modern technological and social innovation. World class research into Ayurvedic practices will help revitalise this industry.

THREATS

- **Growing Fiscal Deficit:** The deluge that ravaged Kerala in August 2018, has shaved off at least 2.2 per cent of state GDP, which will push up its fiscal deficit to 5.4 per cent this fiscal year. It is also important to note that the state has a revenue deficit of ₹15,484.59 crores and a fiscal deficit of ₹26,448.35 crores along with a high liability to GSDP ratio of 31.4% which is a testament to worsening financial condition of the State.
- **Economy Vs Environment:** A healthy environment is a prerequisite for a healthy economy. Kerala's environment is extremely fragile to the risks of climate change, which was evident during the 2018 floods.
- **Brain Drain:** Even though thousands of engineering professionals graduate every year, the job market in Kerala has not been able to provide sufficient opportunities to them. Statistics show that the unemployment rate in Kerala is about two times the country average. This has created a situation where the professionals have to shift into specialisations that are different from their degree course or should move to other locations. During the 1990s, there was an explosion in the number of young, educated workers moving away from the state in search of job opportunities. Many of them travelled to other states in India and Bangalore was their favourite destination for jobs among other cities in India.
- **Dependence on Foreign remittance:** The crisis which the Gulf region faced in 2015-16, an impact of plummeting oil prices and global economic woes, had sent ripples across Kerala. Over 2.4 million Keralites are working abroad of which 85-90% work in the Gulf region, according to the Kerala Migration Study (KMS 2014). The remittances sent home by this huge workforce is estimated at ₹24,374 cr. Remittances make up over a third of the net state domestic product -20% more than the revenue income of the state government and five times the funds the Centre gives the state. Such a huge chunk of money coming from outside will have a destabilising effect in the long run.
- **The opportunity cost of Loans:** Loans come with an opportunity cost in the long run. The Government of Kerala in 2018 is financing many infrastructure developments through KIIFB. The primary purpose of KIIFB as defined by the government is; “*KIIFB*

is to finance critical and large infrastructure projects the Government intends to mobilise funds both in the medium as well as long term. Government has approved a plan to issue General Obligation Bonds against unconditional Government guarantee and Revenue Bonds with structured payment mechanism for medium-term requirement and has initiated steps to raise funds to meet long-term requirements through Alternative Investment Funds (AIF), Infrastructure Investment Trust (InVIT), Infrastructure Debt Fund (IDF) and build the institutional framework needed for this.” Such a method of funding key infrastructure projects, as well as other loans taken by the government to tackle various challenges, comes with an opportunity cost. The interest amount of previous as well as current loans are accumulating, the pressure of which will again fall on the government and subsequently on the citizens.

RECOMMENDATIONS AND CONCLUSION

The SWOT Analysis of the Kerala economy has revealed various internal and external factors which play a major role in directing the economy of Kerala. There is sufficient evidence to show that many of the past policy recommendations and projects have remained unrealised due to lack of resources and mechanisms being put in place for their prompt implementation. It is essential to make sure that recommendations made and agreed upon by the government after careful analysis are implemented in a time bound manner. The recommendations made as a part of this paper are connected to the Parallel Transversal Framework. These recommendations are made with a view to enhance the capacity, efficiency and effectiveness of the three parallel lines; while the transversal is the governance system which connects the three categories and implements the same.

First Parallel: Infrastructure building, proper and efficient transport network, advanced communication networks and facilities for the development of human capital which includes cultural, health and education facilities.

Second Parallel: The second line implies the design and implementation of the regional development strategy. It should be a comprehensive strategy taking into account, the comparative advantage, resource bottlenecks, and organisation of stakeholders along with the participation of outside experts. These strategies are to be based around three axes:

- Improvement of the competitiveness of local firms
- The attraction of inward investment

- The upgrading of human capital

Third Parallel: The final line of the design stands for improvements at the organisational and institutional level which will have the potential to enhance the productivity of government employees and the efficiency of the system as a whole.

The recommendations proposed are as follows:

- **Marketing of cities** as well as key local regions, not only for attracting tourists but also for business, technology and research through the creation of branding for cities.
- Creation of a long-term **education policy document** for the State of Kerala which should include Kerala's vision of education.
- **Quality over Quantity** in technical education: Kerala should work towards a model of education which focuses on graduate employability depending on skill requirement of the industry. Predicting future demands in terms of skill demand forecast and reshaping the education system to align with the changing world will ensure that Kerala graduates do not lag behind.
- **Democratic Independent Student Unions:** A division bench of Kerala High Court has observed that educational institutions are for imparting knowledge, not politics. Following the same lines, college unions must be stripped off parties. The students' unions are to be democratically elected but without an affiliation to any political parties. The primary aim of the union should be welfare of students and shouldn't be ideological brainwash of students.
- **Global outlook and exposure:** Global industry interactions and exchange programs at the university level must be encouraged through education schemes mainly for aided and unaided colleges by providing ample incentives for implementing the same.
- **Teaching assistant program** should be made mandatory at the Postgraduate level and optional at the undergraduate level. This will provide the students with valuable insights and firsthand experience into the teaching and research career.

- **Creation of University cities:** Based on the model and success of cities like Oxford and Cambridge, Kerala should also replicate the idea of precision planned academic cities which offers world class infrastructure and education.
- **Integration of universities with government facilities:** Agreements are to be made and signed by Universities/Colleges and public transport authorities of various cities in a bid to connect the universities with the public transport facilities. All students enrolled at the university should be given bus passes (digital cards) with which they could travel all around the city. The cost of the bus passes is to be included in the fees at a discounted rate. This will encourage the youth to use public transport and can help drastically reduce vehicular pollution.
- **Vizhinjam Mother Port:** It is certain that Vizhinjam will have the potential and capability to act as a mother port for the rest of India. It is imperative from the part of the State and Central government to enhance connectivity of Vizhinjam area with the rest of India as well as to plan an industrial base around it well before the completion of the project. The Outer Ring Road project should be expedited, and road, rail, air and cargo facilities of the city should be upgraded.
- **Marketing of Local economies-** Proper marketing of local economies such as Aranmula for Aranmula Mirrors, Kuttanad's Coir industry or Thiruvananthapuram's IT infrastructure should be marketed vigorously in order to create a brand for such economies. Creation of a brand is an essential aspect of attracting skills, resources and investments.
- **Aesthetic aspect:** Including a common Aesthetic aspect mandatorily into the requirement list of government buildings could go a long way in beautifying and increasing the aesthetic aspect of Kerala cities; especially for a city like Thiruvananthapuram as it is home to several government offices and Headquarters, major roads of the city are built around key government offices.
- **Revenue push via enforcement activities:** Traffic law enforcement and creation of organised parking space have the potential to increase revenues exponentially and to create discipline on the roads in the short term.

- **Public Transport:** Proper timekeeping, adherence to scheduling and routes catering to the needs of citizens should be prioritised. Using Kerala's competitive advantage that is, IT and technology based innovations, efficiency and capacity of public transport can be increased drastically. Introduction of digital bus cards like Oyster cards in London should be introduced in order to make sure that every person on the bus pays for their ticket. It will also help in reducing the expenses of KSRTC in the medium term and help increase its revenue in the medium to long-term.
- **Health Tourism:** Kerala is already being marketed as a popular health destination for its famous Ayurveda health packages. Major hospitals should be encouraged to join hands with the government in promoting medical tourism. An active marketing campaign to promote the state-of-the-art medical facilities available in Kerala should be pursued abroad as well as in the domestic sectors.
- **Tourism circuits:** A tourist circuit is defined as a route on which at least three major tourist destinations are located such that none of these are in the same town, village or city. At the same time, they are not separated by a long distance. Kerala has the potential to develop multiple tourism circuits, which can be combined together with tourism packages offer packages. Circuits within the same city should be provided with a Hop-in, Hop-off bus facility for tourists. This bus service will encourage tourists to use public transport more and thereby drastically decreasing their cost of transportation.
- **Number System for Buses:** The Unique Numbering System for Bus Routes (UNSBR) should be extended to all major cities of Kerala in order to facilitate easy understanding of routes for people from other states and countries. UNSBR is yet to be implemented in a fully-fledged manner.
- **Comparative advantages:** Kerala should make use of its comparative advantages and tap its potential in order to create extra revenue sources. Rainwater harvesting can be used to create communes suitable for water packaging and bottled water manufacturing industry. Such an industry in today's era will have demands from abroad, especially from the Gulf countries as well as have domestic demand, if world-class standards are maintained. Identification of such comparative advantages will help the government tap into the abundant resources of localities and that they could be used as a revenue source which is otherwise ignored.

- **Using Technology for Governance:** Kerala is one among the top IT exporters and the state government should make use of the IT companies present in the region. IT-based applications should be developed for tracking public applications, and to serve governance related requests. Harvard University, through an innovation in governance competition rightly acknowledged the use of technology in governance. Since then, the US government has used platforms such as challenge.gov to increase efficiency and to minimise cost.
- **An online platform to crowdsource ideas:** An online platform is to be developed to find and implement solutions to challenges faced by various government institutions and departments. This ensures the participation of citizens in the policy process and decreases the cost of finding solutions to the challenges faced by the government. The platform can also include ideas to be crowdsourced for key technical projects through challenges and competitions. These challenges should be marketed by the government and active participation of the civil society as well as private entities should be ensured for desirable outcomes.

Regional economy, if left to the forces of the market, the process of agglomeration and subsequent economic growth will lead to a cumulative cycle of outputs, capital and labour concentration in some regions more than others or even at the expense of others. Such observations and Keynesian embedded theories of local and regional divergence prove that differences in the growth and development of regions are “self-reinforcing rather than self-correcting”. The Government of Kerala needs to expand its revenue source through a convergence point policy. The convergence point in the case of Kerala is found to be IT and tourism sector which could act complementary to each other. Technology, Tourism and Investments should go hand in hand. Over a period of time, through tourism and high profile technology companies, Kerala will be able to raise the average income of professionals. The government must then ensure that the increased income is spent on generating demand for locally produced goods and thereby helping the local economy grow into a sustainable model.

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