A PUBLICATION OF GULATI INSTITUTE OF FINANCE AND TAXATION

KERALA ECONOMY

October - December 2023 Vol.4 No. 4

GIFT GULATI INSTITUTE OF FINANCE AND TAXATION

Kerala Economy

A Publication of Gulati Institute of Finance and Taxation

Address
Gulati Institute of Finance and Taxation,
GIFT Campus, Chavadimukku,

Printed and published by K J Joseph on behalf of Gulati Institute of Finance and Taxation, Thiruvananthapuram. Printed at Solar Offset, Manvila, Thiruvananthapuram. For private circulation. Not for sale.

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Vol.4 No.4 October - December 2023

Rebuilding a sustainable Kerala economy: Raising two issues

M A Oommen

Broadly speaking an economy is a social arrangement for meeting the material needs of its people and therefore is socially embedded. I would say, Kerala a sub-national state economy linked to the Indian economy via its federal constitutional setup found a 'local habitation and a name' from April 5, 1957, when the first Communist Party of India (CPI) rode to power via the ballot box. That event was the triumph of public reason over superstition, a saga of public action over class-caste iniquities. The state had several splendid social attainments since then which made Robin Jeffery, a co-panelist today to call it "an object of fascination of scholars and policy makers" around the world.[Jeffrey (1992)p.xi]. While Kerala continues to hold its head high it has to be eternally vigilant to keep it on an even keel. Five years ago after the devastating flood of 2018 Chief Minister Pinarayi Vijayan wanted the people to encounter it as "a challenge and an opportunity to rebuild the state to ensure better standards of living to all sections of the society". With AI ChatGPT capabilities, large language model (LLM) and the like knocking at our doors a nonagenarian like me is excited to participate on this occasion. I would like to take only two issues, which I consider basic to building *Navakeralam* and its economic foundation.

(i) Environmental Issue

Walled off by the Western Ghats and watered by the Arabian Sea, replete with 44 rivers, backwaters, rich coastal areas wetlands and forests Kerala one of the beauty spots of this planet faces an ecological crisis that demands strategic intervention to build 'a green economy' as the PDNA (Post-Disaster Needs Assessments) report suggests. That paddy

Kerala a sub-national state economy linked to the Indian economy via its federal constitutional setup found a 'local habitation and a name' from April 5, 1957, when the first Communist Party of India (CPI) rode to power via the ballot box. That event was the triumph of public reason over superstition, a saga of public action over class-caste iniquities.

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lands once a main stay of Kerala's food economy declined from 35 per cent of the total cropped area at the time of the formation of the state to below 7 per cent now is an irreparable loss for everyone who loves the state and its beauty. The rice cultivation in Kerala unlike in other parts of India is done on a watershed basis which commands the highest environmental value per hectare in the world [Costanza R etal (1957)]. Reports say that almost 97 per cent of paddy lands in Wayanad got reclaimed for non-agricultural purposes, not to speak of the damage done to Kuttanad, Kole and other wet lands. The water scarcity that Kerala faces today is largely linked to this reclamation. The Kerala Conservation of Paddy Land and Wetland Act 2008, passed much late in the day only ratifies illegal transgressions. We cannot also forget the story of the fast shrinking backwaters, the identification of the Cochin-Kalamassery industrial belt as one of the 'toxic hotspots' of the world, devastation of the state's vast coastal natural eco-system without attempting an integrated approach to its environment, and many such lapses. Ignoring this is a disaster which affects the sustainability of Kerala economy and much more the rebuilding of the Navakeralam project.

That quarrying, metal crushing and sand-mining controlled by vested interests endanger our ecosystem is a fact to be reckoned with but quietly ignored. Instructively most reports of the Legislative Environment Committees regarding the working of the quarries did not approach the problem directly. Although the 2019 report pointed out that illegal quarries were ten times more than the legal ones, more quarrying and crushing units were sanctioned, and that too notwithstanding the 2018 and 2019 floods and landslides. Even though the state itself is an environmentally fragile entity our Legislative Assembly in their wisdom unanimously rejected the Madhav Gadgil Committee Report (2013) which made very valid recommendations to rebuild the future of this land which we proudly call

The rice cultivation in Kerala unlike in other parts of India is done on a watershed basis which commands the highest environmental value per hectare in the world

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God's own country. In this context Kerala cannot forget, Gadgil's comment on the Pettimuddi landslide that killed 70 persons in the night of August 6, 2020:

"The government, it seemed, stood with the mining mafia and not with the environment or the people even after the devastating landslides at Puthimala, Kavalappara and Pettimudy"[The Hindu, Trivandrum edition, August 12, 2020].

Indeed this government responded to the flood disasters remarkably well and even mobilised $370 million from the World Bank which brought on board three other partners and prepared "the course for centering resilience-related policies and institutional reforms in key cross-cutting areas and sectors of the economy to enhance resilience to enable holistic river basin management, sustainable sand climate-resilient agriculture, risk-informed land-use planning and multi-year capital planning, disaster management plans at all levels" [GoK(2022):p.6]. But why then until August 31, 2022, Kerala has requested funds for only US$ 23.20 or just 6.2 per cent and utilised only around 3 per cent of the total promised fund? This is a baffling question when we think of Kerala's future.

(ii) Fiscal Sustainability Issues

How and why Kerala which has been admirably implementing the directive principles of state policy in education, health, social security and so on, besides implementing Articles 243G, 243W and 243ZD creditably is projected as fiscally unsustainable needs scrutiny. A study on human development index spanning a period of 28 years from 1991 finds Kerala invariably on top of the major Indian states. This study also shows a reduction in interstate disparities (5 year convergence) of HDI with the rate of convergence decelerating after 2004-05 with the implementation of FRBM Act by the states [Oommen and Chakravartti (2023)]. However Kerala looks like a sinner on the cross as exemplified in the Chart 4 of RBI (2022:p.119) which shows the state-wise five year average of revenue expenditure (2017-18 - 2021-22) as percentage of total expenditure. Although Kerala finance managers are not saints in keeping prudential norms I would hypothesis that the revenue classification and the FRBM Act may have to accept a big share of the blame, for everything is hooked around the debt-deficit ratio targets as the measuring rod of fiscal success.

To be sure, it is the Finance Minister who has to face the quotidian reality of fiscal crisis. In an earlier regime a Chief Minister was reportedly denied the Air ticket to Delhi for want of money. Today we have no such catastrophe. But if this contrast is by postponing pending payments (in the cash based accounting system of today it is difficult to get a full picture and for best results, there is no alternative to accrual-

The unfolding fiscal situation has to be taken seriously. Although Kerala can satisfy the Domar conditions because of low real interest rates, several other norms like annual debt rate increase outdistancing economic growth rate for several years continuously and so on, leave many things to be desired.

based accounting system) we are only postponing an impending economic crisis. Evidence shows that vital payments to mid-day meal scheme, supply co., contractors, hospital consumables etc., are held up via treasury control. It is not a liquidity crisis, but a revenue crunch to meet expenditure which is a serious issue. Kerala economy is indeed robust and kicking as the concept note underscores. It appears Kerala state is like a beggar sitting on a bench of gold. If so where should one seek the way out? For this, one should figure out the magnitude, however rough it could be.

Staying within the debt-deficit ratio framework a study by two scholars of GIFT, arrive at a sustainable threshold level debt-GSDP ratio of 27.8 per cent (one can have different levels depending on the assumptions)[Renjith and Joseph (2023)]. If one accepts this as a benchmark the state is in the financial doldrums. For one thing, the FRBM limit is 29.67 per cent (including off-budget borrowings). Or look at the CAG's overall debt -GSDP ratio of 42.8 per cent for the year ending 31st March 2021 [see GoK (2022), p.70]. To draw attention to the magnitude, assuming that the threshold figure has some relevance and using the Budget-in-Brief numbers for 2023-24, the debt-GSDP ratio works out to 36 per cent gives a margin of about 8 per cent which in figures is Rs.90675 crore. Although I do not want to hold any brief for the government, it is incorrect to ignore the historically accumulated burden of the social sector expenditure on the state that needs to be maintained, leave alone improved. The unfolding fiscal situation has to be taken seriously. Although Kerala can satisfy the Domar conditions because of low real interest rates, several other norms like annual debt rate increase outdistancing economic growth rate for several years continuously and so on, leave many things to be desired. But the crucial test of sustainability is the capability to increasingly plough back the growing GSDP into capital outlay. Table 1 showing the capital outlay/GSDP ratio for 11 years does not tell a consistent or sanguine story. Till 2016-17, there was steady improvement. The situation reversed from 2020-21 (Table - 1).

The interest payments and revenue receipts ratio given in table 2 and the graphical account given in Figure 1 show that there was consistency up to 2017and worsened since then with pick up in 2019-20 and 2020-21 (Table - 2), (Figure -1).

The Masala Bond bearing 9.723 per cent interest (due from 2018-19), taking loans from the auction window of Reserve Bank of India with interest above 8 per cent and so on might have also altered the situation.

Table 1: Share of kerala's capital outlay to GSDP (2012-13 to 2022-23)

Year	Capital Outlay (In Crore)	GSDP (In Crore)	Capital Outlay/ GSDP
2012-13	3465.66	379417	0.91%
2013-14	3497.62	462916	0.76%
2014-15	3880.54	526002	0.74%
2015-16	6518.48	557947	1.17%
2016-17	8945.65	616357	1.45%
2017-18	8748.87	701577.4	1.25%
2018-19	7430.54	790302.3	0.94%
2019-20	8454.8	824374.2	1.03%
2020-21	11935.76	771008.7	1.55%
2021-22	13207.68	906920.9	1.46%
2022-23 (Revised Estimate)	14079.47	1017873	1.38%

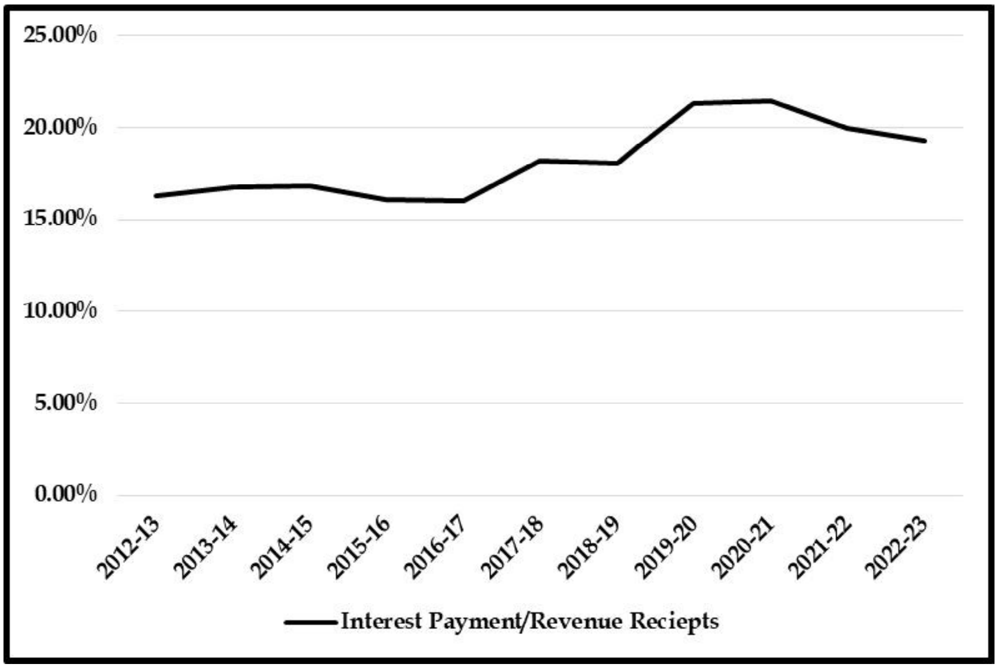
Source: Budget in Brief, Govt of Kerala, Various Years

Table 2: Interest payments and revenue receipts ratio ((2012-13 to 2022-23))

Year	Interest Payment	Revenue Receipts	Interest Payment/ Revenue Receipts
2012-13	7204.81	44137.3	16.32%
2013-14	8265.38	49176.9	16.81%
2014-15	9769.59	57950.5	16.86%
2015-16	11110.6	69032.7	16.09%
2016-17	12116.5	75611.7	16.02%
2017-18	15119.9	83020.1	18.21%
2018-19	16747.9	92854.5	18.04%
2019-20	19214.7	90224.7	21.30%
2020-21	20975.4	97616.8	21.49%
2021-22	23302.8	116640	19.98%
2022-23 (Revised Estimate)	24960.4	129268	19.31%

Source: Budget in Brief, Govt of Kerala, Various Years

Figure 1: Interest payments and revenue receipts ratio ((2012-13 to 2022-23))



Source: As above

To be forewarned is to be forearmed. It is important to launch short-term, medium term and long-term correctives. This involves fiscal, economic and political strategies. I take up only a few medium-term economic measures which have to be simultaneously taken up to obtain sustainable results.

One the State needs a compensative vision, Kerala economy is a service-led growth episode, which may be called 'precocious servicification' to borrow a phrase from Lamba and Subramanian (2020). Admittedly Kerala's growth is not manufacturing-induced as is the usual growth pattern in other countries. This highly consumerist-state economy has a huge trade deficit, with other states buying

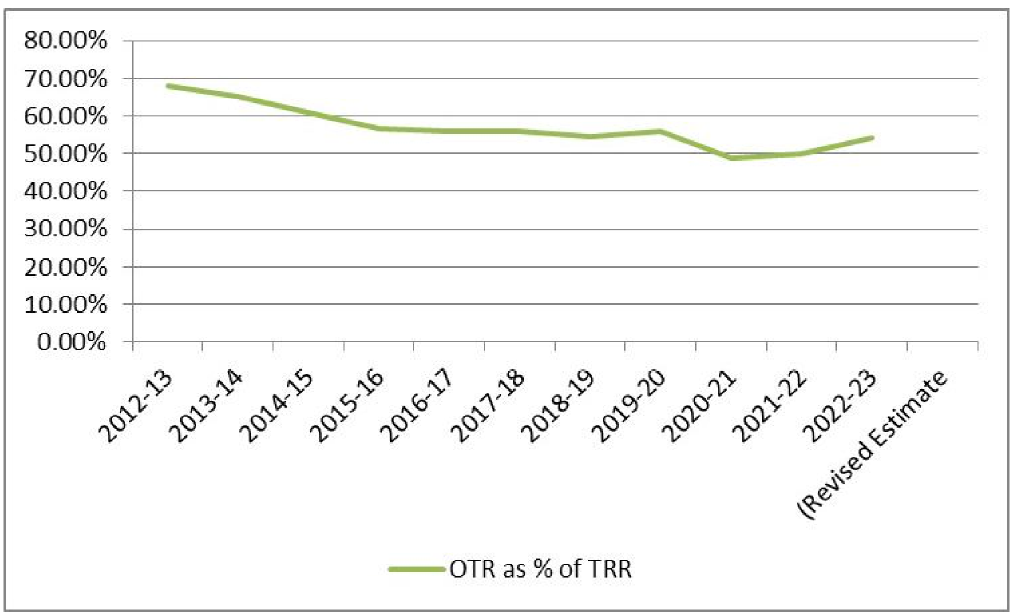
Why a high consumeristic economy failed to stimulate production in the state is a bigger issue to be investigated. For example the state has failed to capitalise on the tremendous demand from the schools, colleges, and hospitals of the state. Even writing pencils and pen are not made in Kerala, not to speak of hospital equipments.

Table 3: Own tax revenue (OTR) as percentage of total revenue receipts (TTR) (2012-13 - 2022-23)

Year	Own Tax Revenue	Total Revenue Receipts	OTR/TRR
2012-13	30076.6	44137.3	68.10%
2013-14	31995	49176.9	65.10%
2014-15	35232.5	57950.5	60.80%
2015-16	38995.2	69032.7	56.50%
2016-17	42176.4	75611.7	55.80%
2017-18	46459.6	83020.1	56.00%
2018-19	50644.1	92854.5	54.50%
2019-20	50323.1	90224.7	55.80%
2020-21	47660.8	97616.8	48.80%
2021-22	58340.5	116640	50.00%
2022-23 (Revised Estimate)	70188.5	129268	54.30%

Source: Budget in Brief, Govt. of Kerala, Various Years

Figure 2: Own tax revenue (OTR) as percentage of total revenue receipts (TRR)



Source: As above

Kerala has 163 public sector enterprises, the largest compared to other states with a total investment of Rs.62262 crore or 6.7 per cent of the GSDP in 2021-22. If we take the net worth loss of KSEB and KSRTC alone, it is a huge sum of Rs.30503.57 crore

more than it exports which in 2019-20 was to the tune of one trillion rupees as Sushil Khanna has well documented [Khanna (2020)]. Barring large exports from the public sector unit like the Cochin refinery and traditional cash crops and marine products Kerala does not have a strong export market. Why a high consumeristic economy failed to stimulate production in the state is a bigger issue to be investigated. For example the state has failed to capitalise on the tremendous demand from the schools, colleges, and hospitals of the state. Even writing pencils and pen are not made in Kerala, not to speak of hospital equipments. Can the digital economy which is well-rooted take us into sustained take-off? Admittedly it was not the lack of money that was the bottleneck. Then what is a larger question to be addressed. As Gulf-money flow tapers, the large exodus of youth continues with permanent exit options and the demographic transition slipping into a geriatric home wanting more care industries it is high time we seriously sit back and think about our future.

Two, Kerala has 163 public sector enterprises, the largest compared to other states with a total investment of Rs.62262 crore or 6.7 per cent of the GSDP in 2021-22. Although the average investment per employee increased from Rs.41.13 lakh in 2020-21 to Rs.48.87 lakh in 2021-22, the average profitability per employee registered a loss of Rs.1.35 lakh. All units both profitmaking as well as loss making are entitled to bonuses. The negative net worth loss also is staggering. If we take the net worth loss of KSEB and KSRTC alone, it is a huge sum of Rs.30503.57 crore[1]. No Finance Minister can swim crises with weighty stones around his/her neck. Some rationalisation is inevitable before it is too late.

Three, while most countries and now India follow the pay-as-you-go pension system Kerala has to make strong decisions on this issue. In the current budget pension accounts for 21 per cent of total revenue and 32 per cent of own tax revenue, (highest among the non-special category states). There is a valid case for rectification because own tax revenue even a little over a decade before in 2012-13 was as high as 68. 1 per cent and it steadily declined and reached 48.8 per cent in 2020-21 and only marginally picked up. (see Table 3and fig.2). Fiscal space for development expenditure is getting

It is difficult to finance unfunded liabilities unless you have an Aladdin's wonder lamp

Building a sustainable Kerala economy with a comprehensive vision is a multi-faceted challenging project. can Kerala make a resolve to eradicate corruption and walk the talk letting words flow from the depth of truth

severely constrained as own tax revenue support weakened. Paying pension to a person of two years of service till eternity,(provided to the staff of Ministers) however meritorious his/her service be, is a totally unjustifiable case of unfunded liabilities. Expansion of unfunded liabilities such as the compulsion to pay the repayment obligations of loans taken by public sector undertaking cannot continue for long. It is difficult to finance unfunded liabilities unless you have an Aladdin's wonder lamp (Table - 3), (Figur - 2).

Four, the cooperative sector has been for long a great support to the Kerala economy. The primary credit corporative societies with less than 2 per cent of the total number in India accounted for nearly 70 per cent of India's deposits. This is proof of the dynamism of the sector. That the Kerala government created the primary cooperatives consortium for security pensions and borrowed funds from it is because it was a viable source[2]. Today several cooperative banks could not repay their depositors and there is a loss of public trust. Redeeming this trust is crucial to the stability of the Kerala economy because the cooperative sector once served the poor of the state in their need.

Although this is not the occasion to consider the larger issue of union-state relations, reconsidering the FRBM regime is pertinent. The relevance of the debt-deficit ratios need be theoretically rationalised and be managed by a federal agency with adequate representation from the states. Further, the context of division of powers made under Article 246 and the Seventh Schedule has radically changed. The shift to a market-mediated paradigm of governance, the ascendancy of state level political parties, technological advancement, changes in demographic structure, centre legislating on subjects in the state and concurrent list and imposing burden on the states and so on demand a revisit of the seventh schedule. The addition of eleventh and twelfth schedules which list the functional responsibilities of panchayats and municipalities which was simply lifting items from state and concurrent lists have added tremendous confusion in assigning functions to the three tiers of panchayats and the nagar panchayats, municipalities and corporations. It is high time the Indian federation asks the question denovo who should do what on the basis of the subsidiarity principle viz., what can be done best at a particular level should be done at that level and not at a higher level. The Constituent Assembly failed to raise the question by borrowing heavily from the Government of India Act, 1935.

To conclude, several other issues stare us in the face. Building a sustainable Kerala economy with a comprehensive vision is a multi-faceted challenging project. At this momentous occasion of 'Keraleeyam', Can Kerala make a resolve to eradicate corruption and walk the talk letting words flow from the depth of truth and promote viable investments for the youth and future generations. Indeed, we have also to restore Kerala's beauty and make it as poet Keats said 'a joy forever'.

[An expanded version of the talk delivered at the Kerala Economy seminar of Keralyeeam, on November 3, 2023 at the Sankara Narayanan Thambi Hall, Kerala Legislative Assembly]

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End Note

1 For more details it will be useful to read Oommen (2023) 'Are Kerala PSEs a boon or bane?', The Hindu, February 06, 2023.

2 Two other sources of borrowing are the public sector undertakings viz., Kerala state Beverages corporation Ltd., and Kerala State Financial Enterprises which made profits.

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Kerala Economy
Vol.4 No.4 October - December 2023

GULATI INSTITUTE OF FINANCE AND TAXATION

Composition of non-tax revenue in Kerala- Identifying potential sources of resource mobilization

Beena P L and Ritika Jain

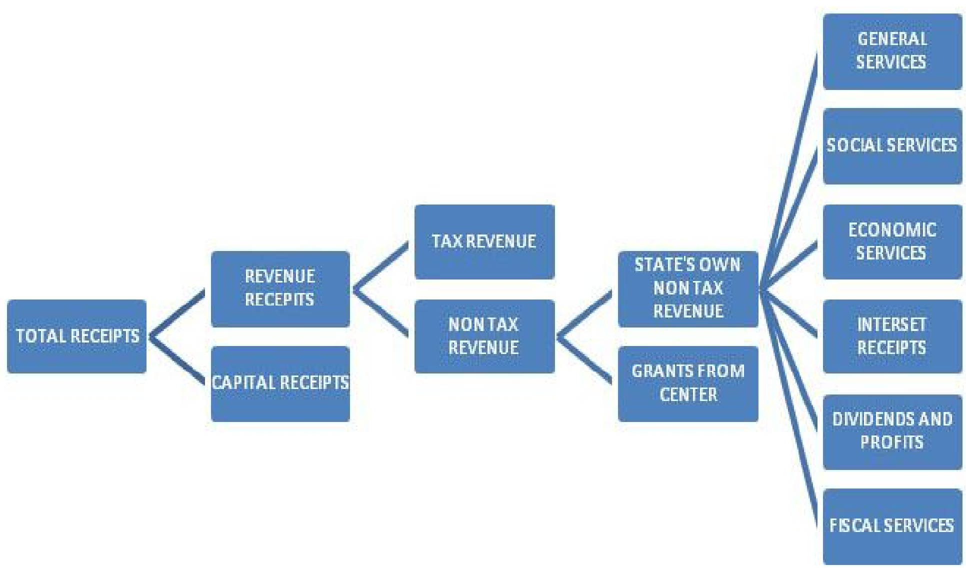
Introduction

The fiscal structure of an economy is mainly based on the revenue it collects and the expenditure incurred to it. Since the state is a benevolent provider to the citizens, reducing public expenditure to reduce the fiscal deficit will not be the right solution. So instead of reducing the public expenditure the focus should be in hiking the amount of revenue receipts. Revenue receipts have mainly come from two sources: tax revenue and nontax revenue. About 39 percent of revenues in 166 countries - including those which were not resource-rich - were from non-tax revenue sources (World Development Indicators, World Bank 2003). There are some countries within Asia where non-tax revenue constitutes major share to the total revenue of the government in Asia. Singapore is one such country in Asia (Chia1998). However, there is not much revenue generation in India arising out of non-tax sources. Kerala do not have significant revenue raised out of non-tax revenue sources through user charges and fees although the government spent a large chunk of financial resources in order to provide social and community services. In absolute terms, the total revenue receipts of Kerala for 2018-19 are estimated to be Rs 1, 02,801 crore, an increase of 16.5 per cent over the revised estimates of 2017-18. Of this, Rs 72,860 crore (71 per cent of the revenue receipts) is expected to be raised by the state through its own resources and Rs 29,942 crore (29 per cent of the revenue receipts) will be devolved by the centre in the form of grants and the state's share in taxes. Given this context, an attempt has been made in this study to analyse the potential sources of non tax revenue. The paper is dived in to four sections. The first section deals with the concepts, definition and analytical framework by reviewing the existing studies related to the empirical and theoretical literature. The second section looks in to the structure and pattern of non-tax revenue in Kerala for the last four decades. A detailed analysis on the composition of major component of non-tax revenue has been carried out in the third section. The fourth section sums up the major findings and highlights the possible policy options for raising financial resources through non-tax revenue.

Section 1: Concepts, definitions and analytical framework

Government can earn its revenue from taxes, user charges and through borrowings (Musgrave and Musgrave 1984). Out of this, the second category - user charges - constitutes non-tax revenue. Unlike borrowings, user charges do not result in a monetary liability on the part of the government to the payee. And unlike taxes, non-tax revenues are not compulsory. They are raised out of voluntary transactions while taxes are compulsory unrequited payments, in cash or kind, made by institutional units - individuals or other institutions - to government units (System of National Accounts 1993). According to this argument, non-tax revenues can be considered as payments that are made to the government, which are *compulsory and requited or voluntary* - whether requited or not. It is argued that the importance of raising non-tax revenue should be viewed in the context of globalization too. Globalization and economic integration can erode a country's ability to raise tax revenues, revenue from non-tax sources gains importance (Tanzi 2000). In addition to this, the deficits financing of the states necessitates the collection of revenues from both the sources of tax as well as non-tax (Dalton, Hugh, 1949). While setting up targets to raise the non-tax revenue, the feasibility of raising those revenue sources is also significant because un-realistic setting up of objectives may negatively affect the targets. Therefore one has to keep

Chart 1: Structure of total receipts



in mind the objectives of equity, efficiency and its impact on the economic growth of the economy (Purohit and Purohit, 2010). Welfare state program needs to mobilize resources in order to meet the objectives such as right to food, employment, access to health, education and old age pension (Chart - 1).

Section 1.1: States' own non-tax revenue

Das Gupta (2008) defines non-tax revenues as all receipts other than taxes. Rao (1981) considers States' Own Non-Tax Revenue (SONTR) as one category of revenue which includes administrative receipts, profits of departmentally run commercial undertakings, interest and dividend receipts and royalties from mines and mineral concession fees. The penalties and fines with non-compliance of the law comes under the compulsory and requited payments while donations, gifts and contributions voluntarily made to the government by the citizens come under voluntary and unrequited payments. Das Gupta (2008) defines that Non-Tax revenues come from three main sources (a)Revenue from the assets owned and managed by the government (b)The revenue generated by the government from the sales of goods and services produced and managed by the government itself and (c)Revenue from the sales of licenses and permits to the limited activities. Gupta further argues that the government should further look in to all the possibilities to expand its Non-Tax revenue base from all the areas under each category explained above. Based on the above definitions, non-tax revenue can be of three types: a) Compulsory and requited payments; b) Voluntary and unrequited payments; c) Voluntary and requited payments.

(a) Compulsory and requited payments: These include penalties and fines demanded for non-compliance with the law (other than penalties on non-compliance of taxes). This contributes to a downward bias in the scope of non-tax revenue in government statistics.

(b) Voluntary and unrequited payments: These include donations, gifts and voluntary contributions made to the government and unclaimed funds or excess payments for services. Such contributions are encouraged by making some of them tax deductible like contributions made to Prime Minister's Relief Fund.

(c) Voluntary and requited payments: Voluntary and requited payments form the major source of non-tax revenue in states. These involve three types of revenues i) Revenue from assets; ii) Revenue from the sale of goods and services; iii) Revenue from the sale of licenses and permits for regulated activities.

(i) Revenue from assets:

This includes three categories of assets- such as Common Property resources; Exhaustible/Renewable resources to which private property rights are not assigned; Assets created from government investments or which have earlier been nationalized. Revenue earned from common property resources includes the returns earned from those assets that are possessed by government, i.e. forests, flora, fauna, marine and riparian habitats etc.

The revenue can be earned in the form of entry fees, pollution permits, royalty from the right to trade or reap naturally occurring produce etc. One example is the royalty received from mineral exploitation. This forms the major source of non-tax revenue worldwide and in many Indian states. This is considered to be the fifth largest source of revenue out of both tax and non-tax sources in the country. Assets created from government investments mainly provide the government with dividends and interest receipts, which form a part of the total non-tax revenue in states, e.g. equity investments in private concerns or public private partnerships, loans provided by the government, capital of public sector enterprises etc.

(ii) Revenue from the sale of goods

Revenue from the sale of goods mainly includes user charges- Tolls for road usage, direct sale of forest produce like honey, medicinal plants etc.

(iii) Revenue from licenses for regulated activity

It includes the revenue obtained by providing business and shop licenses, construction and land use permits, examination and inspection fees etc. However, much of the registration fees, stamp duties etc. go under tax revenue. Indian states are still not efficient in acquiring revenue from non-tax sources. Singapore is one country where non-tax revenue forms a major source of government revenue, obtained from the sale of vehicle purchase permits (Chia 1998).

Non-tax revenue constitutes a major portion to the total revenue sources of the country. The division of the Non-Tax revenue can be brought under two headings States' Own Non-Tax Revenue (SONTR) and Grants from centre (Das-Gupta, 2008). The state can raise its Non-tax revenue in variety of ways and mainly from six sources such as 1. General Services; 2. Social Services; 3. Economic Services; 4. Fiscal Services; 5. Interest Receipts; 6. Dividends and Profits. The first three categories of Non-Tax revenue sources such as General Services, Social Services, Economic Services is called Administrative receipts of the SONTR and it constitutes the major portion of SONTR. Though the Administrative receipts contributes a major share to SONTR, the state authorities can also collect non-tax revenue apart from administrative receipts from sources such as revenue from Interest Receipts and Dividend and Profits. The revenue from these two sources is also significant and should augment the efficacy of that effort too. The share of SONTR to the total Non-Tax Revenue is an indicator of the efficiency of the government in raising its own Non-Tax revenue.

States' Own Non-tax revenue is realized out of the resources solely owned by the state. A larger SONTR indicates more efficiency on the part of the government to raise revenue from non-tax sources. The first three components of Non-tax revenue which is called Administrative receipts would form two-thirds to three-fourth of SONTR in many states. Interest receipts include interest on loans that are given to various investments like loans on housing schemes, agricultural loans, loans to government companies, treasury bills etc. Revenue from dividends and profits arise from the government's investment in the shares of co-operative societies, public undertakings and others. The contribution from fiscal services is insignificant in most states.

Section 1.2: Economic principles behind non-tax revenue

It is important to discuss the economic principles behind Non-Tax revenue. When the people violates the rules and regulations set by the authorities for the general well -being ,the government impose fines and penalties for their breaking of the laws., increase the non-tax revenue from fines and penalties includes social negative externality which appreciates the concept of Pigouvian taxes. In the collection of fines and penalties, the idea of Marginal deterrence is important because the fines and penalties should be based on the severity of the crimes committed by the general public. (George and Krishnakumar, 2012). According to Oliver Oldman (1965), penalties should increase under the following situations a) With the expected loss in revenue due to breaking of the law; b) With the cost involved and difficulty in detecting the offence; c) Depending on the effect of the offence on other tax payers, d) The offender's state of mind (a higher penalty, if deliberate), e) When the offence is repeated. There are no special economic principles to assess the collection of Non-tax revenue from Gifts and Donations. In most of the cases the share of this revenue to the total Non-Tax revenue is very minimal.

Non-tax revenues are defined as payments made to the government for which there is *a quid pro quo.* This is in contrast to the definition of taxes as a compulsory payment for which there is no *quid pro quo* between the government and the public authority. Prices charged by government for particular services and commodities provided by it, forms a major source of income for the government. These prices are of voluntary nature paid by individuals entering into an explicit or implicit contract with the government for the use of these services. Taxes, on the other hand, are of compulsory nature (Dalton 1949).

Voluntary requited non-tax revenue is earned out of user charges and fees for the goods and services which the government provides. Often, the goods would be public goods and pure merit goods over which government has a monopoly. The design for such charges is similar to public sector pricing theory. For increasing cost industries like public utilities marginal cost pricing can be adopted in provision of a single product and Ramsey- Boiteux pricing is the case when prices are set in such a way that the percentage mark-ups over marginal cost is proportional to the inverse price elasticity's of demand for the goods, thus minimizing the dead weight losses. However, the rationale for full cost recovery from non-tax revenue is strongest for pure private goods with market failure other than externalities. Greater reliance on user charges is found optimal for congestible public goods and those with negative external effects. However, theoretical foundations have little impact on the charging practices in developing countries. There is sharp contrast between economic theory of pricing and its practical application. Having given the concepts and definitions on the various components of Non-tax revenue sources, the following section devoted to analyse the structure and growth pattern of Non-tax revenue in Kerala during the last four decades.

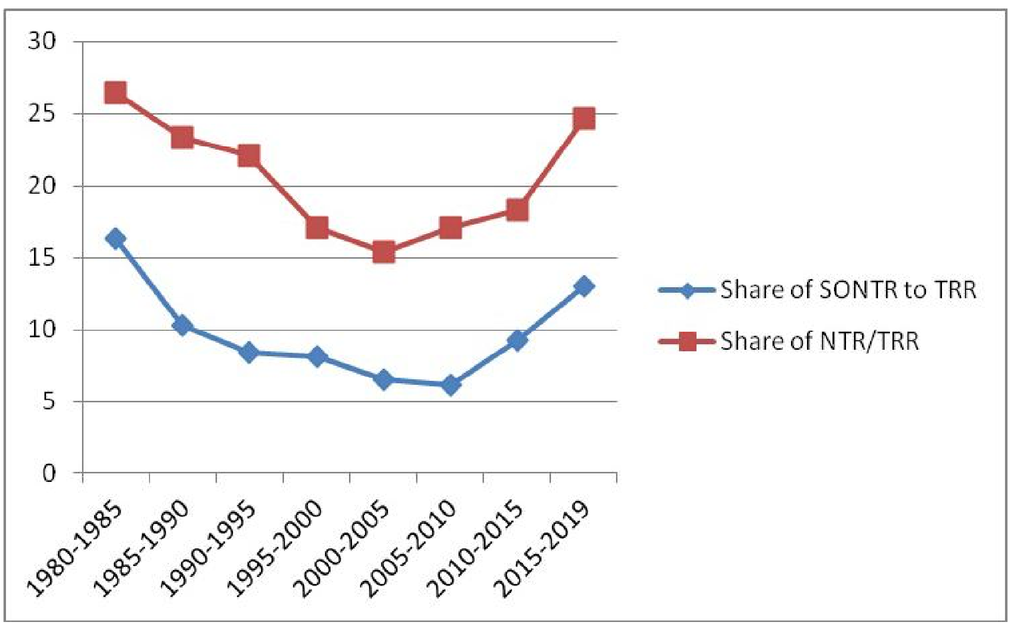
Section II: Structure and growth pattern of non-tax revenue in kerala

This section tries to analyse the structure and pattern of total revenue especially Non-tax revenue in Kerala for the last four decades. Non-tax revenues are considered to be byproducts of government activity. Kerala has estimated to generate Rs 14,271 crore through non-tax sources in 2018-19. The estimated increase of 21.7 per cent in non-tax revenue will be driven by receipts from state lotteries. In 2018-19, state lotteries have been budgeted to contribute Rs 11,110 crore.

According to the Budget Estimate of 2017-18, Non-tax revenue accounts for 12.86 per cent of the revenue receipts of Kerala state (Appendix 1). This share was relatively high during 1980-81which has declined to the level of 6.8 per cent during 2010-11 which is much lower than all India level (9.32%) and the world level (See Figure 1).

However a revival is visible since then and this could be due to the collection under lotteries (gross) which grew at CAGR of 31 percent during 2010-11 to 2018-19 as compared to 16 percent for the period

Figure 1: Average share of non-tax revenue to total revenue receipts in kerala

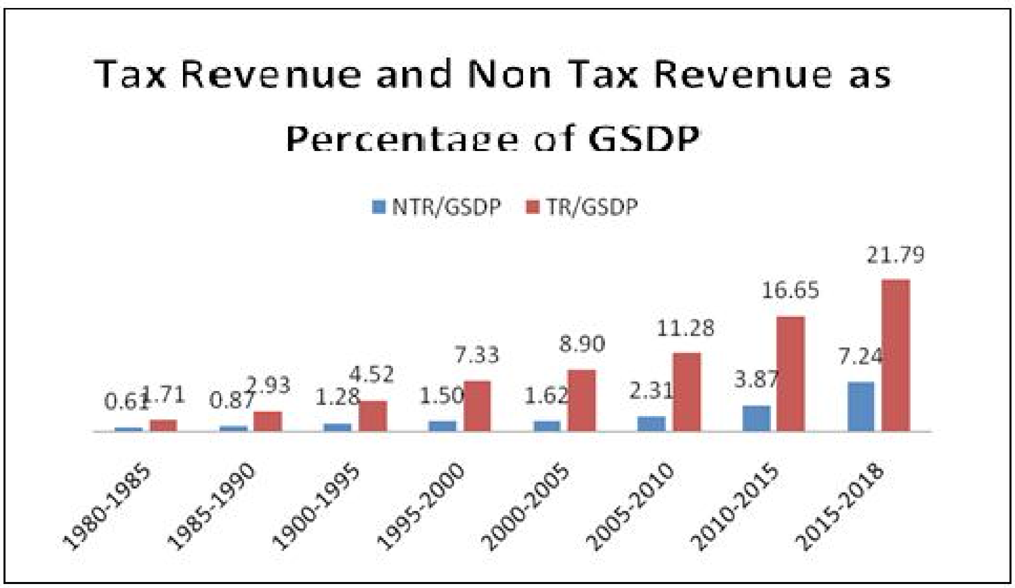


State's own tax revenue, Kerala has been ahead of all States except Tamil Nadu and Haryana as Kerala receives less grant from the centre.

2005-06 to 2010-11. Instead of gross receipts, if net receipts from lotteries are considered, the CAGR of non-tax revenue falls to 19 percent for the period 2011-12 to 2016-17 as against 14 percent for the period 2005-06 to 2010-11 (KPERC, Fourth Committee, 2017) (Figure -2).

From 1980 to 2018, the share of Tax revenue and NTR has been increasing (Figure 2) though the rate of tax revenue grew much faster as compared to non-tax revenue. As on 2011, the average non- tax collection of the states amounted to 1.23 per cent of GSDP while the same for Kerala was only 0.77 per cent, thus the position of Kerala has been the lowest except West Bengal. The per capita collection of non-tax revenue of Kerala has been only Rs. 829 against Rs. 879, being the average of all States. (Expenditure Committee Report, Second report, 2011). However, in State's own tax revenue, Kerala has been ahead of all States except Tamil Nadu and Haryana as Kerala receives less grant from the centre.

Figure 2: Pattern of composition of revenue in terms of GSDP



The tremendous improvement in the Non Tax Revenue is mainly due to the hike in the State Own Non Tax Revenue (SONTR).

The tremendous improvement in the Non Tax Revenue is mainly due to the hike in the State Own Non Tax Revenue (SONTR). In 1980-81 the share of SONTR was higher than Centre Grants. It is because State was able to acquire more revenue from its own resources than depending on the Centre grants. After 1985 the grants from centre has a significant contribution to the GSDP of the state of Kerala. From 1980-81 to 2010-11 the centre share is higher than the state's Own Non Tax Revenue in GSDP. This was partly due to an increase in the share of tax devolution and also due to the revenue deficit grants received by Kerala during the award period of Fourth State Finance Commission. (4th KPERC, 2017). A reverse trend is observed during 2011-12 to 2017-18 as it reveals that the share of SONTR is higher than the grants received from the centre (Figure 3).

Section III: Sectoral composition of state owned non tax revenue

From the following chart, it is clear that economic services contributed to around half of SONTR in early 1980s. Over time this has declined, except for an increase in

Figure 3: Trends in the composition of non-tax revenue in terms of GSDP

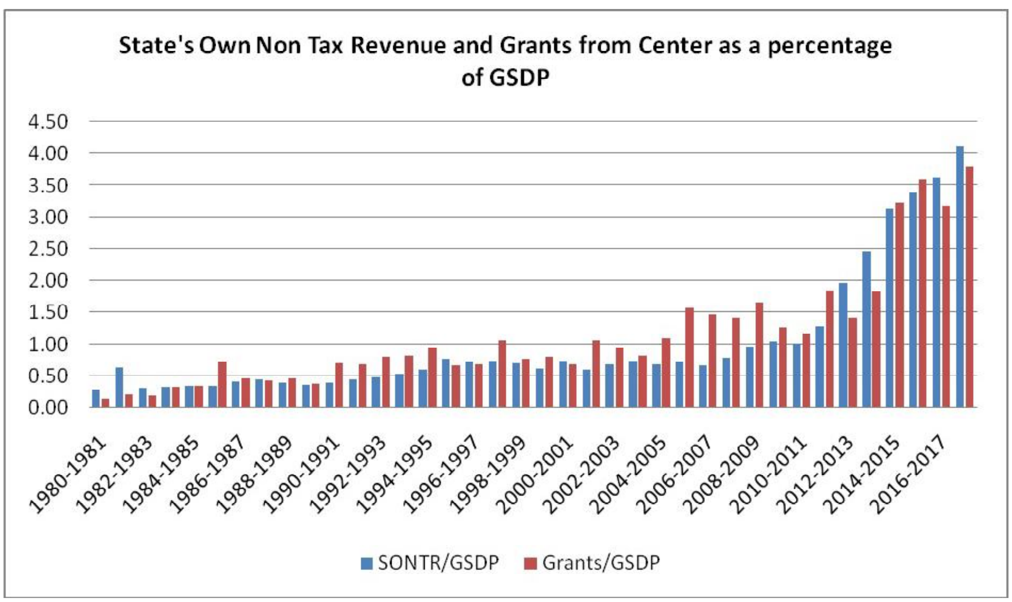
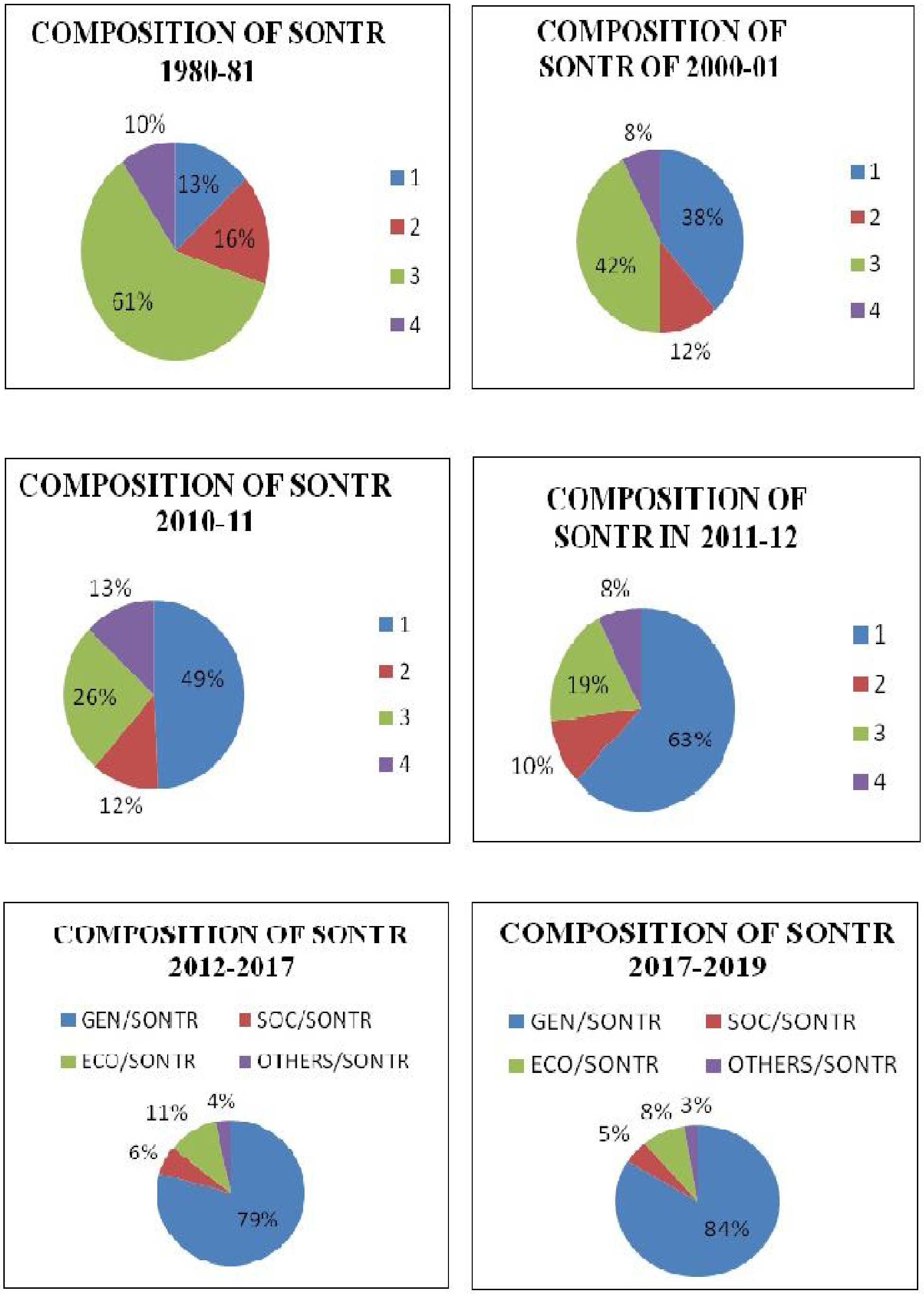


Figure 4: Composition of SONTR in Kerala over the years

(1-General services, 2- social services, 3- economic services, 4-others)



There has been a shift in composition pattern of non tax revenue from economic services in the eighties towards general services since 2010 as the dominant contributor.

early 1990s, to an all-time low of around 9% in 2017-19 (See Appendix 2). On the other hand, the share of general services in SONTR increased in exactly the opposite manner. The share of social services also declined and this share has historically remained low during 2017 to 2019. Further, Figure 4 suggests that there has been a shift in composition pattern of non tax revenue from economic services in the eighties towards general services since 2010 as the dominant contributor (Figure 4).

An important aspect of the various components of non tax revenue is the expenditure to revenue ratio. Further it is observed that, in the recent years, expenditure under Economic and general services are roughly 9 and 3 times the revenue collected respectively. This problem exacerbates for the social service category where the expenditure incurred is fifty times the revenue collected (Appendix 3)[1] .

Kerala has the highest number of state level public sector enterprises in India (GIFT, 2014). Despite this, the contribution of these enterprises in the form of profits and dividends is negligible (IIM-K, 2016). The share has slightly risen from 4.8% in the seventies to a little over 5% in 2018 (as a share of the total non-tax revenue). According to Sebastian (2019), the increase is mainly attributable to the very high dividends paid by the Kerala State Beverages Corporation (KSBC). While a lot of money in the form of subsidies and loans is pumped into the other state level public sector enterprises in Kerala. This is a superfluous spending especially when contrasted against the amount of money being pumped into these enterprises as loans and subsidies by the government. An effective tool in improving the profitability of these enterprises lies in planning a long term revival plan which requires critically analyzing the technological capabilities and production efficiency. This requires focus shifting from a mere rise in profits to transforming their production modes by making use of latest technologies,

An effective tool in improving the profitability of these public sector enterprises lies in planning a long term revival plan which requires critically analyzing the technological capabilities and production efficiency. This requires focus shifting from a mere rise in profits to transforming their production modes by making use of latest technologies, deepening linkages with the economy by utilizing Kerala's available resources sustainably.

deepening linkages with the economy by utilizing Kerala's available resources sustainably. According to the Kerala Economic Review Report, 2018, there has been a modest improvement in the performance of these enterprises. Specifically, the number and amount of profits by profit making enterprises have risen while that of the loss-making enterprises has declined thus narrowing the burden gap. Some of the policy recommendations are as follows:

1. Public private partnership (PPP): PPPs are effective tools available with the government for facilitating private sector to ease the budgetary pressures and ensure effective provisioning of public services. One of the widely application of PPP models in India has been in the infrastructure sector. In Kerala, between December 2005 and August, 2019, there have been approximately 10 PPP projects, including those under construction. Almost all these projects are in the road and airport sub-sectors. Cochin International Airport may be described as one of the pioneering and innovative examples of a PPP that became operational in 1999. When the government expressed its inability in funding an airport for Cochin, private residents, non- resident Indians, general public, government of Kerala and the airport service providers pooled in the funding through public deposits and later through equity participation. Currently, the government of Kerala has a little over one-third of the shares and the rest are widely distributed. Performance of Cochin International Airport has been remarkable with modestly high profits and dividends. It has been consistently paying dividends to its investors since 2003 and has recorded phenomenal growth in the civil aviation industry. As Varkkey and Raghuram (2002) put it, *"…The process of project and financial structuring, project management including land acquisition and resource mobilization, dealing with regulatory bodies and managing early operations in the context of CIAL offers a rich learning experience for governance in developing successful infrastructure projects."*

This experience suggests that a gradual movement towards PPP based models may be a viable approach to tackle the existing financial crunch in most public sector enterprises. However, a model of PPP requires careful scrutiny by explicitly considering the critical factors of success such as - type of PPPs (Build-own-transfer, Build-own-operate and its effectiveness according to the sector, age of the project, type of end users and so on), transparent and effective contractual agreements, suitable sectors where it can be used, timely and regular review.

2. Improving corporate governance in PSE: Corporate governance is one of the most effective tools to ensure transparent governance in enterprises that have a dispersed ownership. In the case of public sector undertakings, the gap between ownership and control widens since the residents elect the government which assigns/ appoints heads to manage these enterprises. Thus, the principle- agent problem requires careful addressable scrutiny. In 2009, the Department of Public

Enterprises under the Ministry of Heavy Industries and Public Enterprises had put down a mandatory requirement for Central PSEs to submit a corporate governance report at the end of the financial year. The guidelines covered areas of composition of board of Directors, composition and function of Board Committees (Audit Committee, Remuneration Committee, details on subsidiary companies, disclosures). Further, it was mandatory for all CPSEs to submit their self-evaluation reports to the various ministries who would further compile the information and submit it to DPE. Although, it started with only 60% of the enterprises submitting their self-evaluation reports in 2010, there has been a modest rise in the recent few years. To ensure accountability and transparency in the monitoring of these enterprises, the government should also think of including a corporate governance disclosure report with the annual report that is published by these enterprises. Having an effective corporate governance mechanism also ensures re-organization of management, board of directors and proper auditing by the stipulated committee.

3. Memorandum of understanding (MoU): The MoU is a well-negotiated document between the government and the managers of the public sector enterprise specifying the responsibilities, objectives and obligations of the two parties. MoU system was introduced for CPSEs in the late eighties and now spans across eighty percent of these enterprises. It is aimed at providing greater autonomy to these enterprises, reducing political interference and providing the CPSEs to be at a level-playing field with their private counterparts. While there have been several modifications to the policy, since the first guidelines suggested by Sengupta Committee, the idea of MoU system is also to link the level of financial support from the government in the next year to the MoU score of the previous year. A similar approach may be used by the government of Kerala where introducing MoUs at the SLPE level may restrict political interference, reduce inefficiencies and also make the enterprises financially accountable. The wide coverage of financial and non-financial parameters, will also equip the government to gauge performance of these enterprises in a nuanced manner.

4. Listing on stock market: Listing on stock market requires disinvesting the existing enterprises by miniscule amounts such that the control very well lies in the hands of the government. Stock market acts as a regulatory mechanism which ensures that the PSEs also have to comply with all the guidelines of SEBI and other regulatory authorities, similar to their private listed counterparts. Further, listing on the stock market leads to more frequent and careful scrutiny by investors and analysts thus leading to better functioning of the enterprises.

Instead of choosing one of the four policy tools discussed above, a more effective method for performance improvement would be a combination of these. Additionally, some ground level issues that need to be addressed. First of all, the long term loans from public sector banks

Apart from this, land given to private players (such as tea estates/plantations in Munnar and Nelliyampathi) decades ago need timely revision of rates and procuring back if required to ensure accountability and avoid any possibilities of encroachment (Sebastian 2019).

fracture the relations between the two types of enterprises. Careful examination of the existing long term loans, arrears and payments need to be settled through an institutional mechanism. The PSEs should also focus on strengthening their network by synergizing relations with each other, using the widespread presence effectively, investing in R&D activities, outsourcing innovation activities, importing technology and setting up strategic ties with each other and other CPSEs.

Another important aspect is related to the usage of properties, machine and other resources stuck in enterprises which are sick or have been shut down. Leasing out of this land to private players at market rates or using it for construction of govt offices may be a better way of utilizing it. These broad recommendations may help in increasing the technological capabilities and financial viability- thus rendering better profits and dividends.

Section IV: Conclusion and policy suggestions

The total liability of Kerala accounted for 28.2 per cent of the GSDP. It was higher than that of most of the other states. Needless to say, such a high percentage of liability cannot be treated as a positive signal. An attempt has been made in this study to understand the structure and pattern of Non-Tax Revenue in Kerala. Our analysis observed that there is a shift in the contribution of non-tax revenue from economic services to general services during 1980 to 2018. General services emerged as a significant contributor to the non-tax revenue in recent period due to the introduction of the Karunya lottery and also banning of selling lotteries from other state. However, proper monitoring of lottery administration, prevention of fraud, multiple claims on prize money etc. can be encouraged for better revenue mobilization - of both gross and net revenues. Apart from this, land given to

Even if user charges related to education and health are not hiked, they need to be corrected for inflationary pressures by taking into account the inflation prevailing at the time of the last revision/introduction by ensuring better quality services. However, it is important to identify the population group which has the potential/ capacity to pay a slightly higher amount without being excluded from the service.

Appendix 1: Non - tax and state own tax revenue in the total revenue receipts (TRR) (%)

Years	Share of SONTR to TRR	Share of SONTR to NTR	Share of GRANTS to NTR	Share of NTR to TRR
1980-1985	16.37	60.68	39.32	26.43
1985-1990	10.24	44.99	55.01	23.31
1990-1995	8.41	38.08	61.92	22.13
1995-2000	8.08	47.42	52.58	17.04
2000-2005	6.5	42.98	57.02	15.37
2005-2010	6.09	38.27	64.01	17.06
2010-2015	9.29	50.54	49.46	18.31
2015-2019	13.05	53.16	46.84	24.60

Source: Computed based on data from study of State Finances, RBI, Various Issues.

Appendix 2: Shares of general, social and economic services in SONTR of kerala (%)

Years	GEN/SONTR	SOC/SONTR	ECO/SONTR	OTHERS/ SONTR
1980-1985	24.70	16.78	47.92	10.60
1985-1990	26.21	16.65	39.83	17.31
1990-1995	32.32	12.95	44.44	10.30
1995-2000	32.65	11.27	43.06	13.02
2000-2005	38.46	14.70	39.67	7.18
2005-2012	49.77	12.16	29.37	8.70
2012-2017	79.33	6.20	11.08	3.39
2017-2019	83.60	5	8.58	2.62

Appendix 3: Ratio of expenditure to revenue across sectors

Year	General Services	Social services	Economic services
2014-15	3.18	48.88	8.87
2015-16	3.18	56.04	7.66
2016-17	3.16	55.20	8.72
2017-18	2.77	64.82	10.33
2018-19	3.34	48.46	9.35

Source: Computed based on inputs from Finance Department, 2020

private players (such as tea estates/ plantations in Munnar, Nelliyampathi decades ago need timely revision of rates and procuring back if required to ensure accountability and avoid any possibilities of encroachment (Sebastian 2019).

Our analysis further indicates that the expenditure is multifold times that of the revenue collected across all the three sectors such as Economic, General and Social services. For instance, the expenditure under social services is approximately fifty times the revenues collected. This is mainly due to the increased expenditure under three particulars such as "Education, Sports, Art and Culture" and health services. Given the pure-public goods feature of health services, we recommend caution in implementing hike in user-fee. Additionally, even if user charges related to education and health are not hiked, they need to be corrected for inflationary pressures by taking into account the inflation prevailing at the time of the last revision/introduction by ensuring better quality services. However, it is important to identify the population group which has the potential/ capacity to pay a slightly higher amount without being excluded from the service. An objective and observable parameter for that is the BPL card and SC/ ST certificate. Hence, we strongly recommend excluding BPL card holders and marginalized sections from the price related recommendations of this study.

Under general services, almost all particulars seem to have a fairly low expenditure to revenue ratio with lotteries contributing significantly to it. However, "Contributions and Recoveries towards pensions and other retirement benefits" seem to have an additional burden with a very high ratio. Since each of these particulars are related to social benefits, the state can generate higher revenues from other particulars such as- Non- ferrous mining and metallurgical industries, tourism, other industries under economic services, housing, entertainment, information and publicity etc. under social services. Further, stringent penalties for illegal quarrying such as hefty fines need to be in place. An important avenue that needs focus is reduction of fiscal burden due to non performing state owned enterprises using a mix of policy tools recommended in the previous section. Regular maintenance of data records with the help of ICT by respective Departments related to non tax revenue will help better governance and research. The study proposes conducting detailed surveys in order to examine the existing situation in various departments and thus exploring the possibility of eliminating inefficiencies and suggesting customized solution for mobilizing resources more effectively.

[The authors would like to acknowledge the excellent research inputs from Ms Neeha Jacob, Ph.D scholar, CDS and Ms Sukanya, RA, CDS. Authors have also benefitted from the interaction with the team members of ARC. The usual disclaimer applies.]

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End Notes

Since detailed item wise data on expenditure is not readily available, the current report focuses only on the revenue aspect at the detailed level. The cost analysis is limited to the aggregate level.

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Kerala Economy
Vol.4 No.4 October - December 2023

A toast to taxes: Exploring the optimal alcohol taxation paradox in Kerala

Santhosh Kumar P K, Haseena Akbar and Anjali Haridas

Background

The denouement of higher tax on alcohol is a topic of debate among exchequers and economists. Alcohol is always a bane to social welfare; however, it acts as a benefactor to the state's exchequer. In spite of the hike in the prohibitive tax rates to limit consumption, the Kerala GST revenue from liquor was 1474.39 crore up to May 2022,[1] even with the increase in sales tax from 225 % to 247% from the previous years. The consumption graph of alcohol in the state is rising yearly. Hence, in Kerala, alcohol is one of the primary income sources of the Government and a cost to society.

From a social welfare perspective, the increasing levels of alcohol consumption is a significant apprehension for the state. This is due to the excessive non-measurable social costs created by alcohol consumption, which have significant adverse effects on physical and mental health and economic productivity. The optimal tax on alcohol to mitigate these social costs (Pigou, 1920) was proven effective in many countries. However, tax-induced price hikes limit consumption and persuade consumers to make clear substitutions (Gehrsitz et al., 2021). So, the optimum level of tax on alcohol should be fixed based on demand elasticities (Pogue & Sgontz, 1989). Meanwhile, higher taxation of inelastic commodities will increase the Government's tax revenue (Ramsey, 1927) and fuel welfare initiatives.

Alcohol is considered a commodity with a high negative externality. However, some welfare theorists consider the positive net benefit from alcohol to sensible users. At the same time, the negative consumer surplus cannot be renounced completely (Pogue & Sgontz, 1989). In Kerala, the higher consumption of alcohol is accompanied by a higher tax rate, which negates the social welfare objective of

In spite of the hike in the prohibitive tax rates to limit consumption, the Kerala GST revenue from liquor was 1474.39 crore up to May 2022, even with the increase in sales tax from 225 % to 247% from the previous years.

Statistics reveal that Keralite's alcohol consumption and reaction towards increasing tax rates is paradoxical to the Pigouvian optimal tax concept.

higher taxes. This is due to the power of the tax rate to change the elasticity of alcohol (Fogarty, 2006). Moreover, it is the state's monopoly on alcohol production and distribution that leads to inelastic demand. In this context, the study drives into the reality of the paradox related to the optimality of alcohol taxation in Kerala. It is imperative to know how much the upper barrier to alcohol taxation is needed to improve social efficiency. So, the present discussion delves into how effective the corrective taxation strategy is to reduce alcohol consumption in Kerala by checking the elasticity of selected alcohol brands.

The optimality paradox: Direction and dimensions

The assumption of high taxation condenses consumption fails in Kerala's case. Statistics reveal that Keralite's alcohol consumption and reaction towards increasing tax rates is paradoxical to the Pigouvian optimal tax concept. As such, trends in tax revenue from alcohol exhibit that despite having a high tax rate of 225% till 2020 and a subsequent increase of 247% in 2021, it did not reduce sales (Figure 1). Hence, it is evident that the current tax rate is high enough not to optimize social efficiency.

Moreover, there is a contradiction in the proportion of users and alcohol consumption rate in Kerala during past years. Though the number of individual users is reducing, there is an increase in sales of alcohol (Figure 1). According to the National Family Health Survey, in Kerala, the percentage of alcohol users has declined from 37% of men and 1.6% of women in 2015-16 to 19.9% of men and 0.2% of women in 2019-20. As such, among the men who consume alcohol, 9% are daily users, 41% are weekly users and 50% use less than once a week. However, an expert from the industry ascertained that the peg-wise average consumption per user increased from 2 pegs (120 ml) to 4 pegs (240 ml) compared to last year.

The welfare objective of higher tax on alcohol is constrained by the availability of cheaper substitutes such as tobacco and drugs. According to the Vimukthi Survey conducted by the Excise Department of Kerala, the usage of substances such as ganja is more attractive to the youth rather than alcohol. This youth population would not switch to alcohol consumption even if they reached their legal age[2] because of the informal and hideous nature of drug substances. Even though legal enforcement is strict if caught, the lack of technology to detect the presence of these drugs in the body makes it convenient for the users. This majorly increases the social costs in the form of a rise in future health expenses, a fall in income generation due

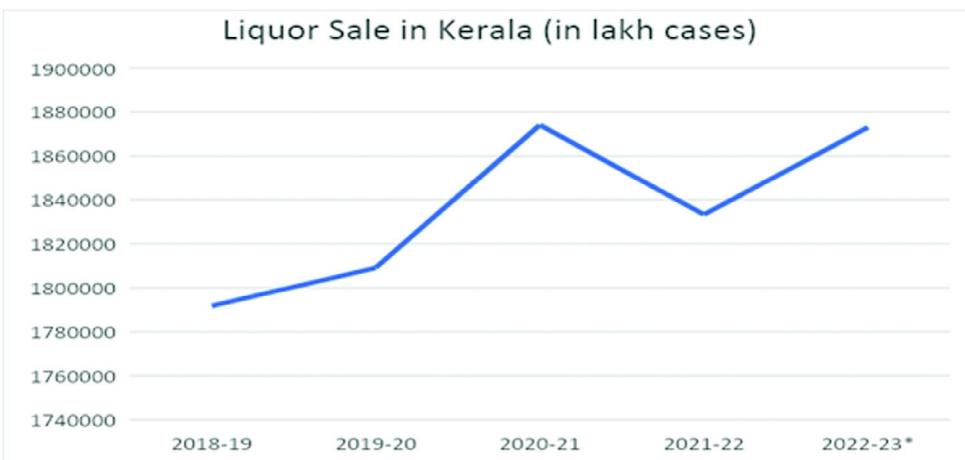
Balancing these dual objectives, maximising state revenue, and optimising social welfare weighs up on government decisions. Hence, while fixing alcohol tax rates, the Government should primarily consider the social costs and consumption costs associated with the loss of consumer utility.

to reduced productivity and a rise in threats to society, among which chances of gender and child abuse dominate significantly (Figure 1).

The system of ideas on taxing alcohol

The rationale for taxing alcohol exists for two reasons. Firstly, taxing alcohol is to optimize social efficiency. Secondly, it is a tool to generate revenue (West, S. E., & Parry, I. W. H.,2009). Balancing these dual objectives, maximising state revenue, and optimising social welfare weighs up on government decisions. Hence, while fixing alcohol tax rates, the Government should primarily consider the social costs and consumption costs associated with the loss of consumer utility. However, these costs differ depending on the nature of users' consumption patterns, which leads to a non-linearity in computing externalities. (Griffith et.al, 2019). The availability of product varieties and the heterogeneity of users contribute to this nonlinearity, thereby emphasizing the fixing of tax rates based on the nature and degree of elasticities. According to Ramsey, "If any one commodity is absolutely inelastic, either for supply or for demand, the whole of the revenue should be collected from it."

Figure 1



Source: author's presentation

Brandy and Rum, being the popular brands among heavy drinkers, constitute the least elasticities. This consumption preference justifies the fact that heavy drinkers prefer quantity over quality, as both brands are cheaper than the others.

Hence, fixing tax rates based on elasticities ensures both maximization of revenue and social efficiency. Taking these factors into consideration, the dual objective of optimal taxation can only be achieved through the computation of the elasticities of alcoholic beverages. Pogue and Sgontz (1989) have given the following formula for optimal taxation after taking into effect the heterogeneity of users (abusers and non-abusers) based on demand elasticities:

$$t = \frac{\frac{E}{P} + (1-m)\frac{(P+A)}{P}}{m + \frac{\eta_B X_B}{\eta_A X_A}}, \eta_A > 0$$

Elasticity under optimal taxation: Evidence from kerala

The law of demand says that increasing price leads to a reduction in demand. So, tax-induced price rises expect a reduction in demand for alcohol, which influences the government's decision on setting taxes. When the government sets taxes focusing on social efficiency, the price elasticity should be considered to maintain justice between heavy drinkers and light drinkers. Further, the welfare goal of taxation will be achieved only when the increase in the distortion to cheaper alcohol is more expensive (Calcott, 2019). The price-demand relationship of alcohol in Kerala has been proven inelastic; however, the relative differences in elasticity are yet to be explored.

Brandy, Rum, Vodka and Whisky are major brands consumed by Keralites in the recent past. The price and sales quantity of these brands from beverage corporations have been used to measure elasticity. The result (Table 1) matches with the inelastic nature of alcohol in Kerala. Moreover, there is a significant difference in price elasticities among these products. As such, the elasticity of Brandy (0.0066) and Rum (0.0051) are comparatively less elastic than Vodka (0.1211) and Whisky (0.2117) (Table - 1).

The differences in elasticities evidently show the presence of differing natures of users (heavy drinkers and light drinkers). Brandy and Rum, being the popular brands among heavy drinkers, constitute the least elasticities. This consumption preference justifies the fact that heavy drinkers prefer quantity over quality, as both brands are cheaper than the others. Hence, from this experiment of computing elasticities, we understand the need for imposing multiple tax rates based on the distinctions between degrees of elasticities among brands. This imposition would achieve the dual aim of reducing the social

The heterogeneity in existing user patterns based on price elasticities thereby throws light on the ineffectiveness of the imposition of a single corrective tax on alcohol.

Table 1 - Brand-wise price elasticity

Brand	ep
Brandy	0.00668834
RUM	0.00512258
Vodka	0.12752178
Whisky	0.21179225

Source: author's calculation

costs generated by the heavy drinkers and the loss of marginal benefit accrued to the light drinkers.

Conclusion

Though the discussions on the paradoxical increase of alcohol consumption in Kerala, even after hiking the tax rates, have been alive for years, this study provided a theoretical and empirical contribution to the existing literature. The study summarised the evidence of increasing individual consumption in contrast to the decreasing proportion of total users and the price elasticity difference between brands. One of the prime findings of the study is that brandy and Rum are more insensitive to price. This has driven the idea of considering a change of strategy in alcohol taxation. Moreover, the heterogeneity in existing user patterns based on price elasticities thereby throws light on the ineffectiveness of the imposition of a single corrective tax on alcohol. The divergence in marginal external and internal costs by this differing drinking pattern makes it difficult for the existing flat tax system to make necessary corrections to achieve the socially optimal level of consumption (Crawford et al., 2010). So, the study leads to opting for multiple brand-specific taxes in Kerala by considering the price elasticities of alcoholic beverages.

■

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End Notes

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Kerala Economy
Vol.4 No.4 October - December 2023

Structural changes in centrally sponsored schemes and its impact on state finance of Kerala

Bindu P Varghese and Anilkumar B M

Introduction

The constitution of India envisages the fiscal federalism where the financial powers as well as duties and responsibilities between Centre and states have been described. The responsibilities vested on states are immense and much more than their financial power ie, revenue generation power. Hence, in order to meet the transferred responsibilities of the states, the fund transfer from the Centre is essential. Earlier fund transfer from the Centre was mainly through two means- plan grants and Finance Commission (FC) grants. Plan grants mainly comprise of Centrally Sponsored Schemes (CSS), Central Sector Schemes and other plan grants. CSSs have been implemented mainly based on Article 282 of the constitution and the article enables centre as well as state governments to make discretionary grants for any public purpose. CSS constitutes significant proportion of fiscal transfers from the Centre to the states and this was nearly 23 percent of the total fiscal transfers to the states according to the budget estimate of 2021-22 (Rao and Singh 2021, Sharma etal 2023).

One of the important institutional change which has far reaching impact on the fiscal federalism of India is the constitution of National Institution for Transforming India, NITI Aayog in 2015. As per the decisions of the first Governing Council meeting of NITI Aayog, a sub -committee was appointed to rationalize the plan grants to the states. Pursuant to this sub-committee report, structure of CSS and sharing pattern between Centre and States has drastically been changed. There has also been substantial reduction in the number of schemes. These changes have resulted far reaching impact on the fiscal structure of the states.

In this context, this paper examines the impact of the changes in structure and fund pattern of CSSs on the fiscal structure

Pursuant to this sub-committee report, structure of CSS and sharing pattern between Centre and States has drastically been changed. There has also been substantial reduction in the number of schemes. These changes have resulted far reaching impact on the fiscal structure of the states.

This paper examines the impact of the changes in structure and fund pattern of CSSs on the fiscal structure of Kerala. It is also specifically estimated that how much additional burden has been imposed by these changes on the financing of the State.

of Kerala. It is also specifically estimated that how much additional burden has been imposed by these changes on the financing of the State.

Structure of plan grants and CSS before NITI Aayog

CSS and Central Sector Schemes are two main components of central assistance to state plans. The CSSs are implemented by state governments or designated agencies based on scheme specific guidelines which are formulated and operationalized by Central Ministries. A separate classification of schemes as CSS was introduced from Fourth Plan onwards. These schemes had a national character, and dealt with areas/concerns like family planning, agricultural workers, research and training. The number of schemes covered under the Centrally Sponsored category varied from 188 in 2002-03 to 147 in 2011-12. In 2011, under chairmanship of Shri. B K Chaturvedi a Committee was appointed for restructuring of CSS, to enhance its flexibility, scale and efficiency. Based on the recommendation of the committee the number of CSS had been reduced from 147 to 66.

Other important components of plan grants from Centre to the states were: (a) Normal Central Assistance (NCA), comprising untied assistance for the annual plans of States, based on the Gadgil-Mukherjee formula; (b) Additional Central Assistance (ACA) for specific-purpose schemes and transfers; (c) Special Central Assistance (SCA), comprising untied assistance for the North-eastern and certain hilly States; and (d) Special Plan Assistance. Apart from these, financial assistance from the Centre also came via Central Plan schemes and Centrally Sponsored Schemes, which were conditional upon specified implementation criteria.

The distribution of Normal Central Assistance was as per Gadgil Mukherjee formula and was untied in nature. In the case of Other Central Assistance (OCA), the nature of funding was partly grant and partly loan. Some of the schemes were fully funded by Centre, while others were on loan and grant mode with 80:20, 70:30 and 60:40. One time ACA was implemented by state governments based on the scheme wise proposals submitted to Planning Commission. The allocation of funds by

Accepting the recommendations of the Sub Group, the number of CSS was restructured from 66 schemes to 28 umbrella schemes in 2016.

From 2016-17 onwards, Kerala had to bear a larger share of scheme expenditure for CSS. From 2016-17 onwards, the funding pattern of most schemes was such that state has to incur on an average of 40 percent share in the place of 25,20,10 percent earlier.

Planning Commission to one time ACA was for the specific proposals as per the guidelines and the fund was as 70 percent loan and 30 percent grant.

Structure of CSS in post NITI Aayog

After the constitution of NITI Aayog, the GoI appointed a Sub-Group of Chief Ministers for rationalisation of CSS in 2015. Accepting the recommendations of the Sub Group, the number of CSS was restructured from 66 schemes to 28 umbrella schemes in 2016. Out of the 28 umbrella schemes, 6 schemes were categorised as core of the core schemes, 20 schemes as core schemes and 2 as optional schemes. The sharing of fund by States is mandatory in core schemes whereas participation in optional schemes was left to the decision of the States.

Along with the restructuring of the schemes, the funding pattern was also altered. The funding pattern would continue as 100 percent GoI share for core of the core schemes. For core schemes, 60 percent of fund will be met by Centre and 40 percent by states, but for 8 north eastern states and 3 Himalayan states of Uttarakhand, Himachal Pradesh and Jammu and Kashmir the pattern would be 90 per cent by Centre and 10 per cent by States. The rate is 50 percent by Centre and 50 percent by State for Optional schemes. For 8 North Eastern and 3 Himalayan states of Uttarakhand, Himachal Pradesh and Jammu and Kashmir the proportion for optional schemes would be 80 percent by Centre and 20 percent by States.

Additional burden on state

From 2016-17 onwards, Kerala had to bear a larger share of scheme expenditure for CSS. Prior to this, the funding pattern of the schemes was such that Centre supported a major part of financing of scheme like 90 per cent, 80 per cent and 75 per cent. The State accordingly had to finance only 10 per cent, 20 per cent and 25 per cent of the schemes. However, from 2016-17 onwards, the funding pattern of most schemes was such that state has to incur on an average of 40 percent share in the place of 25,20,10 percent earlier.

For estimating the additional burden due to the change in the funding pattern, 10 schemes have been selected from the list of CSS. In 2023-24 budget, an amount of Rs.1339.76 cr was earmarked as state share

This additional burden of State is neither compensated from the Finance Commission transfer nor through hike in the central assistance through CSS

Apart from this extra burden due to the change in sharing pattern, State government is also facing the problem of less release from centre than expected central transfer under CSS.

Table - 1 - Budget outlay of ten CSSs-2023-24 in lakh

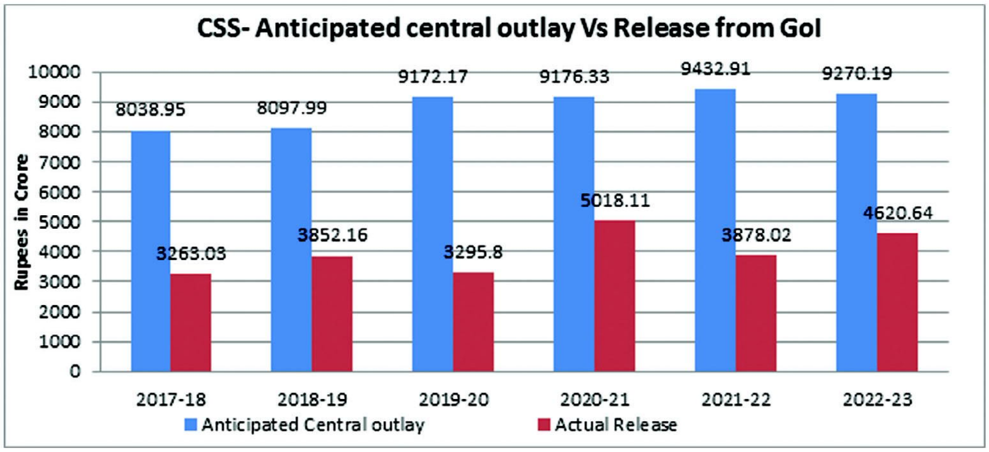
Sl.No	Name of Schemes	Ratio of Central - State Share		State Share in 2023-24	If followed old ratio	Additional Burden
		Old	New			
1	Pradan Mantri Mastya Sampada Yojana	75 - 25	60-40	4380	2737.5	1642.5
2	National Rural Livelihood Mission	75 - 25	60-40	6500	4062.5	2437.5
3	Pradan Mantri Gram Sadak Yojana	100 - 00	60-40	8000	0	8000
4	Samagra Siksha Abhiyan	75 - 25	60-40	6000	3750	2250
5	Mid- Day Meal Programme	75 - 25	60-40	34464	14360	20104
6	National Health Mission	75 - 25	60-40	50000	31250	18750
7	Prime Minister Awaas Yojana	75 - 25	60-40	1000	625	375
8	DIET	75 - 25	60-40	1200	750	450
9	Integrated Child Development Services	90 - 10	60-40	19432	4858	14574
10	Prime Minister Ayushman Bharat Health Infrastructure Mission	75 - 25	60-40	3000	1875	1125
	Total			**133976**	**64268**	**69708**

Source: Annual Plan Document, GoK, 2023-24

for these selected 10 schemes. But if the old funding pattern was followed, the amount would have been Rs. 642.68 cr. Hence, for these 10 schemes alone, the additional burden on State finance in 2022-23 is Rs.697.08 cr. This additional burden of State is neither compensated from the Finance Commission transfer nor through hike in the central assistance through CSS (Table -1).

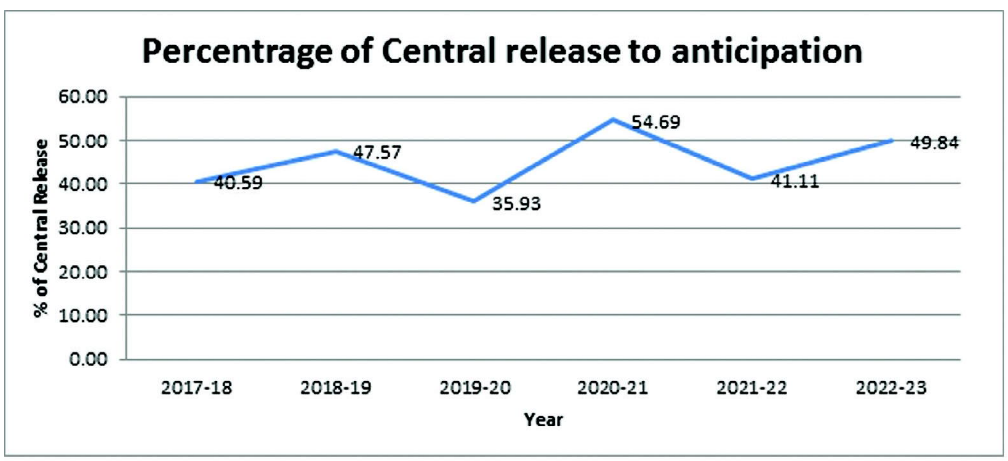
Apart from this extra burden due to the change in sharing pattern, State government is also facing the problem of less release from centre than expected central transfer under CSS. When more

Figure 1



Source: Annual Plan Document, GoK, 2023-24 and PFMS (Fund Release)

Figure 2



Source : Annual Plan documents and PFMS

Table 2 - Proportion of expenditure of CSS and central sector schemes by centre-state

Year	Expenditure (in lakh)			% of expenditure	
	Central	State	Total	Central	State
2012-13	155144	28889.7	184034	84.3	15.7
2013-14	106038	32131	138169	76.75	23.25
2014-15	337746	24932.7	362679	93.13	6.87
2015-16	294760	84812.8	379573	77.66	22.34
2016-17	315853	178474	494327	63.9	36.1
2019-20	470887	362897	833784	56.45	43.55

Source: Computed from CAG Accounts of various years

state share is to be earmarked in anticipation of central allocation than the actual release, the free plan allocation (for which the state resource can be exclusively used for state formulated schemes) is affected (Figure 1).

It is observed that Kerala is getting merely half of the anticipated share from central government (Figure 2).

The share of expenditure by Centre for the Centrally Sponsored Schemes for the period 2012-13 to 2019-20 also reduced from 93 per cent to 64 per cent (Table 2). Meanwhile, during the period 2014-15 to 2016-17, the share of State increased from 7 per cent to 36 per cent. The share of expenditure by State for the schemes was 36 per cent as compared to 22 per cent in 2015-16. It has further increased to 43.55 percent in 2019-20 (Table-2).

Table 3 - Share of CSS & central sector scheme to total central development activities

Year	CSS	Share of CSS to total Development	Central Sector Scheme	Share of Central Sector Schemesto total Development Expenditure	Total Development Expenditure
2014-15	338408	18.85	236592	13.18	1794892
2016-17	241900	12.21	308110	15.57	1978060
2020-21	383976	10.93	1356817	38.65	3509836
2022-23	476105	10.57	1467880	32.59	4503097

Source: Union Budget documents and Computed from CAG Accounts of various years

But since 2014 the share of CSS has been declining and share of Central Sector Schemes has been increased. The increasing role of CSS as well as Central Sector Schemes in the place of plan grants results in the growing centralization of social sector policies in the country

Increasing share of central sector schemes

Central Sector Schemes are fully funded by Central Government and more based on the discretion of Centre. Initially, nearly 25 percent of the central grants to the states constituted CSS. But since 2014 the share of CSS has been declining and share of Central Sector Schemes has been increased. The increasing role of CSS as well as Central Sector Schemes in the place of plan grants results in the growing centralization of social sector policies in the country (Rath, 2013). As the state governments have no any say on Central Sector Schemes, the more centralization happens when the share of Central Sector Schemes increases. Table 3 shows the share of both CSS and Central Sector Schemes to the total development expenditure of the centre for the period 2014-15 to 2022-23. The share of Central Sector Schemes has increased from 13 percent in 2014-15 to 39 percent in 2020-21 (Table-3).

Functional and implementation issues of CSSs

The main limitation of CSSs is that they are mainly general and national in nature, specific needs and requirements of the states are not addressed properly while formulating the criteria and guidelines of CSSs by the centre. This issue has become more intense during post NITI Aayog period. Since the number of CSSs has been reduced to 28 and most of the schemes or programmes comes under major umbrella schemes, the unique characteristics of the state can't be attended.

Confusion arises with regard to the funding pattern of the schemes also. For the same scheme, different funding pattern is followed. For example, the funding pattern of Integrated Child Development Programme,

The main limitation of CSSs is that they are mainly general and national in nature, specific needs and requirements of the states are not addressed properly while formulating the criteria and guidelines of CSSs by the centre. This issue has become more intense during post NITI Aayog period. Since the number of CSSs has been reduced to 28 and most of the schemes or programmes comes under major umbrella schemes, the unique characteristics of the state can't be attended.

States face difficulties when guidelines, formats and criteria are frequently revised and changed. This creates issues in implementation at grass root level

the 25 percent is the state share in general. But the 75 percent of cost for human resource is to be met by the states. Also, central government has given instruction to the states to meet the 100 percent of human resource from 2023-24 onwards. Likewise, the maximum amount for cooking fuel and cooking staff for Mid-day Meal scheme has been fixed which is far below the actual cost in the State. The per day wage for cooking staff is fixed as Rs.100 by the centre and 60 percent of the cost, ie. Rs.60 is met by the centre. But daily wage of cooking staff in Kerala is above Rs.500.

States face difficulties when guidelines, formats and criteria are frequently revised and changed. This creates issues in implementation at grass root level and delay in submitting the utilization certificates (UC). Only if the UCs are submitted in time and prescribed format, the fund will be released from the centre.

Conclusion

Impartial allocation and effective utilization of Centrally Sponsored Schemes is an instrumental mechanism for strengthening fiscal federalism in our country. Additional commitment borne by the States due to the rationalization of funding pattern has to be ensured either through hike in the share of CSS in the total development expenditure or by providing sufficient fund through 16th Finance Commission. Considering heterogeneous subnational structure, adequate flexibility has to be ensured for utilizing CSS. Restoration of flexi fund, provided in the 12th Five Year Plan, may be rejuvenated. As per the flexi fund, the states could set aside 25 percent of any Centrally Sponsored Scheme to be spent for the specific needs state which is in line with the overall objective of the approved Scheme. While formulating Union Budget, due consideration has to be ensured for Project Approval Board's (PAB) minutes since States would anticipate central allocation for each Scheme based on the approved minutes of PAB. As the implementation process of CSS has become more complex, a mechanism is needed for Kerala to disseminate central initiatives to implementing departments, helping the preparation of winning project proposals and timely submission of utilization certificate. This suggested co-ordination mechanism would help the departments on redressing complaints and ensure liaison with Ministries and implementing departments for effective utilization of available fund through Centrally Sponsored Schemes.

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Does increased borrowing lead to higher development spending in Kerala?

Steffy Antony and P S Renjith

1. Introduction

India, despite its federal structure, exhibits unitary characteristics, particularly in its Centre-state relations (Rao, 2000). This is apparent from the vertical asymmetry of revenue-expenditure balances between the union and states. Constitutionally, the Union government holds higher revenue powers, placing the responsibility for meeting expenditure needs primarily on state governments. Notably, states shoulder about 60 percent of the general government expenditure is shouldered by states (RBI, 2020), leaving approximately one-third of the general government revenue power. The ensuing fiscal disparity compels states to resort to continuous borrowing, even after the intergovernmental transfer mechanism, leading to the accumulation of states' public debt (Renjith and Shanmugam, 2018).

Recognizing the increasing trend of borrowing and its accumulation, discussions commenced at the union and state levels to enact Fiscal Responsibility Legislations (FRLs). Consequently, the union government introduced the Fiscal Responsibility and Budget Management (FRBM) Act in 2003. This act, guided by the balance of saving investment formula (outlined in Chapter 4 of the 12th Finance Commission Report), imposed limits on key deficit indicators, specifically fiscal deficit and revenue deficit. The act set the fiscal deficit of state governments at 3 percent of GDP and mandated a zero percent revenue deficit. Consequently, the act encouraged State governments to adopt their own FRLs, outlining annual targets to eliminate revenue deficit by 2008-09 and reduce fiscal deficit by 3 percent of GDP, following a systematic path of reducing borrowing. Adoption of FRLs was a prerequisite for states to access the Debt Consolidation and Relief Facility (DCRF), which included state grants and debt relief measures outlined by the 12th FC.

Despite encountering significant fiscal stress and limited fiscal space primarily due to stringent restrictions by the union, the current state of state finance of Kerala cannot undermine its longstanding commitment to development spending.

Despite growing expenditure responsibilities, all states were required to enact FRLs to avail of the DCRF[1] . Karnataka became the first state to enact FRL, followed by Kerala and Tamil Nadu. Almost all states enacted FRLs during 2005-06, with the exceptions of Sikkim and West Bengal[2].

While acknowledging its sudden positive impact in curbing burgeoning debt and deficits, FRL failed to align with current economic realities and exerted pressure on expenditure commitments. As a result, both union and a few state governments couldn't maintain the target even after 20 years. Furthermore, the FRBM review committee proposed more stringent deficit and debt targets in 2017. However, the recommendations, including the debt targets of 40 percent and 20 percent were deemed unfeasible by both the union and states. In this context, the question of whether states should continue, amend, or re-orient the rule-based framework remains an empirical matter concerning its actual effect on the economy.

Theoretically, based on the Keynesian perspective, an increase in expenditure financed through deficits is expected to have a positive influence on economic growth, primarily due to the multiplier effect (Rangarajan and Srivastava, 2005). Moreover, various spending patterns can generate different outcomes. Development expenditure, in particular, can serve as an indicator variable that influences growth (Chakraborty and Dash, 2013). Further scholars with different schools of thought highlight India's developmental aspirations, emphasizing the pivotal role based on the subsidiarity principle. The principle suggested that states are more aware of their financial condition and requirements than the union government (DeMello, 2000). In many developing nations subnational governments are entrusted with providing various public services as they hold better information on the preferences and needs of local jurisdictions (Oates 1972, 2005). Each state is uniquely positioned to comprehend and address its developmental needs. However, the existing fiscal constraints impede the states to manage their finances independently. Pathak (2023) rightly notes that fiscal targets can have distortionary impacts on the composition of sub-national spending affecting its fiscal sustainability in the long run.

State-level FRLs exerted significant pressure on the spending policies and patterns of states. Some had to curtail their priorities, others had to alter their spending patterns, and certain states had to compromise on their development spending on (spending on social-economic services) policies. States like Kerala aimed for a fiscal deficit target without compromising their longstanding development spending. Scholars have varied opinions on the adoption of FRLs in the latter set of states. While RBI (2022) acknowledges its sudden positive impact in curbing burgeoning debt and deficits of these states, critics such as Joseph and Anitha Kumary (2022) argue that the FRBM Act is outdated and fails to align with current economic realities and past public interventions.

In this context, this paper empirically examines the impact of increased net borrowings on the development spending of states by employing expenditure response models and time-varying techniques spanning from 1990-91 to 2021-22. The analysis aims to explore the efficacy of increased borrowings in driving state development and advocates against the retention of outdated fiscal limits.

The paper is organized as follows: Section 2 examines the fiscal trajectory of Kerala from 1980 to 2022, Section 3 presents the analysis, and Section 4 concludes the paper.

2. Kerala: Fiscal trajectory

Kerala stands out among states for its noteworthy progress in various social and development indicators. The Kerala Model of Development, observed in the 1980s, highlighted a unique situation where despite low per capita income, the state achieved a high standard of living and growth rate. This success was attributed to government interventions. With low revenue-raising powers and high expenditure responsibilities the state had to depend on borrowing, leading to elevated deficits and debt. The implementation of pay commission revisions and an economic slowdown further exacerbated the situation, resulting in high fiscal stress in the late 1990s and early 2000s. In response, the state adopted a state-level Fiscal Responsibility Legislation (FRL) in 2003, which helped reduce the fiscal deficit until 2010-11, though it did not eliminate the revenue deficit.

The 15th Finance Commission (FC) labeled Kerala as a 'highly debt-stressed' state. The commission emphasized that the Fiscal Deficit (FD) consistently exceeded the prescribed limit of 3 percent of Gross State Domestic Product (GSDP) over the past decade. Adding to this, the Reserve Bank of India (RBI) in its 2022 report highlighted the state's risky financial situation, questioning the sustainability of its debt. As per 2021-22 data Kerala stands first among the major states with a high FD to GSDP ratio of around 4 percent and debt ratio near to 40 percent of GSDP.

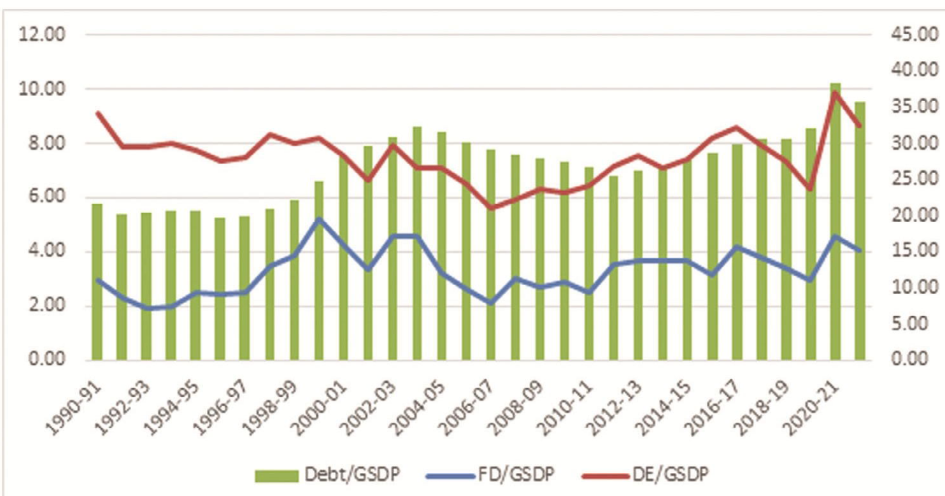
A critical aspect of Kerala's fiscal stress lies in the high ratio of Revenue deficit to fiscal deficit. This indicates that the state's borrowings are predominantly allocated to meeting recurring expenditures such as salaries and pensions, rather than being directed toward productive investments. Notably, Kerala stands out for having a substantial salary-to-revenue expenditure ratio, signaling that a significant portion of the state's budget is allocated to salaries, leaving limited resources for capital spending. This structural imbalance has raised concerns about the state's ability to channel funds effectively into developmental initiatives (Figure 1).

Imposing a strict limit on the revenue deficit to achieve zero revenue deficit or a revenue surplus would compel states like Kerala, which have limited revenue potential, to curtail the revenue portion of their development spending significantly.

Figure 1 illustrates a consistent presence of fiscal deficit above the prescribed limit during the last decade except for 2019-20 along with high debt. Kerala's debt-to-GDP ratio being above the national average will have consequences in terms of high-interest payments. The important sources of net borrowings of the state include market borrowings, loans from the Centre, loans from financial institutions, loans from RBI, NSSF, etc. State's net borrowings have prioritized revenue expenditure over capital expenditure. The challenges faced by Kerala, including natural disasters and the ongoing pandemic, have undoubtedly contributed to the surge in revenue expenditure. In the context of developing nations, subnational entities cannot afford to neglect revenue expenditure, as it often stems from past public interventions (Renjith and Joseph, 2023). Imposing a strict limit on revenue deficit, or further reducing it to zero, would compel states to allocate a significant portion of their limited borrowing space of 3 percent to cover revenue expenses, potentially constraining capital spending.

However, the figure demonstrates that Kerala has not compromised on development expenditure, reflecting the state's commitment to both development and welfare. Notably, the state heavily relies on off-budget borrowings through Special Purpose Vehicles (SPVs) to fund its developmental initiatives. Development expenditures, especially at the state level, hold substantial multiplier effects, as highlighted by the RBI (2019), which states that capital expenditure at the state level has a multiplier effect of 2. In contrast,

Figure 1: Fiscal Indicators of Kerala



Source: Based on data compiled from CAG

Kerala's borrowing trend shows that for every one percent increase in net borrowings, the state's development spending rises by 0.33 percent, underscoring its crucial importance for the growth and welfare of the state

revenue expenditure carries a lower multiplier effect of 0.82. This underscores the critical importance of sustaining development spending for long-term economic impact.

3. Do net borrowings induce development spending of the state?

In this section, we try to empirically evaluate the response of the state's development expenditure to an increase in net borrowings. To understand this, we have employed an expenditure response model with time-varying techniques. The basic empiric specification is:

$$e_t^d = \alpha + \beta_1 fg_t + \beta_2 er_t + \beta_3 id_t + \beta_4 pc_t + \beta_5 tr_t + u_t \quad ...(1)$$

Where e_t^d is the dependent variable, representing the development expenditure. fg_t represents the fiscal gap score calculated as the difference between the actual fiscal deficit and the stipulated limit set by the Fiscal Responsibility and Budget Management (FRBM) Act, which stands at 3 percent. er_t represents the effective interest rate, id_t represents internal debt to GSDP ratio, pc_t is the per capita income growth rate and tr_t shows transfers to GSDP ratio. And subscript t stands for the time period. The analysis incorporates fiscal data compiled from the Comptroller and Auditor General (CAG) for the period 1990-91 to 2021-22. Development expenditure, internal debt, and transfers are considered as percentages to GSDP. (Table-1).

The findings indicate that an escalation in the fiscal gap score, signifying a breach beyond the 3 percent limit in fiscal deficit, corresponds to an increase in the development expenditure of the state. That is, when the fiscal deficit increases by one percent above the limit of 3 percent there will be a 0.33 percent increase in the development spending of the state. Development spending holds pivotal significance for the state's progress and welfare. The positive and statistically significant relationship observed underscores the state's commitment to addressing both developmental and welfare aspects. Moreover, beyond the impact of the state's net borrowings on development expenditure, transfers also play a supportive role. Chakraborty and Dash (2013) also assert that transfers have aided the development spending of the states, in the absence of which, states might have resorted to greater reductions in development expenditure to meet fiscal deficit targets. In the past, states constrained their spending to achieve these targets, leading to the challenge of accumulating cash surpluses (Isaac and Ramakumar, 2006), (Figure - 2).

Figure 2 shows the path of the smooth term; the curve indicates that values greater than 0 indicate that the co-efficient was above and values less than

Table 1: Spline estimation results for Kerala		
Variables	*Mean (standard deviation)*	*Co-efficient (t-value)*
e_t^d	7.474 (0.941)	-
fg_t	0.293 (0.836)	0.334** (2.818)
er_t	8.898 (1.173)	-0.333** (-3.498)
id_t	12.013 (6.545)	-0.086*** (-8.008)
pc_t	5.372 (3.666)	0.022 (1.280)
tr_t	3.176 (0.799)	1.145*** (8.860)
_c	-	8.374 (6.069)
edf	-	2.066
P-value	-	0.070
F Statistics	-	2.498
Adj R^2	-	0.93
Durbin Watson	-	1.83
Source: Authors' calculation		

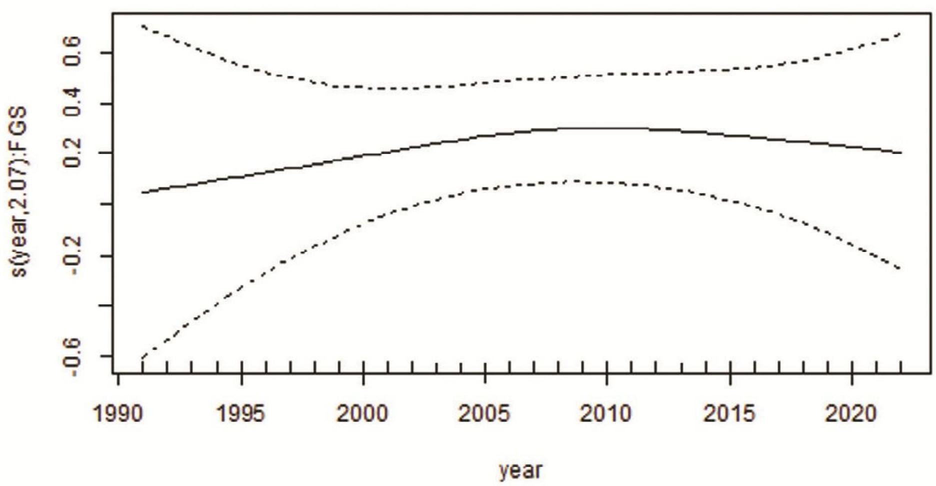
zero indicate that the co-efficient was below its average value shown in Table 1.

4. Conclusion

Unlike many other states, Kerala has always prioritised its development spending. Here we have tried to empirically analyse if net borrowings have aided this expenditure. Results suggest that increased borrowings have induced the development expenditure of the state. It may be plausible that similar patterns exist in other states. States may tend to show either positive, negative, or mixed responses to changes in net borrowings. In this context, it becomes imperative to reconsider existing rules and establish a fiscal deficit threshold that ensures state development spending is not impeded. The current growth rate of approximately 12 percent in Kerala may indicate that the upsurge in development expenditure could be a contributing factor to this growth. States indeed bear heavier

Revamping regulations and setting a net borrowing threshold for states is crucial to avoid hindering development spending, considering that optimal net borrowings, aligned with increased development spending, can foster the growth and development of states.

Figure 2: Deviation from average coefficient (Spline) for kerala



Source: Authors' Construction (The two dashed lines show the 95% confidence interval; the solid line shows the point estimates of the smooth term)

expenditure burdens compared to the central government, and their ability to borrow has become increasingly constrained. This constraint is poised to curtail both capital and social spending at the state level, which contributes significantly to the economy through its multiplier effect. Attempting to impose uniform and rigid rules on states, without adequate consideration or evidence of their rationality, would only aggravate the situation. States would then be forced to shoulder the burden of diminished development expenditures. Therefore, it is important to reconsider the limits imposed on states, recognizing that augmented net borrowings have played a pivotal role in supporting development expenditure which in turn will contribute to fostering the growth and development of states.

■

(Miss Steffy Antony is Research Scholar, GIFT, Dr P S Renjith is Assistant Professor, GIFT, Thiruvananthapuram.)

End Notes

1 See the 12th FC Report for the details

2 Both Sikkim and West Bengal adopted state-level FRLs in 2010.

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Kerala Economy
Vol.4 No.4 October - December 2023

Revenue-expenditure nexus: Case of Kerala

Shamna Thachaparamban

Introduction

Fiscal reforms must target both expenditure management and revenue mobilisation simultaneously. Furthermore, fiscal consolidation can eventually happen either through an increase in revenue or a decrease in expenditure, or by balancing both of them. Likewise, if the decision to raise revenue and increase expenditures is taken simultaneously, it would have an ambiguous impact on the deficit. According to latest trend, Kerala's Revenue Expenditure stand at an average of 90.39 % (ranging from 91.8 per cent in 2017-18 to 89.58 per cent in 2022-23RE) of total expenditure, and 125 percentage of total revenue receipt (TRR) of Kerala. It typifies the discrepancy between revenue and expenditure (see. figure.1). In this regard, the fiscal consolidation strategy needs an evaluation of the initial level of revenues and expenditures with the temporal relationship existing between them. This paper analyses the long run and short run relationship between revenue and expenditure based on theoretical propositions of public finance.

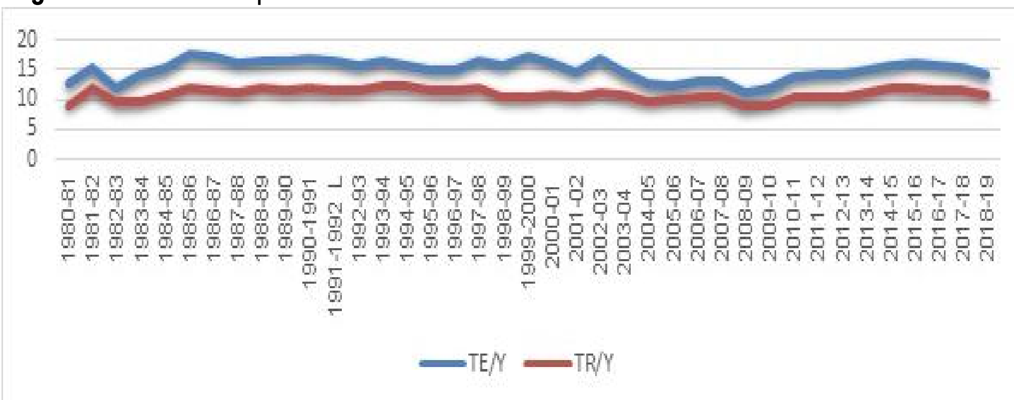
Revenue-expenditure nexus: Established hypotheses

Theoretically, there are four different propositions regarding the revenue-expenditure relationship. The tax-and-spend hypothesis (Friedman, Buchanan, and Wagner, 1978) argues that there is a positive causal relationship between public revenue and expenditure and that the government adjusts expenditures to the level of revenues, so that control of taxation is essential to limiting growth in government expenditure. Buchanan and Wagner stated that the causal relationship is reverse, that is, an increase in government revenues may lead to a

Fiscal consolidation can eventually happen either through an increase in revenue or a decrease in expenditure, or by balancing both of them. Likewise, if the decision to raise revenue and increase expenditures is taken simultaneously, it would have an ambiguous impact on the deficit.

Totally the endogenous growth models suggest that the government's tax and expenditure policies can affect steady-state growth rates in either direction. In general, a change in deficits is attributed to changes in government spending or tax revenue or both or growth performance of a state.

Figure.1: Share of expenditure and revenue to state income



Note: TE=Total Expenditure, TR=Total Revenue receipts and y=Gross State Domestic Product.

decrease in government expenditures through fiscal illusion . The spend-and-tax hypothesis of Peacock and Wiseman (1961; 1979) advocates that expenditures cause revenue, suggesting that a temporary increase in government expenditures in response to such crises will lead to higher permanent taxes. That is, higher expenditures would lead to higher taxes. At the same time, the fiscal synchronisation hypothesis argues governments may concurrently change expenditures and taxes (Meltzer and Richard, 1981; Musgrave, 1966). The Institutional Separation Hypothesis (Baghestani and McNown, 1994) suggests that revenues and expenditures are independent of one another, which means the decisions on taxation are taken independently from the allocation of government expenditures. The government decides separately about spending and revenues. So, there is no long-term relationship between government spending and revenues. Totally, the endogenous growth models suggest that the government's tax and expenditure policies can affect steady-state growth rates in either direction. In general, a change in deficits is attributed to changes in government spending, tax revenue, or both, or to the growth performance of a state.

This paper analyzes the relationship between Kerala's expenditure and revenue on the basis of theoretical propositions from public finance. The results of the analysis highlight the need for robust measures to improve public finance governance and policy implementation.

Empirical evidences

There has been a plethora of studies on this nexus. Some of the studies support the tax and spend hypothesis (Ram, 1988; Bohn, 1991; Mounts and Sowell, 1997; and Chang, Liu, and Caudill, 2002). On the other hand, Anderson, Wallace, and Warner (1986) and Jones & Joulfaian (1991) argued in favour of the spend and tax hypothesis. Manage and Marlow (1986), Miller and Russek (1989), and Owoye (1995) support the fiscal synchronisation hypothesis. Whereas, Hoover & Sheffrin (1992), Baghestani, and McNown (1994) have all found evidence in favour of the institutional separation hypothesis. Studies from India also show different outcomes. Dhanasekaran (2001) provides evidence for spending and tax by using the Granger causality test. Whereas Nithin (2012) tested these empirical hypotheses in Indian states, categorising them into four different groups, Kerala is included under the category of fiscally stressed states (FSS). The author argues that large amounts of their resources are spent on interest payments on past debt, leading to institutional separation between revenue and expenditure. On the other hand, Chaudhuri and Sengupta (2009) deduce in their study that fiscal synchronisation seems to be the mode in Kerala and Andhra Pradesh, and revenues lead to expenditure in Karnataka. While, for Tamil Nadu, data failed to show any evidence of causality. But when analysing different pairs of expenditures and revenues, such evidence could not be found in Kerala (Shamna, 2015) .

Empirical analysis

This paper analyses the long-run and short-run relationship between public spending and public revenue on the basis of theoretical propositions for Kerala. Since the series of government expenditures and revenues are found as integrated in order one, I (1), an attempt has been made to test whether there exists a long-run equilibrating function (steady state) between them with the assumption that the error correction mechanism would push government finances towards the levels required by the inter-temporal budget constraint. Lack of co-integration among the variables implies that under unchanged fiscal policies, the debt stock of the state government is unsustainable.

The analysis of the cointegrating relationship between expenditures and revenues does not favour a long-run equilibrating relationship for the period between 1980-81 and 2016-17. So, the Granger causality framework is used to examine the dependency between expenditures and revenues after taking the first-difference of the data. That is, whether expenditures cause revenue or revenue causes expenditures.

The testable function is specified as follows;

$$\Delta l Y_t = \alpha + \sum_{i=1}^{p} \beta \ \Delta l Y_{t-i} + \sum_{i=1}^{p} \phi \ \Delta l X_{t-i} + \varepsilon_{1t} \quad (1)$$

$$\Delta l X_t = \alpha + \sum_{i=1}^{p} \beta \ \Delta l X_{t-i} + \sum_{i=1}^{p} \phi \ \Delta l Y_{t-i} + \varepsilon_{1t} \quad (2)$$

For example, when the null hypothesis is RE does not Granger cause RR where the testable model,

$$\Delta l RR_t = \alpha + \sum_{i=1}^{P} \beta \ \Delta l RR_{t-i} + \sum_{i=1}^{P} \phi \ \Delta l RE_{t-i} + \varepsilon_{1t} \quad (3)$$

But the outcome fails to validate any causal link between expenditure and revenue variables. Alongside checking the relationship between spending and revenue, it couldn't find a feedback effect or long-run adjustment between total revenue receipts and revenue expenditure except a link from state domestic product to total expenditure (see Appendix Tables 1 and 2). These test results can be related to the common pool problem of political economy, in which the complexities of the government to increase revenue and decrease expenditure, especially expenditure under the revenue account, widen the gap between expenditure and revenue, leading to a seemingly persistent and unsustainable gap.

Conclusion and policy implications

This paper analyses the relationship between Kerala's expenditure and revenue on the basis of theoretical propositions from public finance. In addition, empirical analysis of the relationship between fiscal factors and growth is essential for understanding public finance behaviour and future budget trajectory. The results of the analysis highlight the need for robust measures to improve public finance governance and policy implementation. This indicates the need for effective measures to improve the tax administration so that the tax evasion tendency may be checked, other malpractices may be avoided, and to find alternate sources of revenues. So, this analysis specifies the need for the policy intervention of state finance to consider measures to curb the growth of non-developmental revenue expenditure and boost the growth of SDP. For this, the government should direct public spending in such a way as to generate more employment and income opportunities, keeping unproductive revenue expenditure in check, reducing subsidies by effective targeting for needy groups, and increasing capital expenditure by better use of all sources available, including central assistance and private investment. It should also take effective measures to improve the tax administration without increasing the tax base, which will improve the quality of public finance.

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Appendix

Table1: Results - Co integrating relationships

SR - RE	RR - RE	RR - REIP	SR -RE IP
	L Max Test		
13.4 (0.65) 0.39 (0.52)	11.71 (0.12) 0.024 (0.87)	12.52 (009) *** 0.126 (0.72)	16.111 (0.02) ** 0.002 (0.95)
	Trace Test		
13.85 (0.18) 0.39971 (0.52)	11.735 (0.190) 0.024(0.88)	12.64 (0.12) 0.1264 (0.72)	16.54 (0.05) 0.0002 (0.95)

Note: *Johansen derives two tests of the hypothesis that there are at most r co integrating relationships, namely the maximum Lamda-max test statistics and the trace statistics. The Lamda-max test statistic tests the null hypothesis of r co integrating vector(s) against the specific alternative of r +1cointegrating vector(s). The trace statistic, on the other hand, tests the null hypothesis of no cointegrating vector (r = 0) against a general alternative of one or more co integrating vectors (r > 0). Here, SR= state own revenue, REIP= revenue expenditure - interest payment. The numbers in parenthesis are the p-values. *, **, and * ** denotes significant at 10%, 5% and1% level respectively.*

Table 2: Results from engle granger test

Models independent	SR - REIP	SDP-TDE	RE - SR	TEIP - SR	SR - RE	TE - SDP
ΔL GSDP	No cointegrating relationship	No cointegrating relationship	No cointegrating relationship	No cointegrating relationship	No cointegrating relationship	0.707 (1.89)
ΔL TDE						
ΔL RR						
Ect - 1						-0.58 (-3.69) ***
R2						0.42
DW						1.95
Constant						0.02 (0.96)

Note: ****p< 0.01; **p<0.05; and *p<0.10. Ect represents error correction term. Rows show independent variables and column shows the relationship. In these models, the last column shows the significant error correction term with negative sign.*

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GIFT GULATI INSTITUTE OF FINANCE AND TAXATION

Convergence and surge of inflation in Kerala: A comparative dynamics

Adithya Krishnan and P S Renjith

1. Introduction

The Pandemic induced uncertainties and unravelling of further disruptions in form of wars are stoking damages to the prospect of effective economic recovery. The whole economic activity, which was pushed to a standstill started to show the nascence of recovery since 2022. However, the renewed disruptions have furthered the supply chain disruption that has caused Inflation to transcend all the previous limits. The inflation level reached multi-decade high during 2022 (IMF, 2022). Even though it eased a little, the projections have pointed to a sticky inflationary condition that is poised to have a long persistence (IMF, 2023: WEF, 2024). In this respect, several reports have clearly pointed out the fact that price stability remains priority for the policymakers to ensure resilience.

Similar is the tale for Indian economy. The pre-covid period of India had experienced a deflation in Food prices (-1.29% in H2 2019) along with a surprisingly higher core inflation (5.6% in H2 2019). The general inflation levels happened to be well contained and mostly it was well below the median target level of 4% as laid out by FIT. However, the scenario turned topsy-turvy in post covid scenario. The inflation levels have reached the peak and even crossed the upper band of 6% as mandated in FIT framework in the outset of Covid. It got benign thereafter, but sprang back to higher levels in the outset of Russia-Ukraine war. Now it has shown a promising easiness. The policies of both government and RBI is poised to ensure a fall in general inflation with a considerable dip in the core inflation, even though the heightened food inflation poses a serious threat (Indian Economy: A Review, 2024). But in a general sense, the inflation levels post-covid era have been consistently higher than the median inflation target of 4% causes a sense of discomfort in the policy mechanism too. As the economic stimulus extended after the outset of covid-19 had given a push in the price levels due to revived demand at a time of supply disruptions, the heightened price levels even after the cyclical withdrawal of liquidity and support measure raises further concern on the policy approach need to be adopted. This is even serious, given the uneven recovery of economy and further global challenges emerging out on the course.

In case of Kerala which is predominantly a consumerist economy, the inflation level needs to be dealt with utmost caution. Since most of the commodities are get imported from different states as well as from different part of the world, the consequent supply disruption would have driven the price levels in a significant manner. However, the inflation level in Kerala was higher than the national average prior to covid-19 pandemic itself. This can be attributed towards the possible impact of 2018 floods and a core inflation which is higher than the national average. But, during the period of Covid and in its aftermath, the general inflation level of Kerala followed an opposite trend as that of India. This is because of a pro-active market intervention made by the Kerala government in form of Food kit supply, supply of agricultural outputs through the Supply co and others (Renjith and Kakarlapudi, 2021).

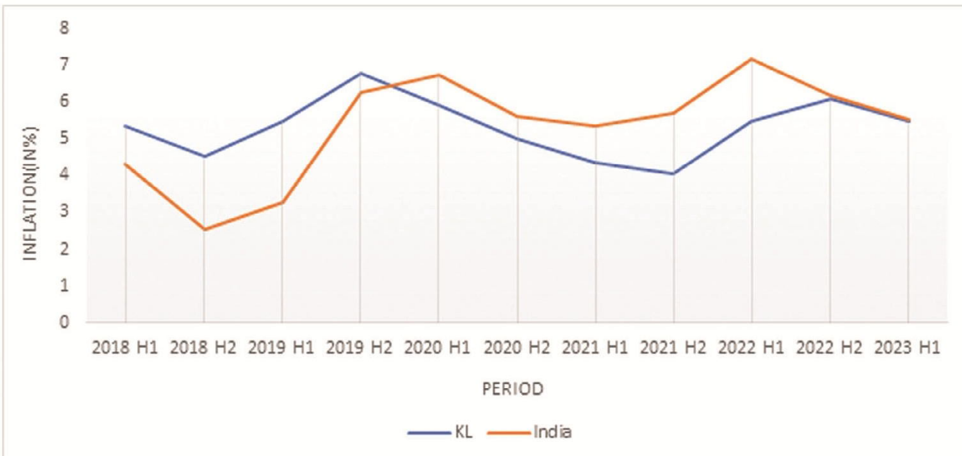
The scenario of India and Kerala in the pre-pandemic and post-pandemic scenario had been summarised in the graph attached below. As it can be seen, the inflation level in Kerala was higher than national average prior to the outbreak of Pandemic. When the general expectation that this trend will be maintained during the outbreak, the results were quite rousing. During the pandemic, it reversed the trend by having one of the lowest inflation level in the country and it continued even for the FY 2021-22 (Renjith and Kakarlapudi, 2022). This can be attributed towards the aid extended by state in form of kind rather than in form of cash (Renjith and Kakarlapudi, 2022). Post-recovery trend got reverted back to pre-pandemic scenario, where inflation level of the state shown an increasing trend w.r.t national average in the outset of recovery aided by the fulfilment of impending demand and opening up of further service sector. By the beginning of FY 2022-23, prices started to shot up in Kerala, where as it showed an easing levels at national scenario. At present, the price movement of state and national average moves in tandem (Figure -1)

It has been more than two years since the outbreak of second wave of pandemic which was not followed by such a *blackswan* event, it would be better on our part to look into the dynamics of Inflation in the national as well as in federal context. Given, both economies being consumerist with adequate diversity in its societal and economic composition, it warrants an extensive decomposition to understand how the drivers of Inflation behaved at each time during the period of concern.

For the empirical analysis, we use the monthly Consumer Price Index (CPI) data published by the Ministry of Statistics and Program Implementation (MOSPI) from April 2018 to September 2023. The monthly data has been averaged to get half yearly data. Since previous articles (Kakarlapudi and Renjith, 2020; Renjith and Kakarlapudi, 2021) compared the price trends of the pre-pandemic period with the pandemic period, this article compares pre-pandemic, pandemic and post-pandemic trends to get a detailed understanding of inflation dynamics in the Indian and Kerala context.

The headline inflation in Kerala, concerning India, exhibited a divergence before and during the pandemic but began converging afterward.

Figure 1. CPI-combined: - Kerala vs india comparison



Source: Author's Calculation using MoSPI data.

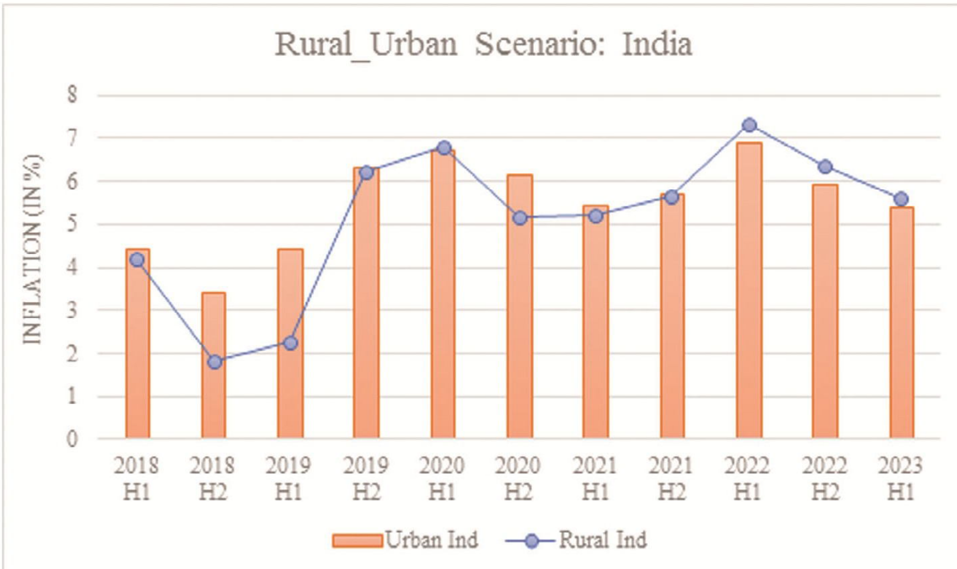
Rural-Urban scenario: Comparative analysis between kerala and india

The rural-urban comparison of inflation level over time holds an important aspect in understanding the dynamics of inflation. The difference in the magnitude and dimension of the preference can be touted as one reason to say so. It helps to get a clear cut understanding on which factor drives the price level more in each region. This can also shed some light on how the preferences are changing with respect to time.

With a rapid level of urbanisation accompanied by an increased level of migration and then followed by reverse migration on the outset of pandemic, the price level dynamics can also get changed over time. In case of India, where almost 2/3rd of the population resides in the rural area and a good portion of them indulges in migration too, tracking the price movements is necessary. The following graph summarises the Rural-Urban dynamics of Inflation in the Indian Context (Figure - 2).

In the *pre-pandemic scenario, urban inflation outnumbered rural inflation for*

Figure 2. Inflation level in india: - Rural-Urban dynamics



Source: Author's Calculation using MoSPI data.

India as a whole. Even though the price level started moving in an upward direction, this trend was maintained till the outbreak. *During the period of pandemic, both moved in tandem, where the values are almost equal.* However, *post -pandemic period and the associated recovery has shown an opposite trend in the price movements, with rural inflation outpacing urban inflation.* Since January 2022, rural inflation was consistently higher than urban inflation. This is happening at a time when rural demand is found to be subdued which is certainly a worrying sign (HSBC, 2023).

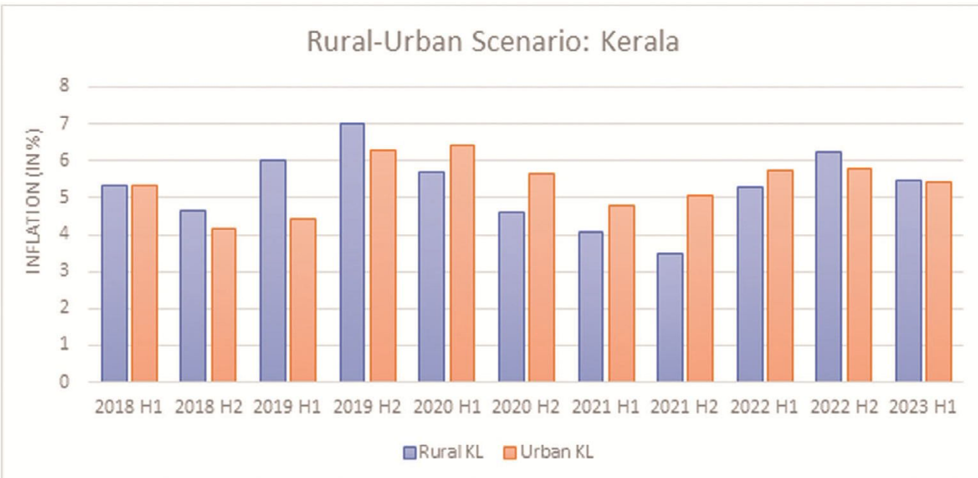
When it comes to the case of Kerala which has managed the price levels relatively better during the pandemic and post-pandemic period, the rural-urban dynamics present an entirely different case from that of Indian scenario. *Prior to the outbreak of pandemic, inflation level of rural Kerala measured to be higher than that of the urban segment. And since the outbreak of pandemic, the trend got reversed with urban inflation being greater than rural inflation.* It can be contributed to the opening up of economy which led to enhanced service availability, increased fuel prices that had contributed towards an increased cost of travel and communication also. The fulfilment of pent up demand during the period of pandemic also could have led to a similar trend.

The following figure provides a quick summary on to the rural-urban dynamics of inflation in the context of Kerala: (Figure -3).

The contrasting trends pertaining to the

Rural-urban dynamics exhibited a contrast in trends, with pandemic data showing urban inflation surpassing rural in India, while Kerala experienced the opposite. Post-pandemic, the trends reversed, with rural inflation exceeding urban in India and urban inflation surpassing rural in Kerala.

Figure 3. Inflation level in kerala: - Rural-Urban dynamics



Source: Author's Calculation using MoSPI data.

movement of price level in Rural and Urban area at national and state level warrants an in-depth analysis of drivers of inflation over time. The components which make up the computation of inflation levels have different weights while using it in the rural and urban context. In this light, it is quintessential to know, how each factors have behaved. As food inflation is turning out to be a Pandora's Box for the economic growth sustenance (Indian Economy: A Review, 2024), we need to understand how food inflation behaved over the period in study. This can also throw insights into rural-urban division in the inflation trends, as food inflation tends to be a key factor in determining inflationary pressure and has been cautioned as an X-factor in the time to come.

Food inflation: An X-factor?

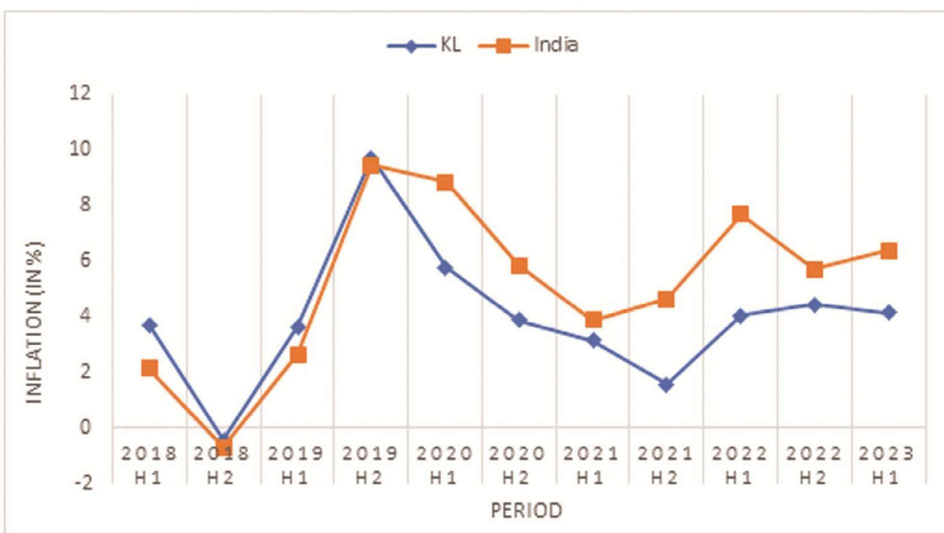
For a consumerist economy like India, where a good amount of people is still confronting the issue of poverty and malnourishment, price movements in food holds an important role (Panagariya, 2005). As majority of people spending most of their income in food which is aptly indicated by the weight assigned to this segment in inflation estimation, Food inflation is essentially an indicator to watch out for assuring the welfare of people. When it comes to the estimation of inflation in both rural and urban area, food article holds the primacy though at different weights given (54% in rural vs 36% in urban).

Given the predominant role of food prices in the estimation of inflation levels, a better management of same can ensure relative price stability in the economy. It is because of the empirical evidences that has proven a significant causality from food inflation into the core (but not backwards) and towards headline inflation in the Indian context (bi-directional) (Ball et.al, 2016; Eichengreen et.al, 2020).

The overall trend in the food inflation w.r.t India and Kerala has been provided in the figure given below (Figure-4).

The figure represents a co-movement in the average food inflation at national and state level. During FY 2018-19, the food inflation had gone into negative territory on account of better harvest and a positive weather events too. It had coincided with a moderated global food inflation too as global price levels proved to have a spill over effect on domestic price levels (Eichengreen et.al, 2020: Bhalla, 2022). However, the trend got reversed suddenly since 2019 March and food inflation in the FY 2019-20 end by rallying up almost 12% w.r.t to FY 2018-19. The rural-urban divide also got enlarged, possibly because of sluggish growth in rural real wage that kept rural inflation comparatively lower and differential rates of Inflation in food and other components (Economic Survey, 2020). The outbreak of pandemic had

Figure 4. Food inflation: - A comparative perspective.



Source: Author's Calculation using MoSPI data.

lowered the demand by causing income and job loss. The lockdowns and evolved geo-political situations had created a significant supply disruptions that resulted in a sudden spike of food prices during the pandemic time. And the disruptions that ensued over time had built in a persistence of this, even though economy got opened up in phases. Even though the magnitude of food inflation had eased when compared to the spike it experienced since 2019, it still hovers at comparably higher levels.

Food inflation continues to be a threat in Indian scenario. An elevated level of food inflation accompanied by a rise in crude price which shot back to a decadal high in 2022 can be considered as a lethal combination to the target of maintaining price level within the mandated targets. As seen in the graph, the food inflation which was close to 9% in India during the period of pandemic had eased and came within the target band by the end of FY 2021-22. However, the renewed disruption in form of Ukraine- Russia war, El-nino effect and increased crude price in the beginning of FY 2022-23 had pushed it back to higher range and it continues to be well above the upper band of 6% (HSBC, 2023). Even though govt had made significant intervention by means of import restrictions and other measures, the concern still persist.

When it comes to the Kerala, the level of food inflation found to be lower than the national average which is in line with the existing studies (Renjith and Kakarlapudi, 2021: 2022).The provision of food kits, market intervention on vegetables by providing adequate supply via government agencies had yielded beneficial results in terms of containing food inflation in India (Economic review, 2023). Even though the food inflation shot well above the limits prior to the outbreak, the price level had fallen down significantly in pandemic and post-pandemic scenario. The altogether trend shows that the food inflation in Kerala is managed well within the targeted range and has been on the declining path consistently. *This has shown that the food inflation in India and Kerala has shown convergence prior to pandemic, but had turned out to be diverging in post pandemic period!*

Drivers of inflation

Prior to the outbreak of pandemic, inflation level in India was well within the targeted band of RBI's Inflation targeting regime. The food inflation was more or less subdued until March 2019, where it even fell in to the negative range or was having a deflationary trend. During this period, it was the inflation component excluding food and fuel (i.e, the Core Inflation) was found to be higher and was the major driver of inflation in India. And since FY 2019-2020, food inflation started to rise significantly. The supply disruption during the pandemic made it sticky even though the government interventions and the economic conditions eased it a little bit. Along with it, a heightened crude price had caused other components, to say transport and communication etc of inflation to rise from its lower level (Economic survey, 2023). The persistence of food inflation and that too having a

Core and non-core inflation in India saw a shift from core dominance in pandemic to non-core post-pandemic, with core remaining sticky and non-core experiencing a surge, while in Kerala, post-pandemic trends saw non-core inflation surpassing core, indicating a divergence

higher trend level is further destabilising the prospect of a tolerable inflation level.

In this outset, we need to chart out how the major drivers of inflation have behaved in response to the evolving conditions. To know it well, the characteristics of inflation and how it is influenced by the shocks of varying nature needs to be understood. In terms of volatility and responsiveness of inflationary pressure towards shock, inflation is decomposed into two parts: Core and Non-Core Inflation. Core inflation is that part of Inflation which is less volatile and and doesnot affected much by temporary shocks. To say, it represents the underlying trend of inflation in the system (Union Budget, 2022). The non-core inflation, on the other hand represents the volatile and gets affected by temporary shocks. It is transient in nature. The following table give insights into Core-Non Core decomposition of Inflation in India during the period (Table-1).

Prior to the outbreak, India had an elevated core inflation which is higher than the non-core inflation. During the pandemic and post pandemic period, the trend got reversed but had led to a sticky core inflation on account of an elevated non-core inflation and continuous feedback from it to the core inflation.

In the context of Kerala, both the general and food price movement outpaced the national average prior to the outbreak of pandemic. However, during the pandemic and post pandemic period, Kerala was able to contain inflation within the limits and much lesser than national average (Joyal and Kakarlapudi, 2023). At present, the price levels are almost similar to the national average which was the result of a rising price level since 2022. In this light, it is quintessential to know which component had driven inflation the most in Kerala. The following table provides a detailed composition of Inflation into Core and Non-Core inflation of Kerala for the period analysed (Table - 2).

The pre-pandemic period had an elevated core inflation for Kerala which had changed since H2 of 2019. Thereafter, the Non-core inflation happens to be significantly higher than the core inflation which was on a declining trend until 2021 H2. Thereafter, it increased in a marginal way. It is quite contradictory to what have been observed at the national level, which had a similar trend in Non-core inflation but had a comparatively higher and sticky inflation. This means that there has been substantial difference in how the core and non-core inflation behaved at National and Kerala level.

This demands a dissected analysis of the drivers of Inflation, to understand the behaviour of Core and Non-Core inflation as

Table 1. Composition of inflation in india: Core vs non-core

Time	Core Inflation	Non-Core Inflation
2018 H1	6.4	4.7
2018 H2	5.1	1.8
2019 H1	3.9	1.6
2019 H2	3.5	5.8
2020 H1	5.1	5.6
2020 H2	6.1	4.5
2021 H1	5.6	7.9
2021 H2	5.5	7.7
2022 H1	5.5	9.1
2022 H2	5.7	7.9
2023 H1	4.8	5.0

Source: Author's Calculation using MoSPI data.

Table 2. Composition of inflation in kerala: Core vs non-core

Time	Core Inflation	Non-Core Inflation
2018 H1	6.72	5.64
2018 H2	8.07	2.65
2019 H1	4.97	2.58
2019 H2	2.42	5.98
2020 H1	3.41	6.13
2020 H2	2.80	3.32
2021 H1	1.97	8.63
2021 H2	1.84	7.26
2022 H1	2.02	5.65
2022 H2	2.39	8.50
2023 H1	2.58	5.97

Source: Author's Calculation using MoSPI data.

explained above. As food inflation holds the primacy in the determination of non-core inflation, a categorical analysis on the movement of each components within the food inflation needs to be look into (Table-3).

In the pre-pandemic period, most of the items experienced lower price movements. However, the surge in food inflation in H2 2019 is driven by Vegetables (37.2%) and Pulses (15%) which recorded a massive upswing in double-digits, followed by meats& fish (9.8%), eggs (7.4%). In the pandemic period followed, all the afore mentioned categories accelerated by a minimum of 50% which was further complemented by steep rise in price of Oil and Fats (12.4% - 32%), Pulses (15%) etc. The economic survey of 2023 had marked Oil and Fats as the biggest driver of Food inflation during the corresponding period. But things turned topsy-turvy, as afore-mentioned drivers fell into deflationary trends. At the same time, those categories which were having lower inflation before became the new drivers of food inflation such as Cereals & Products (8%-14%), Dairy products (6% - 8%), Spices (12% - 20%). Altogether, drivers of food inflation found to be changing over time. Despite being the world's top production house for dairy products and spices, the increased price levels is quite concerning. The price revisions with respect to the dairy products, uneven whether condition that caused fluctuations in the yield and surge in export demand on account of higher prices is touted as major reason for such a surge in these items. The recent decision to ban rice and wheat export can be seen in this direction.

A well-managed food inflation in Kerala also warrants a category wise analysis, which is given in the table below (Table-4).

The surge in food inflation prior to the pandemic was driven by higher price levels in Vegetables (10%-30%), Meat and Fish (10%-20%) and spices (6% - 13%). And during the pandemic period, vegetables experienced deflation along with a substantially lower inflation in the major drivers. However, items like Pulses and products (21.4%), Egg (above 15%) and Oil and Fats (8% - 13%) had led the price movements. But relatively lower weight assigned to these had kept the inflationary pressure low in Kerala when compared to the Indian average. Another aspect that needs to be understood is that the items with major weights were either provided through food kit or has been provided at subsidised rate through government outlets is the major factor that helped to rein in inflation within limits. So the magnitude of government intervention by extending aid helped to cool the price levels during pandemic. This is further validated by the price trend observed in items like Cereals and products which was deflating during the pandemic got back into high inflationary region in the recent time. Revised rates in the diary products can be pointed as one reason behind the increased price level of diary products in post pandemic scenario. Altogether, the food inflation were kept low during the pandemic period. However, the withdrawal of the provision of aids and subsidies ensued by global supply disruption is making the food inflation in the state to inch up slowly.

Table 3. Composition of food inflation in india

Item	2018 H1	2018 H2	2019 H1	2019 H2	2020 H1	2020 H2	2021 H1	2021 H2	2022 H1	2022 H2	2023 H1
Cereals & products	2.8	1.4	1.3	4.3	6.3	1.0	-1.7	2.8	7.5	14.5	12.5
Meat & fish	2.9	5.1	8.8	9.8	17.5	15.0	9.4	6.6	5.1	3.3	1.5
Egg	6.0	-1.1	1.6	7.4	10.8	15.5	14.9	1.3	-3.4	4.8	5.2
Milk & products	2.9	0.8	0.9	4.8	6.3	3.6	1.9	3.8	6.1	8.7	8.2
Oils and fats	2.8	1.4	0.8	4.9	12.4	19.8	31.9	23.6	8.7	-1.6	-15.4
Fruits	7.3	-2.5	-2.5	4.2	1.1	3.7	8.8	3.6	5.0	4.5	3.1
Vegetables	1.6	-10.4	6.4	37.2	11.9	0.0	-9.9	-2.2	15.5	-7.8	8.6
Pulses & products -	10.0	-6.4	4.9	15.0	15.6	15.3	8.9	3.3	1.0	3.8	10.9
Sugar & confectionery	-6.2	-7.8	-1.5	3.2	3.3	0.2	-0.8	5.6	4.1	0.6	3.3
Spices	2.3	2.1	1.9	6.8	12.6	9.4	5.3	5.3	12.7	19.6	20.4
Non-alcoholic bev	1.7	3.4	3.1	2.0	5.1	12.0	14.4	7.9	4.7	4.2	3.7
Prepared meals, snacks etc.	4.6	3.6	2.5	2.4	3.4	4.9	5.7	6.5	7.3	7.8	5.8
Food and beverages	2.2	-0.7	2.6	9.5	8.8	5.8	3.9	4.6	7.7	5.7	6.4

Source: Author's Calculation using MoSPI data.

Table 4. Composition of food inflation in kerala.

Item	2018 H1	2018 H2	2019 H1	2019 H2	2020 H1	2020 H2	2021 H1	2021 H2	2022 H1	2022 H2	2023 H1
Cereals and products	-1.1	-4.7	-0.9	5.7	3.3	-0.6	-2.4	2.3	11.2	17.5	10.3
Meat and fish	0.9	8.2	15.2	15.6	11.5	8.7	0.3	-1.5	0.8	-3.6	-2.6
Egg	6.3	1.3	-0.2	4.6	15.8	16.2	15.7	1.5	-2.0	7.1	7.2
Milk and products	0.5	1.3	1.4	5.5	8.2	4.6	4.7	4.8	2.1	8.3	11.4
Oils and fats	29.2	-2.1	-3.3	4.4	3.1	8.9	12.5	-5.4	-15.6	-13.6	-11.5
Fruits	13.8	-6.3	-8.2	0.7	0.2	0.9	8.1	0.9	4.4	5.7	-2.8
Vegetables	-7.3	-10.6	12.8	36.5	0.1	-4.8	-2.2	4.6	13.5	-5.7	8.9
Pulses and products	-10.3	-5.8	5.4	18.9	21.4	14.8	4.6	1.0	-1.2	3.5	12.0
Sugar and confectionery	-10.6	-6.5	1.8	4.6	5.1	0.8	-1.9	4.0	4.6	1.1	3.2
Spices	6.5	6.8	5.4	13.9	12.3	7.5	3.8	4.8	19.4	28.4	14.3
Non-alcoholic beverages	0.8	3.3	2.3	0.7	2.5	5.6	9.2	6.5	4.5	5.0	4.7
Prepared meals; snacks; sweets etc.	6.7	3.9	3.6	3.8	3.7	4.0	4.9	3.1	3.0	6.1	6.0
Food and beverages	3.7	-0.4	3.6	9.7	5.8	3.9	3.2	1.6	4.0	4.4	4.1

Source: Author's Calculation using MoSPI data.

Unlike pandemic period, major food inflation drivers in the post-pandemic period in both India and Kerala included cereals, eggs, dairy, pulses, and spices, with Kerala also experiencing a surge in vegetable and packed food prices.

The volatile component of Fuel and light, which can trigger in a destabilising impact vide both demand and supply side is pivotal in the Kerala context given the consumerist nature of the economy. As the tax structure of the governments do influence the final price of petroleum products in the system, a uniform impact cannot be ascertained from it. This component also moderated prior to the pandemic, but made a jump during the pandemic and sustained it thereafter. The elevated levels can be attributed to an increase the global price during 2022 and the decision of Kerala govt to impose an additional cess of Rs 2/- from April 1, 2023. However, it is considerably less than the rate of change of price at national level. The changes in this component also have a significant impact upon the food inflation as the logistics cost get accounted in the retail price level (Bairangi, 2022). The miscellaneous component, which consist of several components like education, health, transport etc had shown a mixed trend throughout the time. This can be attributed to the diverse components and the differential weight attached to each of them. To say, household goods & service and transportation had a co-movement with general inflation level prior to pandemic which is followed by dip during pandemic and recovered to a higher level in post pandemic period. All this improvements can certainly be attributed to base effect, but not in a complete manner. The post pandemic levels had exceeded the pre-pandemic levels by a big margin certainly points to the improved demand situation. Even in the pre pandemic period itself, the personal care component had shown a huge increasing trend in double digits (20% +) and has declined during pandemic as expected. But contrary to the expectation, it didn't recovered immediately following the recovery. Rather a promising sign happened only in H1 2023. So, the picture provides altogether a diverse trend with a differential impact displayed by each components over time.

Conclusion

The analysis of inflation trends reveals noteworthy patterns in India and Kerala before, during and after the pandemic. The headline inflation in Kerala, concerning India, exhibited a divergence before and during the pandemic but began converging afterward. Rural-urban dynamics exhibited a contrast in trends, with pandemic data showing urban inflation surpassing rural in India, while Kerala experienced the opposite. Post-pandemic, the trends reversed, with rural inflation exceeding urban in India and urban inflation surpassing rural in Kerala Core and non-core inflation in India saw a shift from core dominance to non-core post-pandemic, with core remaining sticky and non-core experiencing a surge. In Kerala, post-pandemic trends saw non-core inflation surpassing core, indicating a divergence. Food inflation displayed a converging trend before the pandemic and a diverging one afterward, with different trajectories. Major food inflation drivers in both India and Kerala in post-pandemic included cereals, eggs, dairy, pulses, and spices. Notably, in Kerala, post-pandemic, major imported items, excluding spices, became key drivers, while the surge in packed food consumption in Kerala can be attributed to increased demand and the imposition of GST.

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Kerala Economy
Vol.4 No.4 October - December 2023

GULATI INSTITUTE OF FINANCE AND TAXATION

Trends in employment and wages in India: Analysis based on periodic labour force surveys

B S Sumalatha

1. Introduction

Indian economy achieved higher economic growth in the post liberalisation period with the increasing informalisation and fragmentation of labour markets (Mehrotra, 2019; Jose, 2022). The structural change and pace of employment generation are low in the country. Aggregate employment is also low compared to other developing countries (Basole, 2022). Rural areas showed a decline in the self employment and increase in casual workers both in the case of female and male (GoI, 2020-21). Construction sector showed a positive employment growth in the industrial sector. Though general educational level has improved in the country, skill based education is still lacking among the youth population in India (Mehrotra, 2019; Chand and Singh, 2022). The mismatch between educational level and available employment opportunities are real problem with regard to employment absorption in different sectors (NCEUS, 2019). The output and employment growth outside agriculture is important for labour transfer from agriculture to non-agriculture sector. Female labour force participation rate is on the decline in all India level (Papola, 2012; Mehrotra, 2019).

Informalisation of employment including formal sector is the important characteristics of the Indian labour market (Mehrotra, 2019). Formalisation of informal sector is essential in order to ensure workers' protection and social security (Dasgupta and Kar, 2018). Increasing educated youth unemployment and lack of quality of non-farm employment put pressure on India's employment crisis along with increasing informal nature of work in both the formal and informal sectors (Mehrotra and Parida, 2019). The decline in the labour force and work participation rates is mainly attributed by the increasing education among the youth (Mukherjee and Majumder, 2023). Youth population have a higher preference to work in the non-agricultural sector employment compared to rest of the population (Chand and Singh, 2022). An analysis on the pattern of female labour force participation rate from 1993-94 to 2020-21 found varied level of reversal in participation rate in all the states. Post 2017, Kerala showed an increase in the female labour force participation rate (Hajong and Kakarlapudi, 2023). The urban workforce is also getting highly informalised in India.

There is a marginal increase in the LFPR of male in rural and urban areas. Though there is an increase in the LFPR of rural females during 2020-21, it is only about half of the male labour force participation rate.

The categories of urban informal workforce such as domestic work, home-based work, street vendors and waste pickers are growing up fast (Chen and Raveendran, 2014). The quality aspects of the labour market such as working conditions and terms of employment are not documented properly due to the lack of proper data. In this background, this study looks into the trends in employment and wages across various categories of employment using the latest Periodical Labour Force Survey (PLFS).

2. Labour force participation rate

The Labour Force Participation Rate (LFPR) based on usual status and Current Weekly Status (CWS) for the period 2017-18 to 2020-21 is given in table 1. There is a marginal increase in the LFPR of male in rural area from 54.9 percent to 57.1 percent during 2017-18 to 2020-21 in the usual status category. The same trend is seen in the case of urban male during the same period. Though there is an increase in the LFPR of rural females from 18.2 percent in 2017-18 to 27.7 percent in 2020-21, it is about half of the male labour force participation rate. On the other hand, in the urban area, the LFPR of female has increased from 15.9 percent 18.6 percent during the same. The gender gap in the LFPR in usual status category is 39.8 percent in 2020-21.This is an alarming trend. The similar trend is seen in the case of CWS for both rural and urban areas. The gender gap is high for urban (39.7 percent) compared to rural area (34.3 percent) in CWS during 2020-21 (Table-1).

3. Category wise distribution of workers

The category wise distribution of workers in usual status is provided in table 2. It is seen from the data that self employment (61.3 percent) constitutes highest to the total employment followed by casual labour (26.6 percent) and regular wage employment (12.1 percent) in the rural area. Whereas, in urban area, regular wage employment constitute more (46.4 percent) followed by self employment (39.5 percent) and casual labour (14.1 percent). It is important to note that in rural areas, females are more engaged in self employment and it is regular wage employment in the case of urban area (Table-2)

The details of industry wise distribution of workers in usual status is given in table 3. If we look at the total employment scenario, we can see that the agriculture sector continue to contribute highest to total employment in the country with a share of 46.5 percent during 2020-21 period. This is followed by construction sector (12.1 percent) and trade, hotel and restaurant (12.2 percent). In rural area, while there is a marginal increase in the

It is seen that self employment constitutes highest to the total employment followed by casual labour and regular wage employment in the rural area. Whereas, in urban area, regular wage employment constitute more followed by self employment and casual labour.

Table1: Labour force participation rate (in percent) based on usual status (PS+SS) and CWS from PLFS (2017-18) to PLFS (2020-21)

	Usual status				Current Weekly Status			
Rural	2017-18	2018-19	2019-20	2020-21	2017-18	2018-19	2019-20	2020-21
Male	54.9	55.1	56.3	57.1	54.4	54.5	55.4	56
Female	18.2	19.7	24.7	27.7	16.1	16.7	21.1	22.7
Person	37	37.7	40.8	42.7	35.7	36	38.6	39.7
Urban								
Male	57	56.7	57.8	58.4	56.7	56.7	57.2	57.8
Female	15.9	16.1	18.5	18.6	15.3	15.6	17.5	17.3
Person	36.8	36.9	38.6	38.9	36.4	36.7	37.8	38
Total (Rural plus Urban								
Male	55.5	55.6	56.8	57.5	55	55.2	56	56.5
Female	17.5	18.6	22.8	25.1	15.8	16.4	20	21.2
Person	36.9	37.5	40.1	41.6	35.9	36.2	38.3	39.2

Source: Periodic Labour Force Survey, Government of India, 2020-21

female work participation in agriculture sector from 73.2 percent in 2017-18 to 75.4 percent in 2020-21, there is a decline in the male participation in agriculture sector from 55 percent to 53.8 percent during the same period. This is mainly due to the increase in the participation of male population in the construction sector. Majority of the females in urban area works in other category of services (41.6 percent in 2020-21) followed by manufacturing sector (23 percent),and trade, hotel and restaurants (16.2 percent) (Table-3).

The social group wise labour force participation rate as per PLFS data shows that there is a marginal increase in the LFPR in all the social groups from 2017-18 to 2020-21. The same trend is seen for both the rural and urban areas. It is important to note that within the social groups, it is the ST community constitute highest in the labour force participation in both the rural and urban areas during 2020-21. When we look at the female and male categories separately, we can see that 'others' category has highest labour force participation rate among the male and it is ST in the case of females in the rural area. While in the case of urban area, SC community has higher labour force participation rate

Table 2: Employment category wise distribution of workers in usual status (percentage)

Category of persons	Category of employment			
	Self employed	Regularwage/salary	Casual labour	All
		PLFS (2020-21)		
		Rural		
Male	59.7	13.6	26.8	100
Female	64.8	9.1	26.2	100
Person	61.3	12.1	26.6	100
Urban				
Male	39.9	45.3	14.9	100
Female	38.4	50.1	11.5	100
Person	39.5	46.4	14.1	100
PLFS (2017-18)				
Rural				
Male	57.8	14	28.2	100
Female	57.7	10.5	31.8	100
Person	57.8	13.1	29.1	100
Urban				
Male	39.2	45.7	15.1	100
Female	34.7	52.1	13.1	100
Person	38.3	47	14.7	100

Source: Periodic Labour Force Survey, 2020-21, Government of India

among the male and it is ST in the case of female population (Table 4 & 5).

Table 5 provides the details of job contract, paid leaves and social security benefits of the regular wage employees in usual status in the non-agriculture sector during 2017-18 and 2020-21. While 66.3 percent of people do not have written job contract in rural area, it is 63 percent in urban area during 2020-21. There is a slight decrease in the percentage of workers having no written job contract from 2017-18 to 2020-21. There is not much difference is seen regarding the written job contract between male and female.

The agriculture sector continues to contribute highest to total employment is followed by construction sector and trade, hotel and restaurant. There is a decline in the male participation in agriculture sector in the rural area. In rural area It is the ST community constitute highest in the labour force participation in both the rural and urban areas.

Table 3: Industry category wise distribution of workers in usual status (percentage)

Industry classification as per NIC 2008	Rural			Urban			Total		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
	PLFS (2020-21)								
Agriculture sector	53.8	75.4	60.8	5.3	10.4	6.5	39.8	62.2	46.5
Mining and quarrying	0.4	0.1	0.3	0.5	0.1	0.4	0.4	0.1	0.3
Manufacturing sector	7.7	7.4	7.6	19.5	23	20.3	11.1	10.6	10.9
Water, Electricity etc	0.5	0.1	0.4	1.4	0.6	1.2	0.8	0.2	0.6
Construction sector	15.6	5.9	12.4	13.1	4.4	11.1	14.9	5.6	12.1
Trade, hotel and restaurant	9.7	3.5	7.7	27.4	16.2	24.8	14.8	6.1	12.2
Storage, Transport and communications	5.3	0.3	3.7	12.2	3.7	10.2	7.3	1	5.4
Other services	7.1	7.5	7.2	20.7	41.6	25.5	11	14.4	12
All	100	100	100	100	100	100	100	100	100
	PLFS (2017-18)								
Agriculture	55	73.2	59.4	5.4	9.1	6.1	40.2	57	44.1
Mining and quarrying	0.5	0.2	0.4	0.6	0.2	0.5	0.5	0.2	0.4
Manufacturing	7.7	8.1	7.8	22.4	25.2	23	12	12.5	12.1
Electricity, water etc	0.5	0	0.4	1.3	0.6	1.2	0.7	0.2	0.6
Construction	14.5	5.3	12.3	11.7	4.1	10.2	13.7	5	11.7
Trade, hotel and restaurant	9.2	4	7.9	24.5	13	22.1	13.7	6.3	12
Transport storage and communications	5.2	0.3	4	12.7	3.3	10.8	7.4	1.1	5.9
Other services	7.6	8.9	7.9	21.5	44.4	26.2	11.7	17.8	13.2
All	100	100	100	100	100	100	100	100	100

Source: Periodic Labour Force Survey, 2020-21, Government of India

Note: NIC: National Industrial Classification

Table 4: Social group wise labour force participation rate of PLFS (2017-18) and PLFS (2020-21) (usual status) (percentage)

Social groups	Rural			Urban			Total		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
PLFS (2020-21)									
OBC	55.7	27.1	41.7	58.2	18.5	38.8	56.4	24.6	40.9
ST	58.6	41.6	50.3	58.5	23.5	41.3	58.6	39.6	49.3
SC	56.7	27.2	42.4	59.3	21.6	40.6	57.3	26	42
Others	59.4	21.6	40.8	58.3	16.8	38	58.9	19.6	39.6
All	57.1	27.7	42.7	58.4	18.6	38.9	57.5	25.1	41.6
PLFS (2017-18)									
OBC	53.6	17.4	36	57.2	16.1	36.9	54.6	17.1	36.2
ST	56.6	27.6	42.5	53.6	18.4	36.6	56.3	26.6	41.8
SC	55.9	18	37.3	57.3	19.2	38.6	56.2	18.2	37.6
Others	55.6	15	35.9	57	14.2	36.1	56.2	14.7	35.9
All	54.9	18.2	37	57	15.9	36.8	55.5	17.5	36.9

Source: Periodic Labour Force Survey, 2020-21, Government of India

Table 5: Details of job contract, paid leaves and social security benefits of regular wage/ salaried employees in usual status (ps+ss) in non-agriculture sector (percentage)

Category of regular wage/ salaried employees	No written job contract		Not eligible for paid leave		Not eligible for any social security benefit	
	PLFS (2020-21)	PLFS (2017-18)	PLFS (2020-21)	PLFS (2017-18)	PLFS (2020-21)	PLFS (2017-18)
			Rural			
Male	68.7	71.7	55.5	58.1	59	51.9
Female	58.1	58.5	41.8	47.9	59.3	55.1
Person	66.3	69.2	52.3	56.2	59.1	52.5
Urban						
Male	62.8	72.7	45	53.1	49	47
Female	63.6	71.4	44.9	51.8	53.5	50.1
Person	63	72.4	44.9	52.8	50.1	47.7
Total						
Male	65.2	72.3	49.3	55.2	53.1	49
Female	61.5	66.8	43.7	50.4	55.8	51.8
Person	64.3	71.1	47.9	54.2	53.8	49.6

Source: Periodic Labour Force Survey, 2020-21, Government of India

The wage paid to the casual labour during all the survey periods remains more or less unchanged. Females are less paid compared to their counterparts in both the rural and urban areas.

4. Wage earnings of the workers

The average wage of regular wage employees during the preceding calendar month in CWS during PLFS 2020-21 is given in table 6. In all the reference period, male earns more than the female. There is also the regional gap in the earnings of both the male and females. The gender gap is seen in both the rural and urban cases. During April-June 2021, men earned Rs. 18653 compared to Rs. 13927 paid to women at the all India level. During the same period, in rural area, male and female earned Rs. 15449 and Rs. 10672 respectively compared to Rs. 21139 and Rs. 16599 for male and female in the urban areas (Table -6).

Table 7 represents the average earnings of casual labour during 2020-21 period. The wage paid to the casual labour during all the survey periods remains more or less unchanged. During the survey period April-June 2021, females paid Rs. 233 a day compared to Rs. 357 of male. While in the rural area, female is paid Rs. 229 per day, it is Rs. 348 for male. This is the same trend seen in the urban region also. Rural male and female are paid less than that of their counterparts. This indicates the existence of regional gap in payment as the case of gender gap (Table-7 & 8).

Table 6: Average wage earnings of regular wage employees during the preceding calendar month in CWS during PLFS 2020-21 (Rs.)

Survey period 2020-21	Rural			Urban			Total		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
July-September 2020	14288	9409	13120	21068	16701	20030	18328	13737	17234
October-December 2020	15962	10009	14707	21447	16568	20285	19103	14014	17950
January-March 2021	16127	9588	14496	21095	16022	19870	19004	13248	17594
April-June 2021	15449	10672	14266	21139	16599	20062	18653	13927	17509

Source: Periodic Labour Force Survey, 2020-21, Government of India

It is important to note that in all the survey periods, the wage paid to the male and female self employed workers in the urban area is double that of rural area. During the latest period of survey (April-June 2021), male and female were paid Rs. 10104 and Rs. 4648 in rural area compared to Rs. 15699 and Rs. 7052 for male and female respectively in the urban area. The gender gap in the wages paid to the self employed workers is also high in case of both the rural and urban areas.

Table 7: Average earnings of casual labour during PLFS 2020-21 (All India) (Rs/ per day)

Survey period 2020-21	Rural			Urban			Total		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
July-September 2020	328	212	302	406	266	385	340	218	314
October-December 2020	326	216	297	413	266	391	341	221	311
January-March 2021	339	224	310	416	273	394	352	229	322
April-June 2021	348	229	317	413	281	394	357	233	327

Source: Periodic Labour Force Survey, 2020-21, Government of India

Table 8: Average payment of self employed workers during the last 30 days in CWS category during PLFS 2020-21 (All India) (in Rs.)

Survey period 2020-21	Rural			Urban			Total		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
July-September 2020	9829	4622	9049	15903	7167	14662	11184	5162	10291
October-December 2020	10517	4549	9555	16807	7081	15361	11924	5075	10840
January-March 2021	10462	4425	9391	17046	6996	15420	11924	4967	10757
April-June 2021	10104	4648	9232	15699	7052	14349	11345	5170	10363

Source: Periodic Labour Force Survey, 2020-21, Government of India

5. Conclusion

The data on the LFPR of male in rural areas indicate a marginal increase from 54.9 percent to 57.1 percent during 2017-18 to 2020-21 in the usual status category of employment. The same trend is seen in the case of urban male during the same period. Though there is an increase in the LFPR of rural females, it is about half of the male labour force participation rate. On the other hand, in the urban area, the LFPR of female has increased during the same. The gender gap in the LFPR in usual status category is 39.8 percent in 2020-21. The similar trend is seen in the case of current weekly status for both rural and urban areas. There is not much increase in the LFPR of female and male in both the rural and urban regions. But the gender gap is high for urban compared to rural in the case of CWS during 2020-21. The self employment constitutes highest to the total employment followed by casual labour and regular wage employment in rural area. Whereas, in urban area, regular wage employment constitute more followed by self employment and casual labour. It is important to note that in rural areas, females are more engaged in self employment and it is regular wage employment in the case of urban area. The agriculture sector continues to contribute highest to total employment in the country with a share of 46.5 percent during 2020-21. This is followed by construction sector and trade, hotel and restaurant. In rural area, while there is an increase in the female work participation in agriculture sector, there is decline in male participation during the same period. This is mainly due to the increase in the participation in the construction sector.

Majority of the females in urban area works in other category of services followed by manufacturing sector and trade, hotel and restaurants. The social group wise labour force participation rate as per PLFS data shows that there is a marginal increase in the LFPR in all the social groups from 2017-18 to 2020-21. The same trend is seen for both the rural and urban areas. It is important to note that within the social groups, it is the ST community constitute highest labour force participation rate in both the rural and urban areas during 2020-21. When we look at the female and male categories separately, we can see that 'others' category has highest labour force participation rate among the male and it is ST in the case of females in the rural area. While in the case of urban area, SC community has higher labour force participation rate among the male and it is ST in the case of female population. Majority of the employees do not have written job contract in both the rural and urban areas. There is the regional and gender gap seen in the wage earnings of both the male and female in CWS category. There is a huge variation in the wages paid to the male and female in the case of both self employment and casual workers. The rural male and female are paid less than that of their counterparts in the urban areas. More employment opportunities in the non-agricultural sector is essential for the time to attract youth population which can reduce the growing unemployment in the country. Also, to attract more women into the labour market, flexible employment facilities should be provided that can increase the female labour force participation rate.

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Kerala Economy
Vol.4 No.4 October - December 2023

Imperative climate actions for Kerala's sustainable future

Anitha V

The context

In 2020 global as well as Asia's average surface temperature was the second largest since 1880(NOAA, 2021). It affected 0.8 per cent of the global land surface and is projected to affect 19 per cent in 2070(Xu, C.,2020). It already affects the global south compared to its counterparts and will affect 3 billion people in 2070. There is evidence that India is one of the Asian countries severely affected the climate change (UNDP,2022). Anthropogenic activities contributed much to the rising sea level, ocean acidification, and increasing methane and carbon dioxide. India committed to lowering its carbon intensity and raising the proportion of energy capacity derived from non-fossil fuels when it signed the Paris Agreement. At the same time, the implementation of policies and programmes to mitigate and adapt to climate change is not up to the mark. Kerala, one of the Indian states with a coastline length of 580 Km and rich biodiversity, has facing high climate variability recently. In this context, the article made an attempt to examine the importance of climate action and the way forward.

According to the Intergovernmental Panel on Climate Change(IPCC), the global temperature has already risen by 1.1 °C from pre-industrial levels and is expected to reach or beyond the crucial tipping point of 1.5 °C by 2035. The Sustainable Development Goal(SDG) 13, climate action, in target 2, stresses the importance of integrating climate change measures in the national policies, strategies and planning. It is also observed that the performance of Goal 13 is not on the right track. Hence, urgent and transformative actions are needed to prevent disastrous outcomes and climate resilience. One of the key areas for urgent action is government should advance integrated and targeted policies with a focus on the rights of women and the vulnerable (SDGs Report, 2023). Like any other shock climate change also affects disproportionally, with a huge impact on already vulnerable communities such as women, children and the marginalised.

Theoretical perspectives of climate action

Climate action is approached from various theoretical perspectives, each offering unique insights into addressing the complex challenges of climate change. Based on the ecological modernization theory, societies can achieve environmental sustainability through technological innovation and institutional

The increasing trends in the use of primary energy, water use, number of telecom users and urbanisation during the last 30 years show that the State is also causing climate variability

change, transforming industry and consumption patterns (Mol, A. P. J. ,2001). The sustainability transition theory also focuses on the dynamics of transition from unsustainable to sustainable systems, examining the role of actors, institutions, and technologies(Geels F. W., 2002). But political ecology emphasizes the socio-political aspects of environmental issues, exploring how power relations, capitalism, and social structures contribute to environmental problems(Peet, R., & Watts, M. ,2004). It states that power relations can create inequality. Hence environmental justice principles demand fair and equitable access to resources and protection from the environment(Bullard, R. D., 2000). However, the capacity of socio-ecological systems to absorb disturbances and maintain function emphasises adaptability and learning (Folke, C., 2006). Like the unequal distribution of resources, the burden of environmental costs is also unequally affected. That means already vulnerable or marginalised severely affected by the impact of climate change. Which is devastating and most of the time the poor community crosses the higher threshold due to climate impact. These theoretical perspectives contribute to a comprehensive understanding of climate action, informing policies and strategies to address the multifaceted challenges posed by climate change.

Kerala scenario

Kerala is unique in many aspects of socio-economic and health variables compared to other Indian states and which are comparable to the International level. But the increasing trends in the use of primary energy, water use, number of telecom users and urbanisation during the last 30 years show that the State is also causing climate variability. Kerala is extremely susceptible to the impact of climate change, as seen by its increasing frequency of extreme weather events, fluctuating precipitation patterns, and rising temperatures. Changes in monsoon patterns pose a hazard to agriculture, while sea level rise puts coastal communities at risk. The impact of climate change on Kerala is extreme and already clear with the occurrence of Okhi in 2017, floods in 2018 and 2019, landslides and the incidents of vector-borne diseases like chicken guinea and dengue. Since the impact of climate change is already visible in Kerala, it is imperative to finance climate resilience in order to avoid climate cataclysm.

Since the impact of climate change is already visible in Kerala, it is imperative to finance climate resilience to avoid climate cataclysm.

Given that climate change disproportionately affects women and marginalised communities, the action plan should prioritise integrating their needs with climate finance.

Climate action: Current status and the way forward in Kerala

Since the State is undergoing a financial crisis, it is very difficult to allocate funds to the emerging issues. However, the integration of climate change into state budgets and policies is necessary in the current context of severe global warming. The need for more climate funding is mentioned in Article 9 of the Paris Agreement and Article 7.5 recognises that adaptation measures should be taken into account ecosystem, communities and vulnerable groups. There was considerable room for climate mitigation measures in the State Action Plan on Climate Change 2023-2030 (SAPCC 2.0), which was released in December 2022. Kerala has advanced the use of renewable energy sources significantly. Enhancing biodiversity, increasing forest and tree cover, and promoting sustainable forest management are the goals of the Green India Mission. Reforestation initiatives aim to absorb carbon dioxide and lessen the consequences of climate change.

The key tools used to incorporate climate change into the budget are classified as strategies, co-ordinating institutions, impact assessment, public expenditure and institutional reviews, budget strategy, papers and circulars, budget tagging and scoring, innovative funding, citizens budget and accountability and transparency(CABRI, 2022).

Strategic planning

Kerala has now incorporated several policies and programmes as part of the climate action. The Rebuild Kerala Initiative signed a 100 million Euro with AFD(French Development Agency) for the resilience of climate change in 2022 on a performance-based. Besides the state also declared it become carbon neutral in 2050. Other policies and programmes related to resilient climate change are water and sanitation, use of solar energy, etc. which are aligned with the national and international agenda including SDGs and IPCC. But the problem with the existing methods are separate plans for each case. Since impact of the climate change is severely affected and affecting women and marginalised communities action plan focuses on integrating these with climate finance. Sectors like agriculture and land use, health food security, energy, water and sanitation, etc can be incorporated while implementing climate resilience actions. Environmental-friendly local practices are also necessary to reduce climate variability. For example, in the case of agriculture and food systems less risky, highly nutrient and compatible with the local environment should be promoted(Sunita Narain Edt., 2023).

Budget strategy

In order to ensure the implementation of the policies and programmes related to climate resilience, strengthen the budget statements and interventions in different sectors. As per the necessity of the current situation or to achieve the targets in the

Financing climate action involves a combination of public and private funding, innovative financial mechanisms and international cooperation. Generally used climate finances are green bonds, carbon pricing, climate funds, corporate social responsibility and other innovative finance instruments (IPCC, UNFCC).

prescribed time, the environmental component can be included in almost all the major programmes based on the priorities. Even climate actions can be integrated with gender budgeting. Need special assessment to prioritise and effective allocation for climate mitigation and adaptation.

Accountability and transparency

Climate accountability would increase awareness of the connections and enhance inspection of whether planned results are being attained and money is being delivered (CABRI, 2022). Proper accounting and transparency help to know the actual root of the fund transfer and whether it is reached in the marginalised communities.

Innovative funding

Finance is an important factor in implementing mitigation and adaptation strategies for sustainable climate resilience. Lack of finance and avoidance of such programs leads to loss and damages due to climate variability. The direct and indirect costs associated with climate costs are sometimes irreparable and irreversible. Financing climate action involves a combination of public and private funding, innovative financial mechanisms and international cooperation. Generally used climate finances are green bonds, carbon pricing, climate funds, corporate social responsibility and other innovative finance instruments(IPCC, UNFCC).

One of the best examples of a combination of public and private funding for environmental protection is Corporate Social Responsibility (CSR). But at the national and state level the allocation of funds under the head environment, wildlife and biodiversity protection is low. Kerala is not on the list of the top 10 states that received CSR funds in India. It may be due to fewer companies in Kerala compared to other states like Maharashtra, Karnataka, Tamil Nadu, etc. It is necessary to strengthen the fund for environment, wildlife and biodiversity protection under CSR in the state.

The state government can develop innovative sources of financing mechanisms like voluntary payments/donations to protect wildlife sanctuaries/western ghats/poonkavanam at Sabarimala for environmental protection of the specific areas and thereby climate resilience.

Public education and technology

Technological advancement and raising public understanding of climate change and its effects is essential to achieving sustainable development. Also, prioritize the dissemination of knowledge about green infrastructure to residents before implementing such projects (Wu et al., 2023). The state has the capacity to lead the world in sustainable practices and clean energy, promoting economic expansion while reducing its influence on the climate.

Conclusion

Kerala faces unique challenges and opportunities as it grapples with the impacts of global warming and strives to develop sustainably. This article explores the context of climate action in Kerala, examining the challenges, current initiatives, and the imperative for a collective response to ensure a sustainable future. Addressing climate change is a complex task that calls for coordinated actions from the public, private, and societal sectors. To prevent disadvantaged populations from suffering disproportionately from climate change, social equity must be given top priority in climate action plans. Opportunities for growth and employment should arise from the shift to a low-carbon economy, especially in rural areas. In the Kerala context, taking immediate action on climate change is not only necessary to protect the environment, but also to ensure the welfare of present and future generations.

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Adoption of artificial intelligence and augmented reality for smart tourism in Kerala

R J Reejo

I Introduction

Kerala is the first Indian state to designate tourism as an industry, and it is widely acknowledged as one of the country's top tourist destinations worldwide. Kerala is greatly benefited by tourism as it serves as major source of employment, income and thus a major contributor to the GSDP of the state. An estimated number of 1.5 million people are employed by the sector both directly and indirectly and it contributed approximately 8 per cent of the Gross State Domestic Product (GSDP) in 2019 (Government of Kerala, 2022). With a total accrued revenue of Rs. 12285.91 crore in 2021, it has made a major contribution to the Kerala State's economy. In 2021, the number of international tourists arrivals in the State declined by -82.25 percent compared to the year 2020. However, the number of domestic tourists arriving in 2021 exhibited a positive trend of 51.09 per cent (Government of Kerala, 2023).

The tourism sector in the State has been experiencing several unprecedented financial setbacks as a result of the Covid-19 outbreak. The State tourism business incurred a substantial loss of Rs. 20000 crores in the fiscal year 2020-21 itself. The total influx of international tourists to the State experienced a significant reduction of -71.36 percent, dropping from 11.89 lakh in 2019 to 3.4 lakh in 2020. The entire revenue generated from tourism in the year 2020, amounted to only Rs11,335.96 crore, indicating a significant decrease of -74.81% compared to the previous year (Government of Kerala, 2022). The State has implemented several initiatives primarily aimed at enhancing connection through infrastructure development and marketing in order to revitalize the sector. However, it is imperative

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For maximizing tourism's socio-economic benefit while minimizing its potential negative repercussions is crucial for the tourist sector for attaining sustainable development goals. Studies indicate that there is significant potential for utilizing Artificial Intelligence in understanding visitors' satisfaction, travel and accommodation booking and the like.

to prioritize the marketing efforts due to the escalating rivalry from the competing states and countries. However, it is imperative to prioritize the marketing efforts due to the escalating rivalry from the adjacent states and countries.

Hence, it is imperative to modify policies in order to achieve the objectives outlined in SDG - 9, which calls for includes constructing a robust infrastructure, promoting an inclusive and sustainable industrialization, and fostering innovation. These adjustments would also aid in maintaining market stability of tourism. The issues faced by Kerala tourism include the need for ongoing innovation in structured tourism products and experiences, as well as the requirement for an adequate supply of competent and trained workers (Economic Review, 2022). For maximizing tourism's socio-economic benefit while minimizing its potential negative repercussions is crucial for the tourist sector for attaining sustainable development goals. Studies indicate that there is significant potential for utilizing Artificial Intelligence in understanding visitors' satisfaction, travel and accommodation booking and the like. Additionally, there is a wide scope for implementing augmented reality (AR) technology to improve tourists' experience in exploring knowledge, exhibitions, mobile multimedia, cultural tourism guidance, museum guidance, and other related areas (Hannam, Butler, and Paris, 2014; Mekni and Lemieux, 2014; Sanna and Manuri, 2016). This article explores the potential of harnessing Artificial Intelligence (AI) and Augmented Reality (AR) technology in sustainable tourism practices to promote smart tourism in the State and thereby to attain the Sustainable Development Goals (SDGs) in the post-pandemic period.

This study aims to seek answers to the following specific questions; 1) What are the government's policy initiatives in the adoption of cutting-edge technologies to achieve sustainable tourism development in the State? 2) To what extent AI and location-based augmented reality (AR) are used to

1) What are the government's policy initiatives in the adoption of cutting-edge technologies to achieve sustainable tourism development in the State?
2) To what extent AI and location-based augmented reality (AR) are used to promote smart tourism in Kerala?

The main focus areas included creating jobs, preserving and promoting cultural heritage, providing high-quality services, developing infrastructure with private investment, backwater tourism promotion, Ayurveda oriented medical tourism and related forms rooted in nature.

promote smart tourism in Kerala? Although preliminary, the study questions are pertinent to both the academic field and the tourism business alike. The purpose of this study is to examine the extent of these inquiries by employing conceptual methodologies. Moreover, it tries to review the existing innovative technologies adapted in the State tourism industry so far.

II Tourism policies of kerala and sustainable development goals (SDGs):

The state of Kerala designated the tourism sector as an industry way back in the year 1986, recognizing its significance and potential in facilitating economic growth and development. Therefore, the Kerala Government has at the outset implemented policies aimed at fostering alternative forms of tourism in the state. Accommodation and other infrastructure facilities have been regarded as critical components of the state's initial tourism policy since 1995 (Kerala State Planning Board, 2017).

From the ninth five-year plan (1997-2002), the administration began to carry out policies for the preservation of historical sites and investigated the potential for eco-tourism operations in the State. The tourist department used the Millennium Development Goals (MDGs) to raise finances throughout the eleventh five-year plan period, which ran from the year 2007-08 to 2011-12. During these times, the measures for responsible tourism as well as the conservation, preservation, and promotion of culture and history were the priorities.

In 2001, the State government created Tourism Vision 2025, with the goal of implementing short, medium, and long-term strategies to increase the sector's vibrancy and dynamism. The main focus areas included creating jobs, preserving and promoting cultural heritage, providing high-quality services, developing infrastructure with private investment, backwater tourism promotion, Ayurveda oriented medical tourism and related forms rooted in nature.

In 2003, the Government of India launched

Kerala's Rural Tourism Initiative began at the coastal village of Kumbhalanghi in the Ernakulam district and became the State's first tourism village. As a part of the ongoing tourism development projects, more such villages are currently marketed as rural tourism attractions or destinations.

During the twelfth five-year plan era, eco-tourism projects were introduced in the State as a component of sustainable tourist development. "Responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education" is how the International Eco-Tourism Society (2015) defines eco-tourism.

a rural tourism project in 27 States as part of the Endogenous Tourism Project - Rural Tourism Scheme (ETP - RTS), in partnership with the United Nations Population Fund (UNDP) (Ministry of Tourism, 2008). "A type of tourism activity in which the visitor's experience is related to a wide range of products generally related to nature-based activities, agriculture, rural lifestyle/culture, angling, and sightseeing," is how the United Nations World Tourism Organization (UNWTO, 2021) defines rural tourism. Rural tourism has four main components. These are experiences, community-based traits, sustainable development, and location (Rosalina, Dupre, and Wang, 2021). Kerala's Rural Tourism Initiative began at the coastal village of Kumbhalanghi in the Ernakulam district and became the State's first tourism village. As a part of the ongoing tourism development projects, more such villages are currently marketed as rural tourism attractions or destinations.

The Kerala Responsible Tourism (RT) programme, started in 2008, is responsible for implementing community participation in tourism development. The three main focus of responsible tourism are social, environmental, and economic responsibility. Consequently, the local community experiences economic, social, and environmental benefits, with UNWTO recognizing the tangible results of these efforts. Among the several national and international honors bestowed upon the Department of Tourism, Government of Kerala, received the esteemed Ulysses Award for Responsible Tourism Project in Kumarakom, which was given in 2013 in the area of Innovations in Public Policy and Governance (Working Group Report on Tourism, 2017).

The Kerala government announced a comprehensive tourism policy in 2012, with five focal goals: 1) Creating a quality visitor experience; 2) Tourism benefits the community; 3) Creating an environment that encourages investment; 4) Establishing a stable market; and 5) Developing quality human resources. The goal of this policy being to achieve sustainable development in the tourism industry. Furthermore, the strategy underscored the importance of prioritizing the local community in the State's tourist development to maximize the advantages to the community on a social, economic, and environmental level.

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The Kerala government recently unveiled its "Keravan Kerala" caravan tourism policy for 2021, which promises the travellers a personalized, safe, and environmentally friendly travel experience that caters to their interests during the tourism season.

development. "Responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education" is how the International Eco-Tourism Society (2015) defines eco-tourism. It centers on exploring natural regions to gain knowledge of the local environment, wildlife, plants, and cultural artefacts of the area. More people are travelling as a result of eco-tourism initiatives than any other kind of travel.

A strategic approach to tourism was developed in the Kerala State Planning Board's perspective plan 2030 in 2014, with the goal of promoting tourism development in the state in a way that maintains harmony with the environment, economy, and society. It is based on six main pillars: local government ownership, skill development, research, social issues, the environment, and the economy.

The 2017 Tourism Policy seeks to establish safe, secure, and tourist-friendly sites as well as to create the Kerala Tourism Entrepreneurship Fund (KTEF) and create an action plan for the growth of sustainable tourism. The Kerala government recently unveiled its "Keravan Kerala" caravan tourism policy for 2021, which promises the travellers a personalized, safe, and environmentally friendly travel experience that caters to their interests during the tourism season. Caravan parks and tourism caravans are its two main constituents. It takes into account promoting eco-friendly practices, the market for locally produced goods, and responsible tourism activities for the benefit of the neighborhood and sustainable growth. Additionally, the tourism department announced destination wedding in three centers namely, Thiruvananthapuram, Kochi and Alappuzha in November, 2023, which is also a flag-ship program of the same.

In summary, the government targets niche tourism, promising visitors a safe, customized, and close-to-nature travel experience. These tourists exhibit characteristics of being more environmentally conscious, independent, flexible, and quality conscious than those who make up the majority of the mass market. This indicates that tourism is not treated as a public

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It is suggested to incorporate the use of technology such as AI in the sector, particularly Augmented Reality (AR), which would create a welcoming and safe environment, as well as provide a very interactive medium for tourists, while also addressing a large audience (Vlahakis, Ioannidis, Karigiannis, Tsotros, Gounaris, Stricker, Gleue, Daehne, and Almeida, 2002; Attila and Edit, 2012; Kounavis, Kasimati, and Zamani, 2012). In this regard, the study attempts to bring to light the existing new tourism-related technologies.

good. This is made clear by the three State tourism policies (1995, 2012, and 2017), the state's Vision 2025 documents, and the Caravan tourism policy of 2021. The government has made large investments in the tourism industry considering its immense potential in the state.

III Technology adaptation in the state tourism industry

Kerala is well-known for its policy initiatives aimed at harnessing the tourism industry's potential. However, the industry has been struck the most by the Covid-19 Pandemic, with low foreign remittances and severe job losses. Continuous innovation in organized tourism products and experiences is considered essential to revitalize the sector during the epidemic phase. It is suggested to incorporate the use of technology such as AI in the sector, particularly Augmented Reality (AR), which would create a welcoming and safe environment, as well as provide a very interactive medium for tourists, while also addressing a large audience (Vlahakis, Ioannidis, Karigiannis, Tsotros, Gounaris, Stricker, Gleue, Daehne, and Almeida, 2002; Attila and Edit, 2012; Kounavis, Kasimati, and Zamani, 2012). In this regard, the study attempts to bring to light the existing new tourism-related technologies.

In recent past, the State has implemented several cutting-edge marketing strategies such as digital and social media campaigns, utilizing technology to effectively draw in a larger number of visitors and successfully establish Kerala as a recognized brand in the sector of tourism activities. The "Human by Nature Campaign" was launched to highlight the culture and daily lives of the people of Kerala. This initiative aimed to revive the tourism sector, which had been adversely affected by the 2018 flood and the intermittent breakout of the Nipah virus. According to the Economic Review of 2022, around 3.10 crore

This initiative aimed to revive the tourism sector, which had been adversely affected by the 2018 flood and the intermittent breakout of the Nipah virus. According to the Economic Review of 2022, around 3.10 crore individuals viewed this campaign online and has been successful in emancipation of tourism sector in hard times.

The Tourism department of Kerala used an additional advanced method by introducing an official tourism application named 'Kerala Tourism software'. This software offers guests staying in the area information on surrounding attractions. Additionally, it provides access to the photographs and films showcasing well-known tourism attractions inside the State.

individuals viewed this campaign online and has been successful in emancipation of tourism sector in hard times.

The Kerala tourism department has a YouTube channel with over 30 million subscribers to promote tourism activities in the State. Additionally, it has created an electronic collection for its tourism videos. The department has developed a resource mapping system for certain destinations and utilized geo-tagged mobile camera photos for QR code implementation. The collective endeavors have effectively enticed 4.4 million tourists from 15,000 places throughout the globe to visit the State as part of the post-flood campaign. In addition, the Kerala tourist website offers up-to-date information about destinations, hotel options, tour operators, and more in a well-organized and visually appealing manner (Kerala tourist Department, 2022).

The Tourism department of Kerala used an additional advanced method by introducing an official tourism application named 'Kerala Tourism software'. This software offers guests staying in the area information on surrounding attractions. Additionally, it provides access to the photographs and films showcasing well-known tourism attractions inside the State. The purpose of the app is to facilitate the arrangement of trips by providing a trip planner and information on significant forthcoming events in the industry. Additionally, it disseminates information and graphics about recently discovered sites (Tourism Department, 2022). The findings from the telephonic interview with the tour guides, focus group discussion, participatory discussion, and key informant interview indicate that the application is not well-liked by visitors due to its significantly low performance rating.

In order to promote cultural tourism, a new mobile application named 'Expressions' has been released. This programme provides mini movies of Kerala art forms as an alternative to smileys. It is showcased in the diverse traditional art forms of

In order to promote cultural tourism, a new mobile application named 'Expressions' has been released. This programme provides mini movies of Kerala art forms as an alternative to smileys. It is showcased in the diverse traditional art forms of Kerala, such as Kathakali, Thullal, Mohiniyattam, Kudiyattam, Koothu, and Nangiar Koothu.

The 'Muziris Virtual Tour Guide' is a mobile application that serves as a personal guide for travelers visiting Muziris. This is a dedicated Augmented Reality travel application specifically designed for the Muziris Project. It offers several features to aid tourists, including transport and hotel booking services, as well as an augmented reality street view function.

Kerala, such as Kathakali, Thullal, Mohiniyattam, Kudiyattam, Koothu, and Nangiar Koothu. The art form's name and the artist's name are displayed at the conclusion of the video, and it can also be shared on social networking platforms.

The application 'Kerala Tourism and Tourist Places' was built by the department of tourism to provide information about the appealing destinations in the State. It provides a substantial amount of data on this subject. However, it is not exempted from criticism due to its absence of tailored advice and inadequately categorized data.

The 'Muziris Virtual Tour Guide' is a mobile application that serves as a personal guide for travelers visiting Muziris. This is a dedicated Augmented Reality travel application specifically designed for the Muziris Project. It offers several features to aid tourists, including transport and hotel booking services, as well as an augmented reality street view function. This application provides users with the opportunity to explore the historical background of a location, delve into the complexities of its art or monuments, and view videos and photographs related to the site of interest. This application encompasses a total of 12 distinct geographical areas and offers an unprecedented and exceptional travel and sightseeing experience to all visitors. It offers a virtual tour guide that is easily accessible to guests.

The Tourism department of the State has implemented several significant technology-based innovations to help promotion of tourism activities. The existing literature indicates that there is significant potential for utilizing Artificial Intelligence in understanding visitors' satisfaction, travel and accommodation booking and the like. Additionally, there is a wide scope for implementing augmented reality (AR) technology to improve tourists' experience in exploring knowledge, exhibitions, mobile multimedia, cultural tourism guidance, museum guidance, and other related areas (Hannam, Butler, and Paris, 2014; Mekni and Lemieux, 2014; Sanna and Manuri, 2016). This can be achieved by utilizing augmented reality (AR) to enhance the spatial location, description, and elaboration of tourist destinations, as well

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as for transportation and travel booking purposes. Furthermore, it demonstrates that the integration of AR technology has led to a substantial enhancement in performance for modern smartphones and tablets, which frequently come equipped with GPS sensors and high-speed network connections.

IV Application of AI and location-based augmented reality technology to promote smart tourism in kerala

Amidst the pandemic, there has been a decline in tourism activity in the State (Economic Review, 2022). In a number of countries, the adaption of AI and AR technology in tourism activities has bolstered the sector's resilience, enabling it to maintain a growth trajectory even during the pandemic phase. The purpose of this section is to undertake a review on the use of artificial intelligence in the tourist industry in order to emphasize the necessity of adopting AI in order to improve tourism activities in the state during the post-pandemic phase. In the field of tourism research, AI studies have been utilized for a variety of purposes, such as forecasting the occupancy of hotels and the demand for tourism; managing resources in the tourism sector; evaluating social network information and online feedback (Kirilenko et al., 2018); determining the total number of travelers and the volume of tourists; and gauging visitor satisfaction (Casteleiro-Roca et al., 2018; González-Rodrguez et al. According to Inanc-Demir and Kozak (2019), AI is widely seen as having the potential to revolutionize the operational and marketing responsibilities of tourist groups and destinations.

Augmented Reality on the other hand, is the utilization of real-time data, such as text, visuals, audio, and other virtual upgrades, combined with physical things in the actual world. This distinction from virtual reality lies in the incorporation of real-world elements. Augmented reality (AR) can be utilized as an interactive tool to integrate virtual world data into the physical world. It can offer comprehensive information about a particular location, including details about real-world elements such as rivers, trees, exotic plants, animal species, buildings, historical and archaeological

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sites, and other aspects associated to a tourism destination. It is observed that these AR enabled technologies can have wide spread application in the promotion of smart tourism activities in the State.

Instead of offering traditional printed materials such as pamphlets, brochures, or tourist guides, or even providing signage in the local language, individuals have the option to explore and experience a captivating tour at their own pace and without a guide (Kounavis, Kasimati, and Zamani, 2012; Hannam, Butler, and Paris, 2014; Mekni and Lemieux, 2014; Sanna and Manuri 2016). There are two distinct categories of augmented reality (AR) applications for tourism: Marker-based AR and Marker less-based AR. In marker-based Augmented Reality (AR), users are able to designate and distribute a point of interest (POI) using Augmented guides. Furthermore, multimedia items can be enhanced by handwritten annotations and comments. Marker less augmented reality encompasses four distinct types: location-based AR, projection-based AR, overlay AR, and contour AR. Marker less augmented reality (AR) technology enables the placement of virtual 3D objects in the real-world environment by analyzing the features detected in the live data. Geo-location-based augmented reality involves incorporating features of augmented reality that are specifically tied to a real-time location. AR-compatible devices, including smartphones, enable users to access digital data that is effectively retained inside the physical environment. Pokémon Go, a smartphone game, exemplifies the widespread use of location-based augmented reality (AR). Location-based Augmented Reality is considered to be a highly effective and efficient technique for implementing sustainable tourist practices, such as eco-tourism, responsible tourism, village tourism, agricultural tourism, and others, inside the State.

The combination of an augmented reality (AR) mobile application, advanced hardware technology, a smartphone, and reliable internet access can provide a captivating visual experience and enrich a tourist's understanding of a location. By utilizing augmented reality (AR) applications, individuals or groups can independently navigate to their desired

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It is however argued that incorporating technology into tourism promotion, India is not attracting tourists globally (Reejo, 2023). Currently, the Indian tourism industry is behind in adopting augmented reality technologies into its main array.

destination, select and book a hotel according to their preferences, and even locate and hire a taxi using the same technology. The augmented reality (AR) application should possess a high degree of user-friendliness and simplicity. There must to exist a rudimentary edition as well as a more sophisticated edition that offers paid amenities. The standard edition can be made available to domestic tourists, while the premium edition can be offered to both international tourists and those in need, including visitors from outside Kerala, India, and other regions. Prior to commencing the self-guided tour, it is necessary to input the information from the AR-enabled app into the AR-cloud of the Kerala Tourism website or a local server. This information should then be reviewed by specialists from various fields and consolidated in a single location.

It is however argued that incorporating technology into tourism promotion, India is not attracting tourists globally (Reejo, 2023). Currently, the Indian tourism industry is behind in adopting augmented reality technologies into its main array. The country can implement policies to use Augmented Reality technology in tourism, providing visitors with information on location, description, transportation, travel booking, and accommodation, resulting in significant earnings (Reejo, 2023).

V Future research agenda

It is viewed that AR-based technological circuits must be implemented in every tourist destination in Kerala State, which is a participant in sustainable tourism efforts. The interactive interface will be enhanced to provide travelers with a more enjoyable and immersive experience. Multiple AR-enabled tourism venues can be combined to create an AR-Tourism Circuit. This will generate revenue for the State treasury through several channels. The integration of AR technology will amplify the tourism capabilities of the chosen places, allowing individuals from across the globe to

Multiple AR-enabled tourism venues can be combined to create an AR-Tourism Circuit. This will generate revenue for the State treasury through several channels. The integration of AR technology will amplify the tourism capabilities of the chosen places, allowing individuals from across the globe to view AR-enhanced virtual tours of key tourist spots directly on the official website of the tourism department.

The State's sustainable tourism efforts involved the incorporation of novel technology such as Augmented Reality. This was achieved through the development of a smartphone application named 'Muziris Virtual Tour Guide'. Despite the State's implementation of technological inclusion in its tourism marketing plan, the efforts are deemed insufficient in attracting global tourists. As a result, it has been observed that the State policy initiatives should be improved by embracing innovative technologies such as Artificial Intelligence (AI) and Augmented Reality (AR) to promote smart tourism and, as a consequence, can attract tourists from all over the world in the post-pandemic era.

view AR-enhanced virtual tours of key tourist spots directly on the official website of the tourism department. The service can be activated upon payment of a reasonable price, which must be paid by the tourist themselves. By employing skillful and technology methods, tourism can be enhanced without causing any harm to the natural environment and its stability. Therefore, it is imperative to implement AI and augmented reality (AR) technology efforts in the near future. The development of AI and AR technology will play a crucial role in leading the State towards the goal of establishing sustainable tourism.

VI Conclusion

The study demonstrates that the State has implemented several initiatives since the ninth five-year plan (1997-2002) to achieve sustainable development in tourism. It encompasses various forms of alternative tourism initiatives, such as rural tourism, responsible tourism, and eco-tourism. These initiatives aim to ensure economic sustainability by generating income, benefiting the local community, providing high-quality employment, promoting social equity, maintaining a safe environment for visitors, enhancing community well-being, preserving cultural heritage, and protecting the environment. Put simply, the State Tourism initiatives have the potential to meet the objectives outlined in Sustainable Development Goal (SDG) - 8 (inclusive and sustainable economic growth), SDG - 12 (sustainable consumption and production), and SDG - 14 (the sustainable use of oceans and marine resources) of the United Nations' 2030 Agenda for Sustainable Development, established in 2015. The State's sustainable tourism efforts involved the incorporation of novel technology such as Augmented Reality. This was achieved through the development of a smartphone application named 'Muziris Virtual Tour Guide'. Despite the State's implementation of technological inclusion in its tourism marketing plan, the efforts are deemed insufficient in attracting global tourists. As a result, it has been observed that the State policy initiatives should be improved by embracing innovative technologies such as Artificial Intelligence (AI) and Augmented Reality (AR) to promote smart tourism and, as a consequence, can attract tourists from all over the world in the post-pandemic era.

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Global rate hike cycle nearing an end: Decoding India's distinct trajectory and its implications

Aswathy Rachel Varughese

Introduction

The Federal Reserve's recent signals of potential rate cuts in the current year have triggered a global shift in monetary policy. During its December policy meeting, the Fed suggested a prospective reduction of 75 basis points in the fund rates for the ongoing calendar year. This indication is catalyzing central banks worldwide to adopt a more accommodative stance in their monetary policies. The articulated dovish stance is attributed to a deceleration in economic growth and efforts to mitigate inflationary pressures. At present, the US Federal Reserve's funds rate stands between 5.25% and 5.50%, reflecting the current monetary landscape. The acknowledgment of subdued economic activities and a measured approach to curbing inflation underscores the rationale behind the signaled shift in policy direction.

According to Bloomberg data from the 2024 Policy Rates Report, there has been a notable decline of 128 basis points in key policy rates globally. Emerging Market Economies (EMEs) are at the forefront of this trend, leading the way in implementing significant reductions in their key policy rates. The data underscores a widespread adjustment in global monetary policies, particularly evident in the policies adopted by emerging economies. For instance, with countries like Brazil and the Czech Republic already initiating the process of reducing key policy rates. In tandem, other Emerging Market Economy (EME) central banks, including Argentina and Russia, are poised to embrace a dovish stance, planning to implement more substantial rate cuts. Moreover, central banks such as the European Central Bank and the Bank of England are expected to follow suit shortly, signifying a broader trend toward monetary easing on the global stage.

Many central banks are contemplating the initiation of an interest rate easing cycle due to the demonstrated limitations or constraints of interest rates as an effective monetary policy tool in alleviating post-pandemic inflationary pressures. The multifaceted sources of inflation have rendered traditional monetary tools less

Global divergence in growth and monetary policy is intensifying

The Monetary Policy Committee (MPC) members have, for the fifth consecutive time, decided to maintain policy rates, keeping the repo rate steady at 6.5%. Additionally, the RBI has opted to leave its stance of "withdrawal of accommodation" unchanged. The continuity in holding the policy rates and maintaining the stance reflects the committee's assessment of the prevailing economic conditions and the need for stability in monetary policy.

effective in mitigating price pressures. Consequently, central banks are opting to conclude the interest rate hiking cycle. However, a stark contrast emerges when examining Asian economies in this context. The approach and response of central banks in the region differ significantly, suggesting unique considerations at play within the Asian economic landscape (Table-1).

India's distinct path of interest rate decisions

In its December Bi-monthly policy, RBI kept the repo rate unchanged at 6.5 percent and kept the stance - "withdrawal of accommodation" intact. RBI is emphatic about bringing down the inflation on a durable basis to 4 percent and maintaining the system liquidity in tandem with the policy stance. It underscores RBI's constant vigil on disinflationary measures even amidst plunging core inflation. The persistent food inflation and factors driving the food prices remain a serious concern for the central bank. However, a dovish tilt is implicitly reflected in the remark on the risk of overtightening policy rates. Hence, considering the potential upward risks arising from high food prices that impact overall inflation, India might not be able to emulate advanced economies in adopting a more accommodative stance any time soon.

Inflation concerns at the forefront

The primary challenge of achieving the inflation target emanates from the volatility in food prices. Since the wake of the pandemic and Ukranian geopolitical tensions, food prices have been on the rise contributing to headline inflation. Commonly acknowledged as transient, these shocks seem to have introduced both volatility and persistence to food inflation, which averaged 6.7 percent from April 2022 to November 2023. Notably, food carries a substantial weight of 45.9 percent in the consumer price index (CPI). However, its contribution to overall inflation has escalated from 48 percent in April 2022 to 67 percent in November 2023.

The prolonged food inflation poses a genuine concern and presents a challenge for policymakers. According to the most recent data on December's inflation, the combination of elevated food prices and an unfavorable baseline propelled headline inflation to a four-month peak of 5.7 percent. In contrast, core inflation remained relatively subdued at 3.90 percent. Specifically, within the food

Table 1: Interest rate and inflation of major central banks vis-à-vis India (In percentage)

Central Banks	Policy Rates	Last Policy Action	Date of Last Change	Latest Inflation
Federal Reserve	5.25-5.50	0.25	Aug-23	3.4
European Central Bank	4.5	0.25	Sep-23	2.9
Bank of England	5.25	0.25	Aug-23	3.9
Bank of Japan	-0.1	-0.2	Jan-16	2.6
Reserve Bank of India	6.5	0.5	Dec-22	5.7

Source: Respective Central Banks

Notes: Last policy actions are bps; Policy and inflation rates are in percentage

category, the persistent inflationary pattern observed in non-perishable items like cereals, pulses, and spices raises apprehensions about their future price trajectory, considering their inherent resistance to price adjustments. For perishable categories, particularly fruits and vegetables, inflation persisted at double-digit levels, with growth rates recorded at 11.1% for fruits and 27.6% for vegetables, respectively. Anticipated reductions in Kharif production, coupled with uncertainties surrounding Rabi sowing, are heightening concerns on the supply side of the food basket. The latest data indicates a decrease of approximately 4.7% in Rabi sowing, primarily driven by a notable decline in the cultivation of cereals and pulses, attributed in part to lower reservoir levels. The upcoming new-season cereal crops are expected to arrive only from April onwards, potentially keeping cereal prices robust in the near term. The outlook for pulses is also bleak, as the projection of diminished Kharif output, combined with delayed Rabi sowing of pulses, further exacerbates concerns. Consequently, timely interventions on the supply side by the government are crucial to effectively curb inflationary pressures within the food basket.

Given its substantial share in the consumption basket, food inflation possesses the capacity to impact both headline inflation and, in the occurrence of significant and recurrent food price shocks, non-food inflation as well. Therefore, volatility in food prices remains a matter of concern while projecting the future course of inflation (Figure-1).

In December 2023 policy update, the RBI has kept its headline inflation projections steady at 5.4 percent for the Financial Year 2024, above the target level. The outlook is marked by the unpredictable path of food inflation, with lingering price pressures on specific items like onions, potatoes, pulses, and wheat. Additional concerns arise from the uneven progress of Rabi sowing due to

The RBI has reiterated its commitment to bringing inflation down to the 4% mark on a sustainable basis. Additionally, it has pledged to maintain liquidity conditions in the system in accordance with its policy stance.

irregular monsoon patterns and the surge in global sugar prices. On a positive note, there's a breath of relief as global commodity prices and imported edible oil prices show signs of moderation. While a recent weakening in crude oil prices is evident, there exists a potential for upside risks due to evolving geopolitical tensions. As a result, the inflation projections remain unchanged at 5.6 percent and 5.2 percent for Q3 and Q4 of FY 2024, respectively. Consequently, at the commencement of FY25, it is anticipated to hover around 5.2 percent, surpassing the targeted 4 percent (Figure-2).

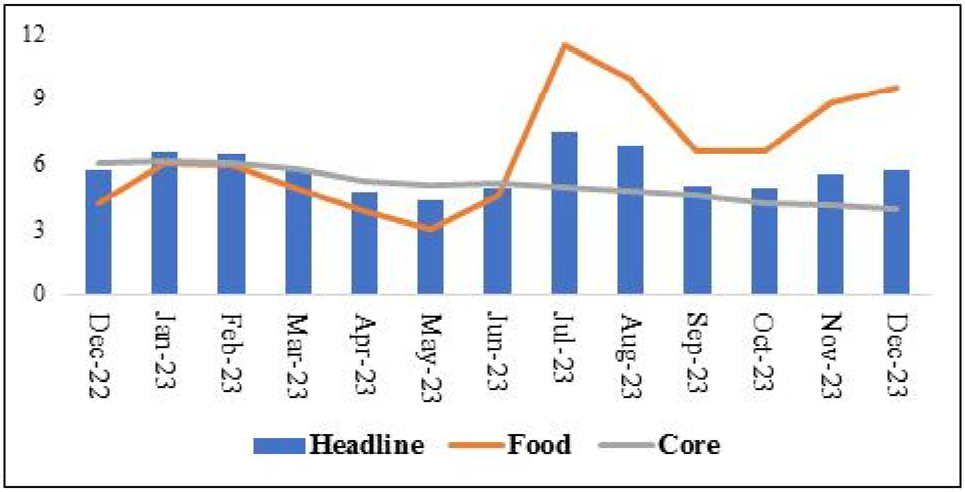
The sustained decline in core inflation, aligning with the easing of commodity prices and diminishing demand-side pressures, is a positive trend. However, the constant elevation in food inflation remains a matter of concern. The anticipated decrease in Kharif production and uncertainties surrounding Rabi sowing prospects introduce an upward risk to food inflation, potentially influencing inflationary expectations. Therefore, the implementation of supply-side interventions by the government is crucial at this juncture.

Looking ahead, a favorable base effect is expected to persist throughout Q4 FY24, providing some cushion against potential upward pressures on price levels. Additionally, the introduction of fresh crops into the market from January to March is anticipated to alleviate price pressures within the food basket.

Global growth concerns

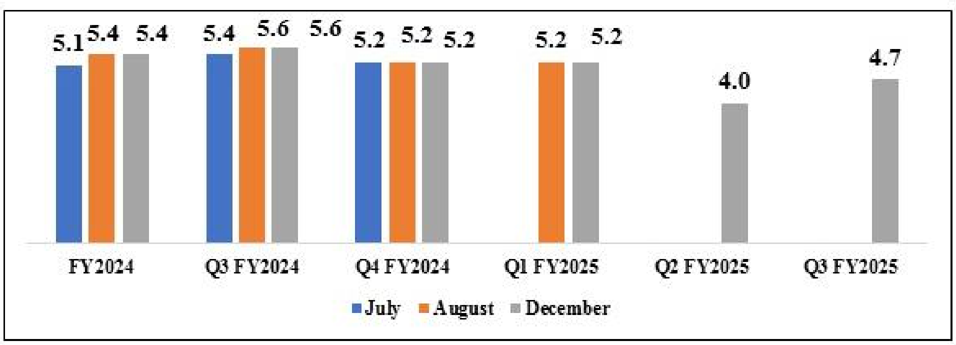
Global growth is slowing at a divergent pace across economies. The most recent economic projections from the International Monetary Fund (IMF) in World Economic Outlook (WEO) indicate that global growth is anticipated to persist at 3 percent in 2023, followed by a slight decline to 2.9 percent in 2024. This signifies one of the most modest growth rates witnessed in decades. Advanced economies are projected to undergo a contraction, with growth decreasing from 2.6 percent in 2022 to 1.5 percent in 2023 and further to 1.4 percent in 2024. This decline is attributed to policy-tightening measures aimed at addressing inflation concerns. Despite the resilience observed in the global economy, especially during the initial stages of recovery, economic activity continues to lag behind pre-pandemic levels. This lag is particularly pronounced in emerging markets and developing economies, leading to an expansion of disparities between regions. Global trade is slowing down in the face of a worldwide surge in protectionist measures. Despite substantial efforts to restore global supply chains, challenges such as high levels of debt, persistent geopolitical tensions, and adverse weather conditions

Figure 1: Headline inflation pushed up by food prices



Source: MOSPI

Figure 2: Headline inflation forecast by RBI for three periods



Source: RBI

In a positive outlook, the RBI has revised its GDP growth forecasts for the fiscal year 2024 upward, now anticipating growth to reach 7%.

contribute to heightened risks for the global outlook on both growth and inflation. Certain global risk factors weighs heavily on the growth front.

Geopolitical risks: The escalation of geopolitical risks has been heightened by the outbreak of conflict in the Middle East, posing the possibility of non-linear political and economic repercussions should the situation escalate further. These risks compound with those associated with the ongoing conflict in Ukraine and political developments such as the 2024 presidential elections in both the United States and Taiwan, especially considering the existing tensions with China. Additionally, the ongoing EU investigation into the import of Chinese electric vehicles underscores the potential for trade tensions to arise.

Stagflation risks: While headline inflation in major economies appears to be decreasing, persistent elevated core CPI inflation, excluding food and energy prices, remains a concern. Despite the rapid increase in interest rates so far, there is a risk that higher inflation expectations may become ingrained. This is particularly notable as jobless rates approach historic lows and wage growth lags behind the rising costs of living. The situation may lead to increased collective wage bargaining and strikes, mirroring trends observed in Europe. Notably, strikes in the US auto sector highlight similar risks on the other side of the Atlantic. The tension between fiscal policies aimed at providing relief for the poorest and monetary measures designed to combat inflation raises the possibility of fiscal dominance and the emergence of structural stagflation in the mid-term.

Monetary policy error: Central banks have implemented substantial cumulative tightening, yet the uncertainties surrounding the lags in monetary policy remain. There is a potential risk of tightening policy excessively and for an extended duration, potentially leading to a severe economic recession. Conversely, there is also the risk of doing too little, especially if there is another surge in inflation that solidifies high inflation and wage expectations. In either scenario, central banks face the danger of undermining their credibility. Moreover, the divergence in monetary policy approaches adopted by various central banks could introduce additional uncertainties into global financial conditions.

European energy crisis: The intensification of tensions in the Middle East raises concerns about potential disruptions in the supply of oil and gas. The resurgence of markedly higher energy prices in Europe, driven, for instance, by diminished global oil supply and increased demand during an unusually cold winter, has the potential to affect industrial

In injecting a dovish perspective into the policy stance, RBI, emphasized the importance of policymakers being "mindful of the risk of overtightening." This cautious approach was balanced by acknowledging that policymakers should also be cautious about being "carried away by a few months of good data or by the fact that CPI inflation has come within the target range."

production. This could result in a loss of competitiveness, decreased consumer spending amid the cost-of-living crisis, and a resurgence of inflationary pressures. The volatility in global oil prices further compounds the risks associated with inflation.

Ripple effect on domestic economy

Optimism in India's economic growth is highlighted by the First Advance Estimates (FAE), pegging the GDP growth at 7.3 percent year-on-year by the Government of India (GoI) and 7 percent by the Reserve Bank of India (RBI) for FY 2024, the presence of downside risks significantly influences the overall outlook. Despite outperforming other major economies in terms of growth, the concern arises from a slowdown in private consumption demand and the deceleration of the services sector. This is particularly troubling because, for sustained investment growth over the medium term, it is crucial to strengthen consumption growth. The escalation of global geopolitical tensions further contributes to the downside risks.

RBI's growth projections

RBI has revised its GDP growth forecast for the fiscal year 2024 upward to 7 percent. In this projection, Q3 growth is anticipated to be 6.5 percent (compared to the previous forecast of 6 percent in August 2023), and Q4 is expected to reach 6 percent (up from the earlier estimate of 5.7 percent). Following this, growth is projected to rebound in Q1FY25 at 6.7 percent, followed by a slight easing in Q2 (6.5 percent) and Q3 (6.4 percent).

These upward revisions are attributed to the resilience observed in high-frequency data thus far. The RBI emphasizes the gathering momentum in the manufacturing sector during Q3, as indicated by indicators such as eight core sectors and the Purchasing Managers' Index (PMI), alongside a decline in price pressures. The service industry is also holding its ground, evident in metrics such as e-way bills, toll collections, port cargo traffic, rail freight volume, diesel consumption, GST collections, and PMI.

On the demand side, urban demand remains steady, supported by metrics such as air passenger traffic, passenger vehicle sales, and household credit. Rural demand is showing signs of recovery, reflected in the sales figures of FMCG companies, with an additional boost from festive demand. Investment demand is being driven by public sector spending, and positive trends are emerging from improvements in fixed assets and capacity utilization in private manufacturing companies.

Furthermore, the central bank has reiterated its commitment to its inflation target, aiming to bring inflation below 4%. In line with this objective, it continues to maintain its stance on "withdrawal of accommodation." This nuanced approach suggests careful consideration of potential risks and a commitment to balance the need for policy tightening with a mindful approach to economic data and inflationary pressures.

However, the commentary suggests a slightly more optimistic outlook from the RBI, with the acknowledgment of key downside risks. These risks include potential challenges arising from Rabi sowing, influenced by the impact of El Nino, which could lead to a faltering of agricultural growth in the coming quarters and thereby impact rural demand. Additionally, the waning base effect will no longer provide support to growth figures (Figure-3).

Looming downside risks amidst optimism

The recent upward adjustment by the RBI to the GDP projection for FY24 at 7% is viewed as leaning towards optimism. Several factors contribute to this cautious stance, including signs of weakness in the global economy, particularly in the United States, Europe, and Japan. The uncertainty surrounding the timing of Federal Reserve rate cuts and the potential impact of El Nino on Rabi sowing in India are identified as significant risks to our growth forecast.

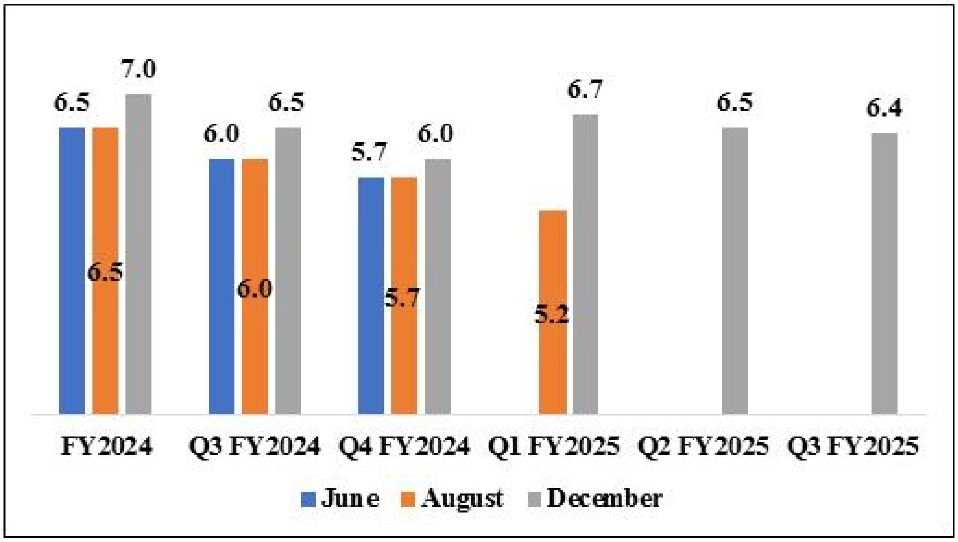
The repercussions of any decline in agriculture growth, influenced by factors like El Nino, could extend to negatively affect rural demand and corporate profits. Consequently, a cautious approach is warranted, and further information on Rabi sowing is awaited to better assess its potential impact on the overall GDP. The prevailing uncertainties on both global and domestic fronts underscore the need for vigilance in evaluating the trajectory of economic growth.

Taking cues on the downside risks to growth, rating agencies like ICRA, revised their growth estimates downwards by 50 bps to 6 percent. The downward revision is mainly attributed to factors such as uneven rainfall, reduced differentials with year-ago commodity prices, a potential slowdown in Government capital expenditure as the Parliamentary Elections approach, weak external demand, and the cumulative impact of monetary tightening. Goldman Sachs, the global investment bank, has estimated that the Indian economy will grow at 6.3 percent year-on-year, which is below the estimates provided by the GoI and RBI.

Conclusion

Headline inflation is likely to fluctuate between 5-5.5% in FY24. Upward pressures may arise from the volatility in food prices and international crude oil prices. Concerns are particularly raised regarding the potential increase in prices of Wheat,

Figure 3: RBI's growth projections revised upwards



Source: RBI

pulses, and spices if Rabi sowing turns out to be weaker than anticipated. Global sugar and rice prices are already flagged as areas of concern. However, it is acknowledged that effective supply chain management by the government and the prevailing subdued global commodity prices could offer some relief and act as a mitigating factor against inflationary pressures. This nuanced assessment takes into account both potential risks and mitigating factors, providing a balanced perspective on the inflationary landscape for the fiscal year.

On the growth front, the identified signs of weakness in the global economy, particularly in the US, Europe, and Japan, along with the uncertainty surrounding the timing of Federal Reserve rate cuts, are recognized as influential factors. Additionally, the potential impact of El Nino on Rabi sowing in India is identified as a significant risk, with the potential consequences of faltering agriculture growth affecting both rural demand and corporate profits. This cautious stance is underlined by the acknowledgment that awaiting more information on Rabi sowing is crucial to gauging its impact on GDP. Taking cues from these potential risks and uncertainties into the assessment, a prudent and vigilant approach to forecasting economic growth in the coming fiscal year is warranted.

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GULATI INSTITUTE OF FINANCE AND TAXATION

GST updates

Relfi Paul

GST revenue growth dips to a 3-month low in December, 2023

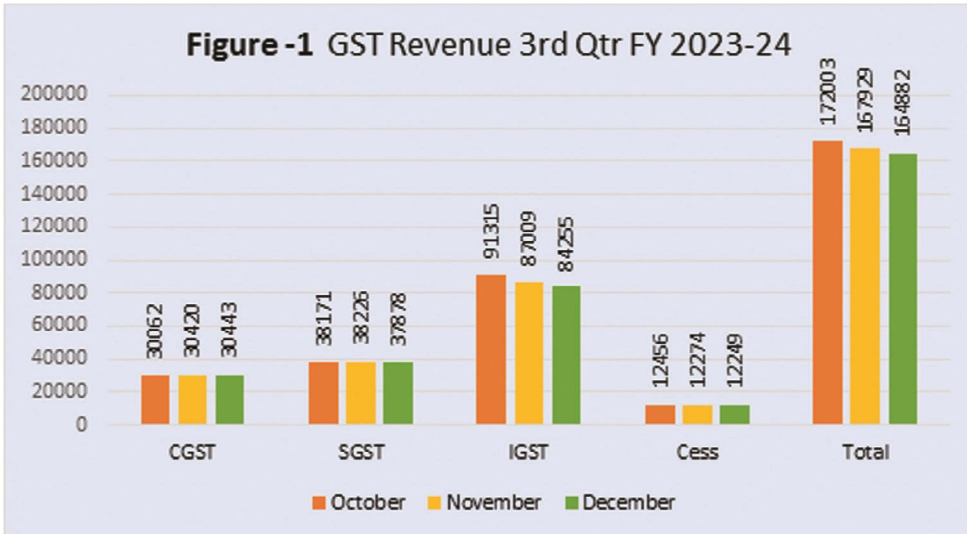
The average monthly GST collection for the third quarter of financial year 2023-24 stands at Rs1.68 lakh crore, compared to Rs1.49 lakh crore of same period last year. In October, November and December 2023, the gross GST collection witnessed a robust 12% y-o-y growth, reaching Rs5,04,814 lakh crore, as against Rs4,47,092 lakh crore collected in the same period of the previous year. In October, the gross GST collection was Rs172003 lakh crore which marked the second highest monthly receipts from the date of inception. In November it marginally down to Rs167929 lakh crore. In December 2023, the GST collection was Rs1,64,882 crore, with year-on-year growth slowing to a three-month low of 10.3% from a 15.1% rise in the previous month. December's GST collection, is about 1.8% lower than previous month. The total December GST revenue includes CGST of Rs 30,443 crore, SGST of Rs 37,935 crore and IGST of Rs 84,255 crore (including Rs 41,534 crore from the import of goods), and cess amounted to Rs 12,249 crore (including Rs 1,079 crore from the import of goods). The details of CGST, SGST, IGST and Cess collection during the third quortor of FY 2023-24 are given in the below chart (Figure -1).

In October, 2023 the government has settled Rs 42,873 crore to CGST and Rs 36,614 crore to SGST from IGST. The total revenue of Centre and the States is Rs 72,934 crore Rs 74,785 crore respectivily. In November, the Centre and the States received Rs 68,297 crore and Rs 69,783 crore respectively after regular settlement. In December, 2023 it increased to Rs 70,501 crore and Rs 71,587 crore. This figures shows that the earlier growth rate is not going in that same pace (Figure -2).

The State of Kerala has collected a total of Rs 7217 crore from GST during the third quarter of financial year 2023-24 which is Rs 920 crore lower than the collection of same period of last financial year. The main cause of this lower collection is because of the compensation arrear of Rs 772 crore received in November 2022 which is discontinued. The State has collected Rs 2542 crore in October 2023, both from SGST and share of IGST. It was ?2,252 crore in November and Rs 2,422 crore in December 2023.

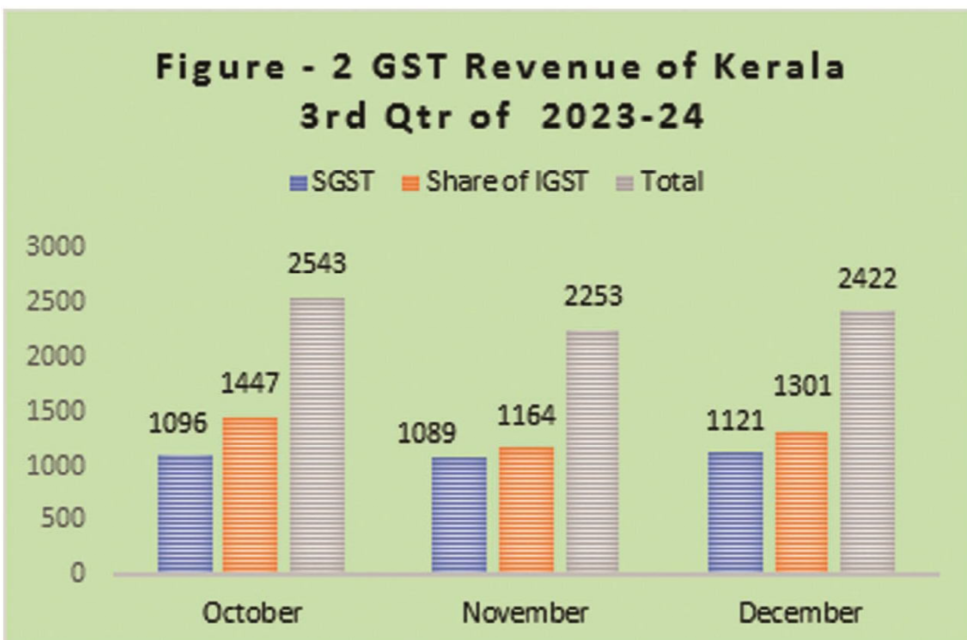
Highlights of 52nd GST Council Meeting

The 52nd GST Council met under the Chairpersonship of Hon'ble Union Minister for Finance & Corporate Affairs Smt. Nirmala Sitharaman in New Delhi on



Note: Rs in lakh crore

Source: Compiled from various PIB press releases



Note: Rs. In crore

Source: State GST Department

7th October, 2023. The meeting was also attended by Union Minister of State for Finance Shri Pankaj Chaudhary, besides Finance Ministers of States & UTs and senior officers. The meeting, inter-alia the following recommendations relating to changes in tax rates, measures for trade facilitation and streamlining compliances in GST were made:

A. Recommendations relating to GST rates on Goods and Services

I. Changes in GST rates of Goods

1. GST rates on "Food preparation of millet flour in powder form, containing at least 70% millets by weight", falling under HS 1901, with effect from date of notification, have been prescribed as:

(a) 0% if sold in other than pre-packaged and labelled form

(b) 5% if sold in pre-packaged and labelled form

2. To clarify that imitation zari thread or yarn made out of metallised polyester film /plastic film, falling under HS 5605, are covered by the entry for imitation zari thread or yarn attracting 5% GST rate. However, no refund will be allowed on polyester film (metallised) /plastic film on account of inversion.

3. Foreign going vessels are liable to pay 5% IGST on the value of the vessel if it converts to coastal run. GST Council recommends conditional IGST exemption to foreign flag foreign going vessel when it converts to coastal run subject to its reconversion to foreign going vessel in six months.

II. Other changes relating to Goods

1. GST Council recommended to keep Extra Neutral Alcohol (ENA) used for manufacture of alcoholic liquor for human consumption outside GST.

2. Council recommended to reduce GST on molasses from 28% to 5%. This step will increase liquidity with mills and enable faster clearance of cane dues to sugarcane farmers.

3. A separate tariff HS code has been created at 8 digit level in the Customs Tariff Act to cover rectified spirit for industrial use. The GST rate notification will be amended to create an entry for ENA for industrial use attracting 18% GST.

III. Changes in GST rates of Services

1. Entries at Sl. No. 3 and 3A of notification No. 12/2017-CTR dated 28.06.2017 exempts pure and composite services provided to Central/State/UT governments and local authorities in relation to any function entrusted to Panchayat/ Municipality under Article 243G and 243W of the Constitution of India. The GST Council has recommended to retain the existing exemption entries with no change.

2. The Council has also recommended to exempt services of water supply, public health, sanitation conservancy, solid waste management and slum improvement and upgradation supplied to Governmental Authorities.

IV. Other changes relating to Services

1. To clarify that job work services for processing of barley into malt attracts GST @ 5% as applicable to "job work in

relation to food and food products" and not 18%.

2. With effect from 1st January 2022, liability to pay GST on bus transportation services supplied through Electronic Commerce Operators (ECOs) has been placed on the ECO under section 9(5) of CGST Act, 2017. This trade facilitation measure was taken on the representation of industry association that most of the bus operators supplying service through ECO owned one or two buses and were not in a position to take registration and meet GST compliances. To arrive at a balance between the need of small operators for ease of doing business and the need of large organized players to take ITC, GST Council has recommended that bus operators organised as companies may be excluded from the purview of section 9(5) of CGST Act, 2017. This would enable them to pay GST on their supplies using their ITC.

3. To clarify that District Mineral Foundations Trusts (DMFT) set up by the State Governments across the country in mineral mining areas are Governmental Authorities and thus eligible for the same exemptions from GST as available to any other Governmental Authority.

4. Supply of all goods and services by Indian Railways shall be taxed under Forward Charge Mechanism to enable them to avail ITC. This will reduce the cost for Indian Railways.

B. Measures for trade facilitation

1. Amnesty Scheme for filing of appeals against demand orders in cases where appeal could not be filed within the allowable time period: The Council has recommended providing an amnesty scheme through a special procedure under section 148 of CGST Act, 2017 for taxable persons, who could not file an appeal under section 107 of the said Act, against the demand order under section 73 or 74 of CGST Act, 2017 passed on or before the 31st day of March, 2023, or whose appeal against the said order was rejected solely on the grounds that the said appeal was not filed within the time period specified in sub-section (1) of section 107. In all such cases, filing of appeal by the taxpayers will be allowed against such orders upto 31st January 2024, subject to the condition of payment of an amount of pre-deposit of 12.5% of the tax under dispute, out of which at least 20% (i.e. 2.5% of the tax under dispute) should be debited from Electronic Cash Ledger. This will facilitate a large number of taxpayers, who could not file appeal in the past within the specified time period.

2. Clarifications regarding taxability of personal guarantee offered by directors to the bank against the credit limits/loans being sanctioned to the company and regarding taxability of corporate guarantee provided for related persons including corporate guarantee provided by holding company to its subsidiary company: The Council has inter alia recommended to:

(a) issue a circular clarifying that when no consideration is paid by the company to the director in any form, directly or indirectly, for providing personal guarantee to the bank/financial institutes on their behalf, the open market value of the said transaction/ supply may be treated as zero and hence, no tax to be payable in respect of such supply of services.

(b) to insert sub-rule (2) in Rule 28 of CGST Rules, 2017, to provide for taxable value of supply of corporate guarantee provided between related parties as one per cent of the amount of such guarantee offered, or the actual consideration, whichever is higher

(c) to clarify through the circular that after the insertion of the said sub-rule, the value of such supply of services of corporate guarantee provided between related parties would be governed by the proposed sub-rule (2) of rule 28 of CGST Rules, 2017, irrespective of whether full ITC is available to the recipient of services or not.

3. Provision for automatic restoration of provisionally attached property after completion of one year: The Council has recommended an amendment in sub-rule (2) of Rule 159 of CGST Rules, 2017 and FORM GST DRC-22 to provide that the order for provisional attachment in FORM GST DRC-22 shall not be valid after expiry of one year from the date of the said order. This will facilitate release of provisionally attached properties after expiry of period of one year, without need for separate specific written order from the Commissioner.

4. Clarification on various issues related to Place of Supply: The Council has recommended to issue a Circular to clarify the place of supply in respect of the following supply of services:

(i) Supply of service of transportation of goods, including by mail or courier, in cases where the location of supplier or the location of recipient of services is outside India;

(ii) Supply of advertising services;

(iii) Supply of the co-location services.

5. Issuance of clarification relating to export of services-: The Council has recommended to issue a circular to clarify the admissibility of export remittances received in Special INR Vostro account, as permitted by RBI, for the purpose of consideration of supply of services to qualify as export of services in terms of the provisions of subclause (iv) of clause (6) of section 2 of the IGST Act, 2017.

6. Allowing supplies to SEZ units/ developer for authorised operations for IGST refund route by amendment in Notification 01/2023- Integrated Tax dated 31.07.2023: The Council has recommended to amend Notification No. 1/2023-Integrated Tax dated 31.07.2023 w.e.f. 01.10.2023 so as to allow the suppliers to a Special Economic Zone developer or a Special Economic Zone unit for authorised operations to make supply of goods or services (except the commodities like pan masala, tobacco, gutkha, etc. mentioned in the Notification No. 1/2023-Integrated Tax dated 31.07.2023) to the Special Economic Zone developer or the Special Economic Zone unit for authorised operations on payment of integrated tax and claim the refund of tax so paid.

C. Other measures pertaining to law and procedures:

1. Alignment of provisions of the CGST Act, 2017 with the provisions of the Tribunal Reforms Act, 2021 in respect of Appointment of President and Member of the proposed GST Appellate Tribunals: The Council has recommended amendments in section 110 of the CGST Act, 2017 to provide that:

- an advocate for ten years with substantial experience in litigation under indirect tax laws in the Appellate Tribunal, Central Excise and Service Tax Tribunal, State VAT Tribunals, by whatever name called, High Court or Supreme Court to be eligible for the appointment as judicial member;
- The minimum age for eligibility for appointment as President and Member to be 50 years;
- President and Members shall have tenure up to a maximum age of 70 years and 67 years respectively.

2. Law amendment with respect to ISD as recommended by the GST Council in its 50th meeting: GST Council in its 50th meeting had recommended that ISD (Input Service Distributor) procedure as laid down in Section 20 of the CGST Act, 2017 may be made mandatory prospectively for distribution of ITC in respect of input services procured by Head Office (HO) from a third party but attributable to both HO and Branch Office (BO) or exclusively to one or more BOs. The Council has now recommended amendments in Section 2(61) and section 20 of CGST Act, 2017 as well amendment in rule 39 of CGST Rules, 2017 in respect of the same.

Source: PIB Press Release dated 07.10.2023

Notifications & Circulars

Amend Notification No 11/2017-Central Tax (Rate) dated 28.06.2017

The Central Government vide the said Notification has amended the entry no. 8 and 10 related to passenger transport services and rental services of transport vehicles with operators respectively in Notification No. 11/2017-Central Tax (Rate) dated 28.06.2017 to provide that if the supplier of an input service charges central tax at a rate higher than 2.5%, the credit of input tax charged on the input service in the same line of business in excess of the tax paid or payable at the rate of 2.5% will not be allowed. Similar notifications have been passed under the Integrated Goods and Services Tax Act, 2017 and the Union Territory Goods and Services Tax Act, 2017 under Notification No. 15/2023- Integrated Tax (Rate) dated 19.10.2023 and Notification No. 12/2023-Union Territory Tax (Rate) dated 19.10.2023 respectively.

Source: Notification No. 12/2023 - Central Tax (Rate) dated 19.10.2023

Amend Notification No 12/2017-Central Tax (Rate) dated 28.06.2017

The Central Government vide the said Notification has inserted a new serial number 3B in Notification No 12/2017- Central Tax (Rate) dated 28.06.2017, specifying services provided to Governmental Authorities i.e.

water supply, public health, sanitation conservancy, solid waste management, and slum improvement and upgradation which have been exempted from GST. It also amends the entries at serial no. 6, 7, 8 and 9 to insert "and the Ministry of Railways (Indian Railways)" after the words "Department of Posts". It shall come into force with effect from 20.10.2023. Similar notifications have been passed under the Integrated Goods and Services Tax Act, 2017 and the Union Territory Goods and Services Tax Act, 2017 under Notification No. 16/2023- Integrated Tax (Rate) dated 19.10.2023 and Notification No. 13/2023- Union Territory Tax (Rate) dated 19.10.2023 respectively.

Source: Notification No. 13/2023 - Central Tax (Rate) dated 19.10.2023

Amend Notification No 13/2017- Central Tax (Rate) dated 28.06.2017

The Central Government vide the said Notification has amended Notification No 13/2017- Central Tax (Rate) dated 28.06.2017 the entry at serial no. 5 and 5A so that supply of goods and services by Indian Railways shall be taxed under the Forward Charge Mechanism (FCM) and not Reverse Charge Mechanism to enable Indian Railways to avail ITC which would reduce the cost of Indian Railways. It shall come into force with effect from 20.10.2023. Similar notifications have been passed under the Integrated Goods and Services Tax Act, 2017 and the Union Territory Goods and Services Tax Act, 2017 under Notification No. 17/2023- Integrated Tax (Rate) dated 19.10.2023 and Notification No. 14/2023- Union Territory Tax (Rate) dated 19.10.2023 respectively.

Source: Notification No. 14/2023 - Central Tax (Rate) dated 19.10.2023

Amend Notification No 15/2017- Central Tax (Rate) dated 28.06.2017

The Central Government vide the said Notification has amended Notification No 15/2017- Central Tax (Rate) dated 28.06.2017 to specifically state that it pertains to the 'construction of a complex, building, or a part thereof, intended for sale to a buyer.' The change clarifies that no refund of unutilised input tax credit shall be allowed under sub-section (3) of section 54 of the CGST Act to such construction projects where the amount charged includes the value of land or an undivided share of land, except where the entire consideration is received after the issuance of a completion certificate or after the first occupation, whichever is earlier. Similar notifications have been passed under the Integrated Goods and Services Tax Act, 2017 and the Union Territory Goods and Services Tax Act, 2017 under Notification No. 18/2023- Integrated Tax (Rate) dated 19.10.2023 and Notification No. 15/2023- Union Territory Tax (Rate) dated 19.10.2023 respectively.

Source: Notification No. 15/2023 - Central Tax (Rate) dated 19.10.2023

Amend Notification No 17/2017- Central Tax (Rate) dated 28.06.2017

The Central Government vide the said Notification has amended Notification No 17/2017- Central Tax (Rate) dated 28.06.2017 to exclude bus operators organised as companies from the purview of section 9(5) of the CGST Act, 2017. It shall come into force with effect from 20.10.2023. Similar notifications have been passed under the Integrated Goods and Services Tax Act, 2017 and the Union Territory Goods and Services Tax Act, 2017 under Notification No. 19/2023- Integrated Tax (Rate) dated 19.10.2023 and Notification No. 16/2023- Union Territory Tax (Rate) dated 19.10.2023 respectively.

Source: Notification No. 16/2023 - Central Tax (Rate) dated 19.10.2023

Amend Notification No 1/2017- Central Tax (Rate) dated 28.06.2017

The Central Government vide the said Notification has amended Notification No 1/2017- Central Tax (Rate) dated 28.06.2017 to effect the following changes. GST rate on molasses has been reduced from 28% to 5% vide insertion of Sl. No. 92A in Schedule I of the said Notification and omission Sl. No. 1 of Schedule IV of the said Notification. Vide insertion of Sl. No. 25A and related entries in Schedule III in the said Notification spirit for industrial use will be taxed at 18%, The GST rate on Food preparation of millet flour in powder form, containing at least 70% millets by weight, falling under HS 1901 if sold in pre-packaged and labelled form shall be now taxed at 5%. Sl. No. 96A has been inserted in Schedule I of the said Notification and Sl. No. 13 of Schedule III of the said Notification has been suitably amended to give effect to the same. It shall come into force with effect from 20.10.2023. Similar notifications have been passed under the Integrated Goods and Services Tax Act, 2017 and the Union Territory Goods and Services Tax Act, 2017 under Notification No. 20/2023- Integrated Tax (Rate) dated 19.10.2023 and Notification No. 17/2023- Union Territory Tax (Rate) dated 19.10.2023 respectively.

Source: Notification No. 17/2023 - Central Tax (Rate) dated 19.10.2023

Amend Notification No 2/2017- Central Tax (Rate) dated 28.06.2017

The Central Government vide the said Notification has amended Notification No 2/2017- Central Tax (Rate) dated 28.06.2017 to insert Sl. No. 94A of the said Notification to tax "Food preparation of millet flour in powder form, containing at least 70% millets by weight", falling under HS 1901, at 0% if sold in other than pre-packaged and labelled form. It shall come into force with effect from 20.10.2023. Similar notifications have been passed under the Integrated Goods and Services Tax Act, 2017 and the Union Territory Goods and Services Tax Act, 2017 under Notification No. 21/2023- Integrated Tax (Rate) dated 19.10.2023 and Notification No. 18/2023- Union Territory Tax (Rate) dated 19.10.2023 respectively.

Source: Notification No. 18/2023 - Central Tax (Rate) dated 19.10.2023

Amend Notification No 4/2017- Central Tax (Rate) dated 28.06.2017

The Central Government vide the said Notification has amended Notification No 4/2017- Central Tax (Rate) dated 28.06.2017 so that supply of goods and services by Indian Railways shall be taxed under the Forward Charge Mechanism (FCM) to enable Indian Railways to avail ITC which would reduce the cost of Indian Railways.

It shall come into force with effect from 20.10.2023. Similar notifications have been passed under the Integrated Goods and Services Tax Act, 2017 and the Union Territory Goods and Services Tax Act, 2017 under Notification No. 22/2023- Integrated Tax (Rate) dated 19.10.2023 and Notification No. 19/2023- Union Territory Tax (Rate) dated 19.10.2023 respectively.

Source: Notification No. 19/2023 - Central Tax (Rate) dated 19.10.2023

Amend Notification No 5/2017- Central Tax (Rate) dated 28.06.2017

The Council has clarified that imitation zari thread or yarn made out of metallised polyester film /plastic film, falling under HS 5605, are covered by the entry for imitation zari thread or yarn attracting 5% GST rate. However, no refund will be allowed on polyester film (metallised) /plastic film on account of inversion. The Central Government vide the said Notification has amended Notification No 5/2017- Central Tax (Rate) dated 28.06.2017 and inserted the S. No. 6AA after S. No. 6A in the said Notification to include imitation zari thread or yarn made out of Metallised polyester film /plastic film in the list of goods for which no refund shall be allowed on account of inversion. It shall come into force with effect from 20.10.2023. Similar notifications have been passed under the Integrated Goods and Services Tax Act, 2017 and the Union Territory Goods and Services Tax Act, 2017 under Notification No. 23/2023- Integrated Tax (Rate) dated 19.10.2023 and Notification No. 20/2023- Union Territory Tax (Rate) dated 19.10.2023 respectively.

Source: Notification No. 20/2023 - Central Tax (Rate) dated 19.10.2023

Fourth Amendment, 2023 to the CGST Rules, 2017

The Central Government vide the said Notification issued Central Goods and Services Tax (Fourth Amendment) Rules, 2023 which interalia amend the FORM GST REG-01. In FORM GST REG-01, the clause "(xiva) One Person Company" shall inserted in in PART-B, in serial number 2, after clause (xiv).

Source: Notification No. 52/2023 - Central Tax, dated 26.10.2023

Special procedure for condonation of delay in filing of appeals against demand orders passed until 31st March, 2023

The Central Government vide the said Notification introduces an amnesty scheme for appeal filing, aiming to provide relief to eligible taxpayers. It has provided procedure under Amnesty Scheme for filing of appeals against demand orders in cases where appeal could not be filed within the allowable time period wherein the taxpayer shall file an appeal against the said order in FORM GST APL-01 in accordance with subsection (1) of Section 107 of the CGST Act, on or before January 31, 2024.

Source: Notification No. 53/2023 - Central Tax, dated 02.11.2023

Amend Notification No. 27/2022 dated 26.12.2022.

Earlier, Notification 27/2022 dated 26.12.2022 was issued to conduct the pilot in Gujarat and Puducherry regarding risk-based biometric-based Aadhar authentication. Further, vide the above-mentioned Notification, the State of Andhra Pradesh has also been added to join this pilot after the system's readiness is in the above mentioned two states.

Source: Notification No. 54/2023 - Central Tax, dated 17.11.2023

Extend due date for filing of return in FORM GSTR-3B November, 2023 for Tamil Nadu

The Central Government vide the said Notification has extended the last date of filing of FORM GSTR-3B for the month of November, 2023 till 27.12.2023, for the registered persons whose principle place of business is in the districts of Chennai, Tiruvallur, Chengalpattu and Kancheepuram is the state of Tamil Nadu.

Source: Notification No. 55/2023 - Central Tax, dated 20.12.2023

Extend dates of specified compliances under section 168A of CGST Act

The Central Government vide the said Notification has extended the time limit specified under Section 73(10) of the Central Goods and Services Tax Act, 2017. This extension pertains to the issuance of orders under Section 73(9) of the CGST Act, which involves the recovery of tax not paid, short paid, or input tax credit wrongly availed or utilized for the financial years 2018-19 and 2019- 20.

Source: Notification No. 56/2023 - Central Tax, dated 28.12.2023

Supplies and class of registered person eligible for refund under IGST Route

The Central Government vide the said Notification has amended Notification No. 1/2023-Integrated Tax dated 31.07.2023 w.e.f. 01.10.2023 so as to allow the suppliers of Special Economic Zone developer or unit, for authorised operations to make supply of goods or services (except the commodities like pan masala, tobacco, gutkha, etc. mentioned in the Notification No. 1/2023-Integrated Tax dated 31.07.2023) to the Special Economic Zone Developer or Unit for authorised operations on payment of integrated tax and claim the refund of tax so paid.

Source: Notification No. 5/2023 - Integrated Tax, dated 26.10.2023

Circular

Clarification relating to export of services - sub-clause (iv) of the Section 2 (6) of the IGST Act 2017

The Central Government vide the said Circular has clarified that when the Indian exporters, undertaking export of services, are paid the export proceeds in INR from the Special Rupee Vostro Accounts of correspondent bank(s) of the partner trading country, opened by AD banks, the same shall be considered to be fulfilling the conditions of sub-clause (iv) of clause (6) of section 2 of IGST Act, 2017, subject to the conditions/ restrictions mentioned in Foreign Trade Policy,2023 &extant RBI Circulars and without prejudice to the permissions / approvals, if any, required under any other law.

Source: Circular No. 202/14/2023-GST dated 27.10.2023

Clarification regarding determination of place of supply in various cases

The CBIC has clarified that the place of supply of services of transportation of goods, other than through mail and courier, in cases where location of supplier of services or location of recipient of services is outside India, will be determined by the default rule under section 13(2) and not as performance based services under sub-section (3) of section 13 of IGST Act.

Accordingly, in cases where location of recipient of services is available, the place of supply of such services shall be the location of recipient of services and in cases where location of recipient of services is not available in the ordinary course of business, the place of supply shall be the location of supplier of services.

Source: Circular No. 203/15/2023-GST dated 27.10.2023

Clarification on issues pertaining to taxability of personal guarantee and corporate guarantee in GST

This circular addresses key concerns related to the taxability of personal guarantees and corporate guarantees under the GST regime. The circular offers clarification on two significant issues (i) Taxability of Personal Guarantee by Directors (ii) Taxability of Corporate Guarantee.

Source: Circular No. 204/16/2023-GST dated 27.10.2023

Clarification regarding GST rate on imitation zari thread or yarn based on the recommendation of the 52nd GST Council

The Central Government vide the said Circular has clarified that imitation zari thread or yarn made from metallised polyester film/ plastic film falling under HS 5605 are covered by Sl. No. 218AA of Schedule I attracting 5% GST. The GST Council has also recommended that no refund will be permitted on polyester film (metallised)/plastic film on account of inversion of tax rate. Requisite changes have been made in Notification No. 5/2017-Central Tax (Rate) vide Notification No. 20/2023-Central Tax (Rate) dated 19.10.2023.

Source: Circular No. 205/17/2023-GST dated 31.10.2023 regarding

Clarification regarding applicability of GST on certain services

This Circular provide clarity on the applicability of GST on various services. Amongst various issues addressed in the circular, it was also clarified that whether GST is applicable on the reimbursement of electricity charges received by real estate companies, malls, airport operators, etc. from their lessees/ occupants.

Source: Circular No. 206/18/2023-GST dated 31.10.2023

New studies on Kerala

Young Scholars' Forum, GIFT
Led by Surya K

Economics

Scopus Indexed

1. Ayswer A.S, Dr. N Ramasamy, Dr. M Dev Anand, Dr. N Santhi (2023). Analysis of performance indicators in mining industry using interpretive structural modeling approach

The study aimed to assess the various factors affecting the success of women's entrepreneurship and various strengths gained based on the operation of Government EDPs in Kerala. The study is an empirical study and it was conducted to establish the primary aspects that are influencing the success rates of women entrepreneurs when they are managing their firms.

The usage of Cochran Sample size formula was used to estimate the sample size for the study. The study consisted of 6,965 women entrepreneurs operating in North Kerala. The sample size was evaluated based on the dependability of the data-collecting equipment led to the determination that the optimal size of the sample should be 231. The sample size was selected based on the usage random sampling technique among which stratified random sampling was used based on the nature of the population involving women entrepreneurs in the study area. The exploratory factor analysis using the SPSS-20 was performed to extract the diverse factors that are affecting women entrepreneurship in the study area of Kerala.

2. B. Pratheep Kumar & V. Emayavaramban (2023). Analyzing the urban sprawl-form and characteristics: a case study of Thiruvananthapuram, Kerala, indie

Urban sprawl, characterized by unorganized, irregular built-up development encircling cities, poses a grave peril to natural resources and disrupts the delicate ecological equilibrium. Hence, comprehending and dissecting the spatial dynamics of urban expansion assumes critical significance for fostering effective and sustainable urban planning practices. Employing fractal dimension, Shannon's entropy, and classified built-up maps for the years 2000, 2011, and 2021, this study is dedicated to scrutinizing the fractal attributes of urban structures and the sprawling nature prevalent in Thiruvananthapuram city, situated in the state of Kerala, India. The findings of the study reveal that dispersed settlement growth is notably concentrated towards the northern and northwestern fringes of the city, exerting substantial stress on the existing natural environment. The progressively widening gap between the textural and structural fractal dimensions serves as a stark indicator of impending threats to the sustainability of urban development. The study also establishes that the year 2011 stands as a pivotal milestone, distinguished by an optimal urban composition within the evolutionary trajectory of the city.

3. Sathya Prakash. P, Dr. Sinitha Xavier (2023). Financial dependence of rural elderly in Kerala

This article exposes the financial vulnerability of the rural elderly, focusing on their dependence and sources of financial support. Utilizing a One-sample t-test, the research identifies significant sources of financial dependence. Independent t-tests and One-way ANOVA are employed to analyze the level of dependence based on individual characteristics. The study, conducted in rural areas of Kerala, reveals that elderly women (28.38%) depend more on others than elderly men (13.8%) for financial needs. Overall, 61.34% of the rural population in Kerala is financially dependent. Notably, offspring or progeny emerge as the primary source of financial support for the rural elderly, with elderly women, care-giving elderly, and widowed elderly displaying higher dependence on others for financial aid.

4. U. R. Arya (2023). Unpaid labor of older persons and their subjective well-being: a study based on Kerala, indie

This study delves into the often-overlooked contribution of older individuals engaged in various forms of unpaid labour, which, despite benefiting both the household and the individuals themselves, goes unnoticed in national income calculations. Using data from BKPAI and case studies, the research explores how the intensity of involvement in unpaid labour influences the subjective well-being of older individuals. The study finds that highly intense participants in unpaid labour are more likely to experience high levels of subjective well-being, regardless of variations in the forms of unpaid labour. Additionally, contextual factors play a role in shaping the impact of unpaid labour on subjective well-being. The study also highlights the relative effectiveness of voluntary activities in promoting high subjective well-being and mitigating low levels of the same.

5. Deepthi Nair H V, Dr. V. Maheswari (2023) Problems and prospects of rural small-scale entrepreneurs in Kerala

Kerala, with its diverse economic landscape, hosts a substantial population of rural small-scale entrepreneurs, operating in sectors such as coconut-based industries, coir industry, khadi production, food processing, agro-based industry, and software services. Understanding their challenges is vital for fostering economic growth, generating employment, and mitigating urban-rural disparities. This study focuses on the challenges and opportunities faced by rural small-scale entrepreneurs in the diver's economic landscape of Kerala. Six primary objectives guide this study, addressing areas such as access to finance, infrastructure deficiencies, market dynamics, labour availability, regulatory constraints, and socio-cultural influences. Through a mixed-methods approach, including quantitative surveys and qualitative interviews, the study collects data from a representative sample of 300 rural entrepreneurs in Kerala, drawn from various sectors, regions, and business sizes.

Other Journals

1. Aswathy N. and Najmudeen T. M. (2023). Socio-economic impact of covid-19 pandemic on small-scale fisher households in Kerala state

The COVID-19 pandemic caused devastating and far-reaching impacts on the economic construct of several countries. The fisheries sector in India was impacted by the nationwide lockdown causing severe disruptions in fishing and marketing activities. In this context, an analysis of the socio-economic impact of the pandemic on small-scale fisher (SSF) households in Kerala was done. The fishery income, employment, household consumption, and indebtedness of the small-scale fishers during the pre-and post-pandemic period were analysed based on the data collected from small-scale fisher households in Alappuzha, Ernakulam, and Malappuram Districts. The information on access to relief and support measures and alternate livelihood sources was also collected to assess the economic security of the fisher households. The study was conducted during the pandemic years 2020 and 2021 in the selected coastal districts in Kerala state.

2. Dr. Ajad Singh, Ansh Shokeen, Saubhagya Sharma, Abhimanyu K, Indra Dev Yadav, Aniket Singh Karnawat. (2023). Human development progress in Kerala after economic reforms of 1991

This study explores the multifaceted dimensions of human development in Kerala, India, post-liberalization (1993-94 to 2020-21). Notably, Kerala's robust economic growth in 2021-22 (12.01% GSDP growth) prompts an in-depth analysis of its impact on living standards. Beyond economic indicators, the study assesses agriculture, services, infrastructure, and social welfare initiatives, presenting a holistic view of progress. Positive trends in per capita income, life expectancy, and education underscore Kerala's commitment to holistic development. Human Development Index (HDI) trends confirm a balanced approach, reflecting economic growth, healthcare improvements, and educational advancements. Policy recommendations focus on sustained investment in education, healthcare, economic diversification, monitoring and evaluation, sustainable practices, research, data collection, community engagement, and international collaboration. If prioritized, these recommendations can solidify Kerala as a model for comprehensive and sustainable human development.

3. V. K. Parvathy & Jyothi Kumar (2023). Convergence of community network and sustainable development goals, kudumbashree community network

Sustainable development goals (SDGs) are the set of seventeen goals announced by the United Nations General Assembly in 2015 to attain a sustainable and better future for its member nations by 2030. In the Indian scenario, as per the SDG India Index 2019 and 2020, the state of Kerala has secured the first rank in progressing towards these SDGs. This study attempts to analyze the various SDGs and their attainment, and whilst examining for this purpose, the largest women's network in Asia - Kudumbashree from the state of Kerala, India is considered. This chapter aims to study the various initiatives under this community network, their innovation and impact, and the reach of these activities to the different sections of society, and identify the scope of converging SDG 2030 with the Kudumbashree model development. The structure, scope, and strategies of this model can be further redirected towards the efforts to attain the SDGs by 2030. This can be used as a guiding factor for other Indian states to improve their performance.

4. Rasmi, P.; Ramya, K. (2023) Influence of family involvement towards financial access in MSMES -- a perspective.

The MSME sector globally significantly contributes to national economic development by fostering employment, new business ventures, and bolstering GDP. The research underscores the persistent vulnerability of MSMEs to risks, with financial sustainability emerging as a pivotal dimension. Financial viability hinges on MSMEs' capacity for self-reliant operations and profit generation. Access to timely financial resources is critical for sustaining and advancing Micro, Small, and Medium Enterprises (MSMEs), playing a vital role in entrepreneurial development and overall economic growth. This study specifically investigates the impact of family involvement on financial access in MSMEs, recognizing the crucial role of familial support for business success. Family contributions are identified as catalysts propelling entrepreneurial initiatives to higher levels. The research, conducted with 80 MSMEs in various sectors in Kerala, collected data directly from entrepreneurs. The conceptual framework, developed for this study, underwent validation using the Structured Equation Model (SEM) and analysis via AMOS. Data analysis employed SPSS version 23.0 software. Results indicate that MSMEs operating under predominant family influence demonstrate heightened productivity, competitiveness, and innovation, coupled with robust financial accessibility (Cronbach's score of 0.281). These MSMEs exhibit a harmonious blend of perfect business sustainability and financial stability. Notably, family-influenced firms outperform their non-family counterparts. In summary, this study underscores the pivotal role of family involvement in enhancing financial accessibility and contributing significantly to the success of MSMEs in Kerala.

5. Kavitha A C and Parvathy P, (2023). Changing contours of the employment landscape: a study on gig work options for the platform workforce of Kerala

The article is an attempt to examine the extent to which the emergence of platform work options has offered succour to the workforce of Kerala hit hard by the dearth of employment opportunities owing to the pandemic-induced economic crisis. A survey of 55 respondents across the state reveals that Kerala's workforce is engaged in diverse types of platform work that can be classified into web-based and location-based works. Platform work is a preferred job option for the young workforce as the mean age of the surveyed is 27.45 years. Though platform work is opted for by all irrespective of educational level, those with higher educational qualifications were engaged in web-based work. Gender bias in favor of women is found in web-based work, while location-based jobs happen to be a male dominion. Though platform workers value independence in work, flexible work schedules, etc., associated with gig work, most of them have expressed their desire to have a regular job with stable incomes as the mean income of the respondents was moderate at ?17,609. Reckoning the rise in platform job options, the policy thrust must be on promoting remunerative web-based work coupled with protecting the interests of the overworked location-based workers.

6. Krishna, Swathy; V., Shacheendran (2023). Factors influencing consumers' compliance intention towards consumption tax: An analysis based on theory of planned behavior.

Tax compliance is a significant means of ensuring better revenue performance. Many studies have adopted the Theory of Planned Behaviour (TPB) to investigate the factors influencing taxpayers' compliance intention, but there exists limited literature on consumers' compliance intention toward consumption taxes. Hence, this study seeks to analyse the influence of attitude, subjective norm, perceived behavioural control, and moral obligation on consumers' compliance intention. The study used data collected from 186 consumers from Kerala state through an online survey. The result of the PLS-SEM analysis revealed a significant influence of the selected variables on the consumers' compliance intention towards consumption taxes, which underscores the need for government officials to provide due consideration to improving consumer perception to bring down the tax gap existing in the economy.

7. Sannet Thomas and Manoj Kumar Pandey (2023). Entrepreneurship among tribal communities in Kerala: Opportunities and challenges

Entrepreneurship is the enormous strength and human spirit that enabled the world's biggest geographical discoveries. Entrepreneurship is a crucial activity for bringing about changes in the economics and society of a country, as well as other countries around the world. Since time immemorial, Indian tribes, often known as aboriginal communities or 'Adivasi', have lived in forests. Tribes are often the last to benefit from development because they are one of society's most marginalized groups. They are constantly on the search for better work to maintain a steady income and make ends meet. (Sivakumar R., 2021). Many tribal entrepreneurs are constantly changing the profile of tribal areas through development. They are now establishing self-sustaining businesses. The purpose of this article is to examine the state of entrepreneurial development among Kerala's tribals using primary and secondary sources. The information was gathered through the use of newspapers, Semi-structured interviews (N=40) and interactions with native communities. Entrepreneurial education and a focused area approach, together with effective government policy, are shown to be essential for the tribal population in Kerala to create more local jobs.

8. Saleel Ahammed A. K. and Ibrahim Cholakkal b (2023). Exploring the impact of household spending patterns on education outcomes among residents in malappuram district, Kerala, India

This study explores the connections between household expenditure patterns and education status, focusing on 386 households in Malappuram district from December 2021 to September 2022. Malappuram, situated in Kerala, India, is notable for its cultural, historical, and demographic features. Utilizing statistical tools like Correlation, multiple regression, ANOVA, and chi-square, the research quantifies these relationships. Key findings emphasize the prioritization of food and education in household budgets, with a strong link between education level and marital status reflecting societal norms. The study reveals the financial implications of educational achievement in mitigating economic inequality and underscores the positive correlation between total expenditure and education. Regression analysis highlights the impact of food and medical expenses on educational status. In the context of Malappuram district, these insights offer valuable information for policymakers and programs aiming to simultaneously enhance economic prosperity and educational attainment.

9. Dr. V. Dheenadhayalan, Sandeep. A (2023) Strategies and challenges in textile retail trading: A comprehensive analysis of consumer behavior in the post-covid era in Kerala

This study presents a detailed examination of post-COVID dynamics within Kerala's textile retail sector in India. Focusing on understanding how industry players have responded strategically and technologically in response to pandemic-induced disruptions, this research investigates key areas like marketing, supply chain, and technological responses. Study findings emphasize the ever-evolving landscape of consumer behaviour, showing a rise in online shopping as well as preferences for products emphasizing comfort and sustainability. Aligning with Kerala's unique cultural and economic circumstances, this research seeks to unveil retailers' adaptation strategies in response to pandemic. Examining the obstacles confronted by industry, this research offers invaluable insight for both academia and practitioners of this sector. Utilizing global and regional perspectives, this research adds to retail management by exploring Kerala textile market post-COVID with a specific emphasis on Kerala textile market. Our ultimate goal is to provide actionable insights that can assist decision-makers in understanding the post-pandemic retail landscape in Kerala.

10. KP Nabeel, Biya Ann Joseph, PT Suraj, VL Gleeja and Joseph Mathew (2023). Socio-economic status of selected dairy farmers in Trissur district of Kerala

A comprehensive investigation into the socio-economic status of cattle farmers in Thrissur district involved the selection of twenty-five cattle farms, each with a minimum of ten crossbred cattle. Data analysis revealed that the mean average age of these farmers was 43.83 years, with the majority falling within the middle-age category. Men dominated this profession, accounting for 72% of the participants. In terms of educational background, 48% had completed primary school. Interestingly, dairying served as a subsidiary occupation for 92% of the farmers. The average herd size in these selected dairy farms was 12.08 animals. The farmers typically utilized their land for constructing farms and cultivating fodder, with a mean average of 4.14 cents and 16.52 acres, respectively. Additionally, approximately 40% of dairy farmers employed milking machines for the milking process.

11. Vijayakumar v, Dr. D. Karthikeyan (2023) Contribution of start-ups and its participation in entrepreneur advancement in young graduates of Kerala state

To commercialize a novel concept, individuals leverage their professional expertise by establishing an enterprise-a process known as entrepreneurship. This involves the integration of financial resources, technology, and human skills to execute projects effectively with manageable risks. As entrepreneurship is fundamentally an economic function involving the initiation and management of a business, innovation plays a key role in introducing fresh, improved, or unconventional ideas. Start-ups, newly formed companies responding to market demand, aim for rapid expansion by addressing specific market needs.

This study aims to assess the contribution of start-ups to entrepreneurial development in Kerala State. Organizations like the District Industries Centre (DIC) and Micro Small and Medium Enterprises Development Institute (MSME-DI) play a role in fostering technology-based entrepreneurship and providing the necessary environments and infrastructure for high-tech businesses. In Kerala, initiatives at the school level, such as entrepreneurial clubs, encourage the development of entrepreneurial skills among children. Additionally, colleges are designed to nurture innovators and entrepreneurs, facilitating adaptation to emerging technologies.

12. Dr. Neeraja James, Dr. Manoj p. K (2023) E-Governance in Kerala- the first fully e-governed state in India

The paper makes a closer look into the e-governance initiatives in Kerala - the State which has recently been declared as the first fully e-governed State in India. Based on an analysis of the recent developments in Kerala in the Information Technology (IT) front especially in e-Governance, the paper makes suggestions for the faster growth of the State through effective e-Governance adoption.

Environment

Scopus Indexed

1. Balamurali Krishna, V. Sivanandan Achari, (2023). Groundwater for drinking and industrial purposes: a study of water stability and human health risk assessment from the black sand mineral-rich coastal region of Kerala, India

This study conducts a comprehensive temporal-spatial analysis of groundwater quality in the black sand mineral-rich coastal village of

Alappad, Kollam, Kerala, India. The research evaluates the suitability of groundwater for drinking and industrial purposes, emphasizing economic engineering considerations. The study examines hydro geochemistry, seasonal variations, and geochemical interactions in an aquifer with placer deposits and alluvial soil-saline water-freshwater interactions. Various parameters, including health risk assessment and indices such as Langelier saturation, Ryznar stability, Aggressive index, Larson-Skold index, and Puckorius scaling, are utilized to assess groundwater quality for human health and industrial use. Chemical weathering and evaporation processes are identified as key factors influencing hydrochemistry. The Nemerow pollution index indicates moderate pollution levels for certain ions, and the Langelier saturation index suggests non-corrosive water in specific seasons. The study underscores the importance of understanding the complex coastal system, especially in the context of rare earth exploration that could impact the coastal hydrosphere. The findings contribute valuable insights for sustainable development, offering a comprehensive overview of groundwater quality for future planning and human well-being, considering quality criteria, corrosion proneness, water stability, and health risk factors.

Other Journals

1. BASHEER K.S and Dr. RUPA GUNASEELAN, (2023). Perceptional community and institutional impact of flood - a study on Kerala floods

The earth's climate has changed drastically over time. Climate change was caused by natural and manmade factors. Kerala is an Indian tourist hotspot. August 2018 was one of the state's worst monsoons. More than a million people have been displaced by Kerala's relentless monsoon rains. This study evaluates the communal and institutional impact of the Kerala flood. This study focuses on community vulnerability and resilience. Floods threaten most homes. It's crucial to examine their perceived vulnerability for present and future planning. Data was collected through key informant interviews, field surveys, and household questionnaires. The study proposes incorporating community coping methods and preferences into public awareness campaigns, early warning systems, and disaster management measures. Whatever it is, we must understand why. Climate change and natural disasters will affect water, air, agriculture, infrastructure, health, education, biodiversity, forests, and socioeconomic sectors. Natural disasters can't be stopped, but we can lessen their impact. It's crucial to learn from such situations to reduce their impact.

2. Baker Matovu, Floor Brouwer, Raimund Bleischwitz, Firas Aljanabi, Meltem Alkoyak-Yildiz (2023) Resource nexus perspectives in the blue economy of India: The case of sand mining in Kerala

Since the 2000 the demand for sand has proliferated at the coastal-land interface to fill up the increasing demand straining Blue Economy (BE) activities and provision of water-energy-food resources. Recent studies have revealed that increased sand mining in both coastal and freshwater zones has continued to impact livelihood-ecological systems threatening the provision of livelihood goods and services. These impacts are exacerbated by a lack of comprehensive frameworks to regulate sand mining and trade; creating the need to develop micro and macro-frameworks and guidelines for sustainable sand mining. This paper uses a non-systematic literature review approach to build on this gap to develop an understanding of the resource nexus perspectives and trade-offs due to sand mining. The paper proposes a novel framework based on the Ecosystem Service Assessment advanced from the review of the literature to guide risk assessments toward more sustainable sand mining. To add evidence, the paper analyses in-depth the state of Kerala - one of India's coastal states that has experienced unprecedented rates of sand mining since the 1990s especially along the Chavara coast albeit with less research on the intersectionality of mining on the resource nexus. Both the framework and our case study highlight how sand mining stresses local ecosystems and livelihoods thus increasing vulnerability to both human and environmental impacts. The paper brings to the fore seven (7) key steps that local institutions can use to guide sustainable sand mining and build integrated governance systems that promote interaction among natural capitals in a given area and livelihood considerations.

Book Chapter

1. TK Arun Kumar, N Vinjusha (2023) Wood-rot polypores of Kerala, India

The paper discusses the ecological and economic importance of polypores from the perspective of Kerala state of India. Kerala is a part of the diversity-rich Western Ghats and possess rich polypore diversity. Cosmopolitan as well as geographically restricted polypore species are encountered in forested and human-inhabited regions of Kerala. Distribution patterns, environmental conditions, substrate preferences, wood rotters, pathogens, medicinal and edible species, and associations of polypores of Kerala are presented.

Agriculture and Rural Economy

Scopus Indexed

1. Manju S. Nair &Anupama Augustine , (2023). Agroecological transitions during covid-19: evidence from Kerala, India

To emerge as a dominant socio-technological regime, agroecological transitions require supportive public policies and collective agroecological actions, with refinement in scientific/technological practices, cultures, markets, and user preferences. Using a multi-level perspective approach, this study inquires why the proper positioning of these determinants is substantial in transforming niche innovations in agroecology into a dominant regime by replacing vicious cycles associated with enriching agribusiness with virtuous cycles that support regional ecologies and communities. The models of agroecological transition during the pre-COVID-19 and COVID-19 periods in Kerala and how the political agroecological position during the latter period succeeded in enabling a transition were examined. Owing to the landscape turbulence caused by COVID-19, the Government of Kerala triggered the de/realignment of determinants toward agroecological transition through programs, strategies, and nudges using a bottom-up approach under the "Subhiksha Keralam" (Self Sufficient Kerala) project. At the agroecosystem level, Characteristics of Agroecological Transition were used to quantify the magnitude of transition, the results demonstrating an improvement in farms during the COVID-19 period. The majority of homestead farms were characterized as agroecological, either in transition or advanced. The agroecological transition became possible because the government systematically targeted preferences and societal values, along with modifying policy and technology, through nudges, thereby preventing possible lock-ins.

Other Journals

1. Anil Gopi, (2023). Tribal development' - perspective from below Journal of State and Society, Vol. 1

The development of Scheduled Tribes has

always been a matter of concern, extensive discourse and actions for a long period in India. Starting from the colonial period, initiatives made by various bodies, governments as well as others had invariably brought changes in the life of the tribal people in India, and Kerala also has a similar historical trajectory. Though conditions are improving, there is a persisting degenerative condition lived by the people and also there is a marked disparity in the extent of improvements. The study reveals that there exists a scenario where the development reaches the ground differentially and reception by the beneficiaries also exhibits a continuum of aspirations, expectations, and realities. It also illustrates that for an effective realization of development initiatives certain cultural specificities and social dynamics at the basic level need to be emphasized.

2. Roshni Thampi and Allan Thomas, (2023). An investigation of constraints experienced by home garden farmers of coastal agro-ecological units of southern Kerala

This investigation focused on coastal home gardens in Southern Kerala, a common land use system in the region due to small farm household sizes. Conducted in 2021-22 across three selected panchayats, the study aimed to identify and measure constraints perceived by coastal home garden farmers. A total of 105 home gardens were sampled, with 35 from each panchayat, and farmers were interviewed using a structured schedule. Constraints were categorized into five groups: Economic, Personal, Technology, Physical, and Other Constraints. "Lack of scientific knowledge," "Salinity," and "Flooding" emerged as the most critical constraints. Farmers provided valuable suggestions, emphasizing tailored practices, support from extension agencies, collaborative technology development, integration of traditional and scientific approaches, market connections, accessible input centres, and the promotion of Farmer Producer Organizations (FPOs). These recommendations underscore crucial areas for future action, fostering the sustainability and productivity of coastal home gardens in Southern Kerala, benefitting both farmers and the broader community.

3.Mamidala Tejasree, S Moghana Lavanya, K Mahendran, N Sriram and R Parimalarangan (2023). A regional analysis of trends in milk production in India

The dairy industry in India is crucial for the country's economy. Over the past 40 years, it has experienced tremendous growth in milk production, making India the largest producer and consumer of dairy products. In the present study, an attempt has been made to use secondary data for 20 years (from 2003 to 2023) to understand the growth rate in milk production across five regions of India (North, East, West, South, and Central India) and also to analyze secondary data for a period of 20 years (from 2003 to 2023). The tools employed for the analysis were the Compound Annual Growth Rate and Trend Analysis to estimate the Growth Rate and Trends in Milk Production. Out of five regions, the North Zone exhibited the highest growth rate, followed by the South Zone. The CAGR of milk production witnessed a substantial increase during the second decade (From 2014 to 2023), showing an impressive increase of 43 percent when compared to the previous decade. The Trend analysis conducted in the study revealed that Milk Production in the North Zone was significantly higher in 20 years compared to the insignificant difference seen in Delhi, Goa, and Kerala states of the North, West, and South, respectively. The study indicates that there is a significant upward trend in milk production over the specified period, as analysed using Trend Analysis. The remarkable growth rate reflects the dairy industry's capacity to expand and cater to the rising demands for milk and its products.

4. Pooja Krishna Jayakrishnan, Jayalekshmi Gopalakrishnan Nair ,Archana Raghavan Sathyan, Ashutosh Jena and Manju Prem Shiva Reddy (2023) Unveiling climate resilience of peri urban agriculture: a farming system based assessment of coastal plains of Kerala, India

Peri-urban agriculture is characterized by dynamic and synergistic interactions between urbanization and agricultural activities, making them pivotal for both food production and industries. However, one of the major concerns affecting its sustainability is climate change. One way to cope with climate change is to build resilience by identifying key areas that are most at risk, allowing for targeted interventions. With this objective, a study was conducted during the period 2019-2023, to assess the climate resilience of peri-urban agriculture in six agroecological units (AEUs) of Coastal plains, through the development of the Climate Resilience Index (CRI). Data was collected through focus group discussions, personal and key informant interviews with farmers, and discussions with extension personnel. CRI was developed as the function of three dimensions- absorptive, adaptive, and transformative capacities, assessed in terms of 72 indicators. Absorptive and transformative capacities (0.592 and 0.568 respectively) contributed the most to the mean CRI of coastal plains (0.563). The major determinants contributing to better climate resilience of farmers included water sufficiency, lesser recovery time, better access to basic services, sustainable practices adopted, and other socio-economic and psychological characteristics. This research provides valuable information to enhance the resilience of per-urban agriculture considering the challenges of climate change.

5. Hema M., Divya K. M., Berin Pathrose b and Sisira P. (2023) Natural enemies role in cost reduction: an analysis of rice cultivation in Kerala, India

Kerala, the state with the highest human development indices, is always concerned about its citizens' health. People's rising knowledge of the adverse effects of chemical inputs on agriculture has resulted in the development of eco-friendly agricultural techniques like organic farming. However, how natural enemies support pest control services in organic farming remains to be discovered at different scales and in diverse landscape contexts. The present study examined the natural enemy population in Kerala's paddy cultivation under conventional and organic systems. The reduction in the cost of cultivation in organic farming was primarily due to reduced labour charges due to the avoidance of pesticides and fertilizer application. Even though the effect of natural predators on organic farming was found to be, the farmers were unaware of the importance of natural enemies. Thus, the study highlighted the significance of organizing more awareness programmes, especially the on-farm ones.

6. Syam Krishnan R. and Radhakrishnan L.92023) The role of small farmers agribusiness consortium (SFAC) towards doubling farmers' income: the case of Kerala, India.

This paper describes the proactive interventions and positive impacts made by SFAC Kerala in the agribusiness sector. As we all know, doubling farmers' income is the main target of the country's agriculture sector during this period. SFAC Kerala also strives to achieve the same goal. Here, the performance of the 54 agribusiness units initiated by SFAC Kerala in the last five years (from the 2017-18 financial year to the 2021-2022 financial year) duration has been considered for analysis and interpretation. Census methodology has been adopted in this study. Primary data was collected from all the above agencies through the telephonic interview method. Barring a decline phase during the COVID-19 pandemic, SFAC's efforts towards doubling farmers' income have been successful. The average monthly income of farmers has increased by over sixty percent in the last five financial years. If the current growth rate is maintained, SFAC will achieve the target of doubling farmers' income within a minimum of five financial years through the agribusiness sector. Advanced technology adoption and professional management approaches in the field of agribusiness are more helpful in the journey towards it.

7. Manju A., Sindhumole P., Jiji Joseph, Pradheep K., Sangeeta Kutty M. and Seeja Thomachan Panjikkaran, (2023). Estimation of heterosis in hybrid seedlings of drumstick (moringa oleifera)

Two hybrid seedlings of drumstick (Moringa oleifera) derived from two crosses between Jaffna and PKM1 (MF1H1) and IC632344 and PKM1 (MF1H2) were evaluated for juvenile growth and nutrient content to study the heterosis (hybrid vigor) at College of Agriculture, Kerala Agricultural University, Thrissur during 2022-2023. Positive heterosis was evident in both the hybrids for seedling height, root collar girth, number of live leaves, stem volume index, dry matter of leaf, and beta-carotene. Also, they marked superiority over parents and checked variety in case of short intermodal length. Specifically noted the positive heterosis of MF1H1 for Seedling vigor index as well as iron content and MF1H2 for protein content. Regarding the seed germination and vit. C content, both hybrids are noted as inferior to the parents and check variety. The heterotic advantages emphasize the potential of harnessing hybrid vigor through hybridization for the genetic improvement of the drumstick.

8. Akhilesh Muralidharan, Divina Maria Alex, Annie Thomas (2023) Paddy cultivation in Kerala: Navigating trends and forecasting production towards 2030

This research examines current trends in paddy cultivation in Kerala. Analysis of available data reveals a decade-long variability in paddy cultivation, marked by notable fluctuations. Recognizing the significance of rice in Kerala's diet, the study forecasted rice production up to 2030. The forecast suggests a consistent trend for most districts until 2030. Notably, Kollam and Malappuram show increasing production, while Idukki and Kozhikode exhibit a decline. KEYWORDS: Paddy cultivation, Forecast, 2030.

9. Nikhil Prathapachandran, Varuvel Devadas (2023) sustainable and traditional agricultural practices to reinforce income dynamics among tribal communities in rural Wayanad, Kerala, India.

This comprehensive study conducted in Wayanad, Kerala, India, explores sustainable traditional farming practices in rural tribal households, with a primary goal of boosting income growth and agricultural productivity. The research delves into the intricate relationship between agricultural methods, income distribution, and ecological factors across household income brackets. Descriptive statistics provide a contextual understanding, while regression analysis offers insights into the relationships between Income and Agricultural Practices. The study assesses the impact of various traditional methods on agriculture, investigates the profitability and practices associated with organic, artificial, and mixed farming, and observes that mixed farming methods are more profitable than relying solely on natural practices, with income levels influencing the adoption of advanced farming technologies. The research explores the correlation between combining animal husbandry and agriculture in households, revealing an association with increased profit margins. Emphasizing the importance of sustainable agricultural practices, the study shows a preference for traditional farming techniques in the low-income bracket and a shift towards artificial methods as income rises. The research offers valuable insights into income, farming practices, and sustainability in this context.

10. Bitto Paul and Dr Devi. P, (2023). Factors influencing the choice of virgin coconut oil - a value added product of coconut

The coconut palm, also known as the "tree of heaven," is a major commercial crop in tropical areas. And it exerts a powerful influence on the rural economies of many states and provides sustenance to more than 10 million people directly or indirectly. The value of coconut is determined by several factors. One of the main factors is the demand for value-added products made from coconut. The purpose of this study is to investigate the factors influencing the choice of virgin coconut oil-a value-added product of coconut. To achieve this objective, a sample of 101 respondents was collected in the Ernakulam district in Kerala by a convenient sampling method, and the results were analysed with the help of the statistical tool SPSS. The results indicated that the independent variables such as price, product quality, availability, and health benefits have a positive impact on the purchase intention of virgin coconut oil

Banking and Finance

Book Chapter

Scopus Indexed

1.Jagadish Hiremath, Divakar Hemadri, Shivasharanappa Nayakvadi, Chethan Kumar, Chirathahalli Shiva Murthy Sathish Gowda, Damini Sharma, Rajendran Ramamoorthy, Suresh Shankanahalli Mamatha, Sharanagouda Patil, Raveendran Alakkanddy Ranjini, Thikkal Veedu Jayamohanan, Susan Abraham Swapna & Baldev Raj Gulati (2023) Epidemiological investigation of ASF outbreaks in Kerala (India): detection, source tracing and economic implications

This study investigates suspected African swine fever (ASF) outbreaks in two villages of Kannur district in Kerala, India, focusing on identifying the causative agent, its genotype, the source of infection, and estimating economic losses. Clinically, the disease exhibited acute symptoms with high mortality, and gross pathology indicated widespread hemorrhages, particularly in the spleen. Histopathological examination confirmed ASF, identified through PCR. The outbreak source was traced to swill, suggesting a likely point source infection. Genotypic analysis revealed the ASFV in this outbreak as genotype-II and IGR II variants. Sequence analysis of the B602L gene's Central Variable Region (CVR) showed that ASFVs in Kerala formed a distinct clade, indicating genetic divergence from those in other Indian regions. This study marks the first investigation of ASF outbreaks in South India and emphasizes the utility of CVR in genetically characterizing similar ASFV genotypes for understanding the virus's spread within the country.

2.Paul J. Philip, Gyana R. Panda,(2023). Disparities in catastrophic health expenditure for hospitalization in urban Kerala, India: evidence from 75th round of the national sample survey.

Existing literature suggests significant disparities in health expenditure incurred by households receiving health services. To determine fair contributions by beneficiaries, it is crucial to understand the existing inequalities in the context of financial protection measures and the factors influencing them. This exploratory study looks at how catastrophic health expenditures (CHE) are distributed across economic groups. The study also casts light on what drives the inequalities in the incidences of CHE. The study uses unit-level data from the 75th round of the National Sample Survey fielded periodically by the Government of India. It employs logistic regression to study factors affecting CHE. Furthermore, the concentration index and its regression-based decomposition are employed to have a sense of inequality and the factors driving it. The findings reveal socioeconomic inequality in CHE incidence and highlight the contribution of medical institutions (whether public or private) and consumption expenditure of households to the total inequality. The present study, while critically looking at the pre-existing inequalities, highlights the shortcomings of health financing in urban areas and calls for a reconsideration of extant policy designs. The study maintains that factors outside the control of the health system may be responsible for disparities in catastrophic medical spending. Therefore, to reduce the burden of catastrophic health spending and its inequalities, future policy measures must take into account both elements within the health system and those outside of it.

What is new(s) from GIFT

A. Webinar

20th Anniversary GLOBELICS International Conference 2O23 - Innovation - driven Knowledge Economies and Transformation in the Global South - 11-14 October 2O23 held at GIFT.

The Global Network for the Economics of Learning Innovation and Competence building Systems (GLOBELICS), started twenty years ago with an international conference in Rio de Janeiro in 2003, aims at building the Learning, Innovation and Competence-building Systems (LICS) in especially in the global south to understand the nexus between innovation and development. The network, having its members across 80 countries across the world has its regional chapters in Asia (Asialics), Africa (Africalics), Europe (Eurolics) North America (Naclics) Latin America (Lalics). In addition being the two large developing countries India and China has its chapters respectively called Indialics and Cicalics. Erika Kramer is the president of the network and its secretary General is K J Joseph, is the Director Gulati Institute of Finance and Taxation (GIFT) and hence the Secretariat of Globelics is presently in GIFT, India. The idea of organising the 20th Globelics anniversary conference in Kerala germinated in the international workshop on Transforming Kerala to a Knowledge Economy jointly organised by GIFT and Globelics subsequent to the Kerala Budget 2020-21 that focussing on transforming Kerala to a Knowledge Economy.

Episodes of development in economic history highlight the successful experience of countries that have managed to harness learning, innovation, and competence-building systems at the global, national, subnational, and sectoral levels to transform their social and economic structures to achieve prosperity. The constellation of innovations driven by rapid advances in digital technologies has given rise to a new technological revolution (commonly referred to as the fourth industrial revolution, or Industry 4.0) with profound impacts on all sectors of the economies and sections of societies. New and persisting developmental challenges have driven a renewed interest in types of innovation that highlight their impact on society and the natural environment, such as inclusive innovation, responsible innovation, transformative innovation, grassroots innovation and jugaad. At the core of all these approaches is how science-based and experience-based knowledge is harnessed for addressing development challenges. The basic premise is that the knowledge divide is at the root of the development divide.

At the current juncture wherein globalisation is at a crossroads and the economies worldwide, ravaged by the once-in-a-century pandemic and external shocks, consider strengthening the innovation system as a strategic approach towards building resilience. Evidently, there is an across-the-board drive among developing countries to transform their economies into innovation-driven knowledge economies. Such a transformation is often viewed as capable of building resilience by addressing many downsides of globalisation-induced high growth, like excessive exploitation of exhaustible resources and accentuated divides within and between countries. While such initiatives in India are manifested in Atal Innovation Mission (AIM), Digital India, Skill India, and Make in India, among others, in Kerala, the development strategy has been explicitly reoriented in terms of transforming the state to a knowledge economy. Against this background, Globelics revisits India for the 20th Globelics International conference with the chosen central theme **'Innovation-Driven Knowledge-Economies and Transformation in the Global South'.**

The 20th Anniversary of Globelics is also an occasion to celebrate the journey of Globelics from Brazil in 2003 to India in 2023 and its varied achievements. At the same time, it is also a forum for critically reflecting on our perspective and the approaches among other things in terms of its achievements and limits. This is especially important at the current juncture wherein there is growing disenchantment with the development experience under globalisation on the one hand and the need for reimagining the innovation system in the COVID and post-COVID world towards building the much-needed resilience in the South. The selection of Kerala, known for its unique development experience (so-called Kerala Model of development), as the location for such deliberation could not have been more appropriate.

Globelics-India 2023 coincided with India's Presidency of G-20, which provides immense scope for translating the conference's outcomes into policy action. In the past two decades, we have observed the increasing presence of the Global South in shaping the paradigms and trajectories of the global development agenda-sustainability, climate change, pandemic, and energy security issues-all being closely linked to the research domains of the Globelics.

The 20th anniversary conference was organised in collaboration with Research and Information System for Developing Countries (RIS), New Delhi, Indian Institute of Management, Bangalore (IIMB), Kerala Development and Innovation Strategic Council (K-DISC), and Digital University of Kerala (DUK) and the partnering institutions included Kerala State Higher Education Council (KSHEC), Indian Council of Social Science Research (ICSSR), Centre for Development Studies (CDS), Kerala Economic Association (KEA) and the Centre for Latin American Studies (CLAS) at Kerala University.

The conference invited submissions on the following tracks.

1. Science, technology, innovation: Theory and policy for a knowledge economy
2. Transformative innovation, responsible innovation and mission-oriented innovation
3. Knowledge-driven development of national, regional, local and sectoral innovation systems, including Agricultural innovation systems and rural development
4. Measurement of the knowledge economy: Indicators, data requirements, different approaches and methodologies
5. Skilling for the knowledge economy: Industry-academy interaction, Intellectual property rights, open innovation and development
6. Industry 4.0 and development: Digitalization and automatization, productivity and employment implications, gig economy and quality of employment

7. Economic and social upgrading for sustainable Catch-up: trade policies, FDI, value chains and innovation networks in a knowledge-driven economy

8. Innovation for inclusive development: Indigenous knowledge, Grassroot innovations, Jugaad, informal economy, micro and small enterprises

9. Entrepreneurship, employability and gender dimension in innovation and development

10. The green economy and financing innovation: Low carbon innovations, environmental technologies and renewable energy

The conference had overwhelming response in terms of submissions. There were about 400 regular submissions of which 210 papers were selected. The conference, organized in nine parallel tracks, also included four plenary session, ten special sessions along with book presentations, excursions, and cultural events. The 20th-anniversary conference also had a pre-conference PhD workshop jointly organised with the support of the Young Scholars Initiative (YSI). In this workshop, 21 PhD scholars across the world participated, wherein their research papers were subjected to in-depth discussion under the mentorship of a senior scholar.

The conference was inaugurated by Shri Pinaryi Vijayan, the Hon'ble Chief Minister of Kerala. The inauguration session was Chaired by Shri K N Balagopal, Hon'ble Minister for Finance, Government of Kerala and Chairman GIFT. Prof. Erika Kraemer-Mbula, president of Globelics delivered the Presidential lecture. Prof Sachin Chaturvedi, Director General RIS, Prof Rishikesha T Krishnan Director IIM-B and Prof K J Joseph Director GIFT also addressed the audience. The opening session on contextualizing the *conference: Innovation driven knowledge economies and transformation in the global south involved* the special address delivered by Prof Bengt-Ake Lundvall, the founder of Globelics and Prof. T M Thomas Isaac former Minister for Finance, Government of Kerala and distinguished fellow GIFT. This session was chaired by Prof Luc Soete, UNU-MERIT, The Netherlands and Prof Judith Sutz, University of the Republic, Uruguay.

The conference keynote address was delivered by Prof. Ha-Joon Chang, SOAS London on *Rethinking the Role of Technology and Knowledge in Economic Development.* The Christopher Freeman lecture was delivered by Prof. Gabriela Dutrénit, Metropolitan Autonomous University, Mexico, on the *Coevolution of subsystems of society, innovation systems and development: What we have learned from Chris Freeman.*

The conference had four plenary sessions and ten special sessions

Plenary Sessions

Plenary 1: G20 and Knowledge-Driven Transformation in the Global South: New Perspectives from India's Presidency and Challenges

Plenary 2: 20 Years of Globelics: The Journey So Far and Future

Plenary 3: Innovation System for a Knowledge Economy: National, Sub-national Initiatives and Challenges for India

Plenary 4: Role of Knowledge in Addressing the Core Development Issues in South: Issues and Evidences

Special Sessions

1. Firm and Country Level Innovation Capabilities in Biological medicines: Differences That Matter

2. From Firm to Regional Capabilities: Economic Complexity for Development and Policy

3. Globelics Knowledge to Policy: beyond linear models

4. Opening Green Windows: Technological Opportunities in a low-carbon World

5. Explore the Dynamics of the Life Science Innovation System: When Global South meets North

6. Innovation System and the Development of Medical Diagnostics, Vaccines, and Pharmaceuticals in India: Lessons Learned from the COVID-19 Pandemic

7. Fintech and inclusive development

8. Policy, investment and activism for systemic transformation: Potential and barriers of Transformative Innovation Policy and Deep Transitions in Global South contexts

9. Steering STIs towards the Sustainable Development Goals: Debating Directions

10. The Importance of PhD Programs in advancing the field of Innovation and Development: experiences from the North and the South

Globelics Outreach Program

An innovative feature of this conference was that the eminent innovation scholars from different parts of the world delivered invited lectures and interacted with the faculty and students of all the universities and colleges in Kerala from Trivandrum to Kasaragod. They interacted with the faculty and students over there.

Webinar on Brazil-India Tax Expert Discussion: Evolving a Country Specific Tax system VAT/ GST - 19 October 2023

In the discussion and interaction on 'Evolving a Country Specific Tax system VAT/GST', Co-Chairs of the session; Simone Maria, Advisor to the Ministry of Economy - National Treasury Attorney and Prof. K J Joseph, Director, GIFT welcomed the scholars from Brazilian Ministry and GIFT. Faculty, GIFT interacted with the Scholars.

Webinar on: Forest area as an indicator in the horizontal devolution formula of XV Finance Commission: "Is it a good proxy? - 27 October 2023

Prof. D Narayana, Former Director & Honorary Fellow GIFT and PhD batch 2023-24, GIFT, presented the paper. Shri C P John, Former member, Kerala State Planning Board chaired the session and Dr Renjith P S, Assistant Professor, GIFT discussed the paper. Prof. K J Joseph welcomed the participants.

Abstract : Since the XII Finance Commission, awards have been made to the states for conserving forests, a global public good. The measure adopted for allocating funds has been the forest area. Three arguments have been provided by the Finance Commissions for making the award, namely conservation cost, opportunity cost and cost disability. The Finance Commissions have taken forest area (very dense and moderately dense) as a proxy for capturing these costs. Consequently, around one-third of the total award goes to just three states, namely Arunachal Pradesh, Madhya Pradesh and Chhattisgarh. The paper raises the important question of how appropriate is forest area as a proxy for the costs. It is seen that conservation cost or the cost of running a forest department by the state taken as equivalent to the staff strength, or revenue expenditure are poorly related to the forest area. The opportunity cost

argument is difficult to justify as the mechanism of compensatory afforestation implemented through the Compensatory Afforestation Management and Planning Authority makes available resources for afforestation. It is seen that area afforested is more than that diverted despite poor utilization of funds allocated. Thirdly, the cost disability arising from the presence of forest area too does not hold as it does not increase in proportion to the forest area. Thus, the forest area-based award by the Finance Commissions suffers from severe infirmities and calls for a change..

Webinar on: Public and Household Financing of Education in India: Are they Substitutes or Complements? - 24 November 2023

Dr Aswathy Rachel Vargheese, Assistant Professor, GIFT, presented the paper. Dr Indrajit Bairagya, Assistant Professor, ISEC, Bengaluru, chaired the session and Dr Vachaspati Shukla, Assistant Professor, SPIESR, Ahmadabad discussed the paper. Prof. K J Joseph welcomed the participants.

Abstract: While the extant studies largely dealt with public and household education financing in separate compartments, the present study specifically investigates the nature of the relationship between both expenditures in India from 1987 to 2018 using National Sample Survey data at a macro level. Under the intertemporal utility maximization framework, the study estimates the degree of substitutability or complementarity between expenditures from an Auspitz Lieben Edgeworth Pareto (ALEP) sense. The empirical evidence suggests that in India, the expenditures are best explained as "complements", wherein increased public spending on education, raises the marginal utility of household education expenditure. The empirical analysis using panel data estimates suggests robust results under linear and Cobb-Douglas forms of utility functions. As a policy input, the study suggests that household spending on education is guided by the quantity of public expenditure across states in India, implying the complementary nature of expenditures. Therefore, it is necessary to plug the loopholes in public education provisions in the country.

Webinar on Approaching the 16th Finance Commission- Managing Imbalances and Sensitivities - 01 December 2023

Shri R Mohan, Honorary Fellow, GIFT, presented the paper. Prof K J Joseph, Director, GIFT chaired the session. Dr N Ramalingam, Associate Professor, GIFT welcomed the participants.

Abstract: Finance Commissions are constituted every five years or earlier by the President as mandated in the Article 280 of the Constitution. The main functions of the Commission are to recommend a) the share of Union taxes to be distributed to the States, b) how the share is to be distributed among the States, c) distribution of grants-in-aid to States in need of assistance as required under Article 275 and d) to augment the Consolidated Fund of the States to supplement the resources of Panchayats and Municipalities. In short, the Commissions are to address the issues of fiscal imbalances between the Union and the States, called the vertical fiscal imbalances and between the States, called the horizontal fiscal imbalances. Vertical fiscal imbalances are the consequence of a decision, which has its logic rooted in the public finance literature, which treats the basic functions of macroeconomic stability and distribution (implying taxes which have an implication on distribution of income like income tax) as that of the Federal Government or the Union and allocation as the functions of the tier of the government closest to the people. This distribution of revenue and expenditure functions results in vertical fiscal imbalances and it is this imbalance, that the Finance Commission tries to ameliorate through its recommendations. With rising share of surcharges and cesses and uniformity of tax rates after implementation of Goods and Services Tax

(GST), the task has become more challenging for the Finance Commissions. The next task of the Finance Commission is to recommend a formula for distribution of taxes among the States. Here, the degrees of freedom of the Finance Commission is restricted through a Terms of Reference (ToR) issued through a Presidential notification, which is in effect by the Union Government. Here, the Commission is placed in a tough situation of having to balance equity and incentive criteria. Which should take prominence is also a question of debate among States and emergence of a consensus seems difficult. In view of the restricted degrees of freedom in devising formula for distribution of tax revenue, which can satisfy the States, which are experiencing divergence in per capita income, it is felt that the distribution of resources through Article 275 to the States in need assumes more importance. In practise, these grants have been classified as revenue deficit grants, though constitutionally they have a wider scope. The 16th Finance Commission will face a challenging task and the approach of the States will have to factor in the emphasising of their needs and recognising the sensibilities of a federal setup.

The Seventh IS Gulati Memorial Lecture conducted by GIFT on 04 December 2023

Prof Deepak Nayyar, Emeritus professor, JNU & Former Vice Chancellor, University of Delhi, delivered the Lecture on the topic 'A World Order in Crisis and Transition: Thinking ahead about its future'. Prof KJ Joseph, Director, GIFT, welcomed the participants. The session was chaired by Prof T M Thomas Isaac, Former Finance Minister and Distinguished Fellow, GIFT.

Abstract: The object of this lecture is to analyze the world order that was put in place at the end of the Second World War, and examine how it has unfolded in terms of experience since then. It is clear that, 75 years later, this international order is under stress in what could be described as multiple quiet crises. The question that arises is whether this world order is sustainable. The transition will inevitably be prolonged and the outcome is bound to be uncertain. The structure of the lecture is as follows. First, it will sketch the broad contours of change, which reflect shifts in the balance of economic power in the world, to set the stage before the play begins. Second, it will analyze the evolution of the present world order since it came into existence. Third, it will highlight some manifestations of the crises in the existing world order. Fourth, in thinking ahead, it will pose four questions about where we might be in 2050 and endeavour to provide answers.

GIFT & KEA association

The 20th Anniversary GLOBELICS International Conference has been organised during 11-14th October 2023 at Gulati Institute of Finance and Taxation Thiruvananthapuram, Kerala on the theme of "Innovation-driven Knowledge Economies and Transformation in the Global South". The KEA was a partnering organisation of the conference and as a part of the outreach programme of Globelics, nine lectures were conducted during the preceding and succeeding days of the conference at various University centres and colleges to disseminate the latest research findings connected with the topic by leading scholars from foreign universities.

The first lecture was organised jointly by departments of Economics of University College, Govt College for Women & Government Arts College, Thiruvananthapuram on 10th October 2023. The lecture was delivered by Prof Michiko Iizuka, Professor at the National Graduate Institute for Policy Studies (GRIPS) in Tokyo, Japan on the topic Science, Technology, Innovation and Policy.

The second lecture was organised by the Department of Economics & Inter University Centre for Alternative Economics (IUCAE), University of Kerala on 10th October 2023. The lecture was delivered by Prof Susan E. Cozzens

Professor Emerita, School of Public Policy, Georgia Tech on the topic "Inequality and STI Policies".

The third lecture was organised by the KN Raj School of Economics, Mahatma Gandhi University, Kottayam on 16th October 2023. The lecture was delivered by Prof. Hideki Esho, Faculty of Economics, Hosei University, Tokyo on "Continuity and Discontinuity of Kerala Model of Development".

The fourth lecture was organised by the Dept of Economics Maharaja's College Ernakulam in association with Dept of Economics, St Teresa's College, Ernakulam.

The keynote address was delivered by Dr Manuel Gonzalo, Professor-Researcher National University of Quilmes (UNQ)-National University of Chilecito (UNdeC), Argentina on "India's Long Term Parth of Development: A Latin American Understanding" on 16th October 2023.

The fifth lecture was St Teresa's College (Autonomous), Ernakulam in association with Dept of Economics, Maharajas College Ernakulam on 17th October, 2023. The lecture was delivered by Dr Manuel Gonzalo, Professor-Researcher National University of Quilmes (UNQ)-National University of Chilecito (UNdeC), Argentina. on " Bangalore's IT Entrepreneurial Ecosystem : A Systemic and Evolutionary understanding from Latin America".

The sixth lecture was organised jointly by Department of Economics and Department of Social Work, Department of Statistics & Social Action Club St. Thomas College (Autonomous), Thrissur on 18th October 2023. The lecture was delivered by Prof Rasmus Lema, United Nations University, Maastricht on "Green Windows of Opportunity".

The seventh lecture was organised by Department of Economics, Farook College (Autonomous), Kozhikode on 16th October 2023. The lecture was delivered by Prof. Mammo Muchie, DST/NRF Research Professor, Faculty of Management Sciences, Tshwane University of Technology, South Africa on "Growth and Development with Sustainable Development Innovation System".

The eighth lecture was organised by Department of Economics, Kannur University on 16th October 2023. The lecture was delivered by Prof Carlos Bianchi, Institute of Economics (IECON), Faculty of Economic Sciences and Administration, University of the Republic of Uruguay on "Firms Innovation Strategies & Twin Transition Processes".

The ninth lecture was organised by Department of Economics, KMM Government Women's College Kannur in association with SN College Kannur, Payyannur College Payyannur on 16th October 2023 at 02:00 pm. The lecture was delivered by Prof Carlos Bianchi, Institute of Economics (IECON), Faculty of Economic Sciences and Administration, University of the Republic of Uruguay on "Firms Innovation Strategies & Twin Transition Processes".

Prof. M. Kunhaman commemorative meeting and round table discussion on the limitations of Kerala model of economic development.

The programme was inaugurated by Former Health Minister Mrs. Shailaja Teacher. While delivering the keynote speech she discussed the shortcomings of the Kerala development model. She said that Kerala should seriously consider the ideas presented by Prof Kunhaman to overcome the shortcomings. The issues raised by him regarding the distribution of wealth, knowledge and power can help overcome the limitations of the Kerala development model.

In the context of the current financial crisis that

Kerala is facing, prominent economist Prof. Prabhat Patnaik said that the problems related to land ownership raised by Kunhaman are valid. In the national situation where the concentration of resources and political power is gaining momentum, Kerala is forced to find domestic solutions. Efforts should be made to utilize the potential of plantation sector where land reform is not implemented. Prof. Patnaik also opined that the land ownership problem of scheduled castes and scheduled tribes, who have been denied the right to agricultural land, should be resolved.

Former minister Shri Pandalam Sudhakaran said that Kunhaman's life experiences and studies show that caste discrimination continues to be strong in Kerala society. He also highlighted that Prof Kunhaman will continue as a strong presence in the discussions on Kerala development.

In the round table discussion that followed, the questions and concerns raised by Prof Kunhaman regarding the Kerala development model were analysed. Issues related to the implementation of Scheduled Castes and Scheduled Tribes sub-schemes were discussed by various subject experts in the light of studies. Dr. Raviraman (Planning Board Member), Prof. Sivanandan (CDS), Prof S Harikumar (University of Kochi), Dr Mathew Kurien (MG University), Prof Mohankumar (Director, Institute of Public Policy), L. Anithakumari (Gulati Institute), Josephine J (Planning Board), Dr Abhilash T. (CDS), Prof Manju S Nair and Prof. Anita V , Dr Christabell , and Siddique Rabiath (all from Kerala University) participated in the discussion. Kerala Economic Association President Prof. KN Harilal chaired the discussion and Prof KJ Joseph (Director, Gulati Institute) moderated the discussion. Santosh T Varghese, General Secretary of Kerala Economic Association welcomed the event and Prof. Godwin SK, Treasurer offered vote of thanks.

B. Teaching and Training programmes

1. Post Graduate Diploma in GST (PGDGST)

PGD-GST 2022-23 Batch - Convocation

A total of 150 learners from the 2022-23 batch (5th batch) and 18 learners from previous batches appeared for the examination conducted during June and July 2023. Out of 168 students, 11 obtained distinctions, 99 obtained first class, and 30 passed. The convocation ceremony for the distribution of training certificates, mark sheets, and diploma certificates was conducted on October 31, 2023, at the conference hall of GIFT. The credentials were distributed to the successful learners by GIFT Director Professor K. J. Joseph. Members of the academic wing, administrative wing, and Ph.D. Scholars have participated in the programme.

PGD-GST 2023-24: Batch - Ongoing

The training for the sixth batch (academic year 2023-24) of PGD-GST started in July 2023. The training consists of theoretical and practical sessions to equip the students to understand and comply with various provisions in the CGST/ SGST/IGST Acts, Rules & Forms, and Accounting. A total of 210 students have joined the course. The training sessions are conducted all weekend (Saturdays and Sundays). Special sessions were conducted on Wednesday. Till December 31, 135 hours of training programmes were completed. It is proposed to complete the training programme by March 15, 2024, and conduct the examination in May 2024. The faculty members who handled the sessions are Dr Vidya V Devan, Dr Meenu Mohan, Smt. Jenny Thekkekara, Smt, Anith Kumary, Dr Thomas Joseph and Dr N Ramalingam

Course Co-ordinator: Dr. N Ramalingam

For more details: https://www.gift.res.in/index.php/course/detail/14/PGD-GST

2. PhD programme

The activities in PhD programme during October, November and December2023 are listed below.

The registration for the fifth batch of 10 PhD scholars were completed by October 2023. The foundation courses a) Mathematics for Applied Research and b) Introduction to Concepts, Techniques & Data for Research were launched by Prof Viajayamohanan Pillai and Prof D Narayana for the fifth batch respectively. The scholars from the fourth batch did the second round of their PhD presentation on 8th December,2023. The scholars received feedback from the faculty during the course of the presentation. The six-monthly presentation for the first three batches were conducted between 5-7 December,2023, where the scholars presented their work progress.

Suha A. M, PhD Scholar, GIFT published a paper titled "An analysis of asymmetric effect of federal transfers across Indian states" in the Journal of Public Affairs, along with Anoop S Kumar and Renjith P. S.

Jerome Jeorge , PhD Scholar, GIFT presented a paper titled "Do digital payments enhance tax revenue? Evidence from India" at Globelics International Conference, 2023, Gulati Institute of Finance and Taxation, October 11-14, 2023.

Lekshmi Prasad , PhD Scholar, GIFT presented a paper titled "The Impact of FinTech on Financial Inclusion: A Cross-country Analysis" at Globelics International Conference, 2023, Gulati Institute of Finance and Taxation, October 11-14, 2023"

Shagishna K, PhD Scholar, GIFT delivered an invited talk on the topic 'Financial Inclusion and Muslims in India' in the Conference on Finance and Economy in India, 2023 titled "Measuring Recovery", organised by Centre for Financial Accountability, Economic Research Foundation, and Focus on the Global South on 29th and 30th November, 2023 at Jawahar Bhavan, New Delhi.

Shagishna K was invited as a Resource Person for the orientation session on Economics for First Year Undergraduate (UG) and Postgraduate (PG) students on October 20, 2023 at Govt. Brennen College, affiliated to Kannur University, Kerala, India.

Course Coordinators: Prof. K J Joseph and Dr Anoop S Kumar

3.Research Capacity Building Programme (RCBP)

GIFT in collaboration with Kerala State Higher Education Council (KSHEC) jointly announced the commencement of the Research Capacity Building Programme (RCBP) 2023-24 in view of our collective vision to make meaningful interventions towards enhancing cognitive skills and quality of research, teaching and learning outcomes.

The certificate program, RCBP, is designed to meet the needs of researchers and teachers, offering 60 hours of immersive teaching, serving as an engaging platform, both offline and online, to enhance their research capabilities.

The RCBP curriculum consists of (i) Introduction to Social Science Research: An Interdisciplinary Perspective, (ii) Research Methods, Statistical Analysis and Basic Econometrics (iii) Data Structure, Data Processing and Databases for Research (iv) Data Analytics for Research with R, (v) Extensions and Basic Research Methods and (vi) Qualitative Research, Academic Writing and Research Ethics. The program is envisioned to operate in a hybrid mode with 36 hours conducted offline and the remaining 24 hours delivered online.

The last date for applying to the program is 5th February 2024 and for more details, please refer the detailed notification in the GIFT website.

Course Co-ordinator: Dr. P S Renjith

C. New Faculty at GIFT

Dr Aswathy Rachel Varughese

Aswathy Rachel Varughese is an Assistant Professor of Public Finance at the Gulati Institute of Finance and Taxation in Thiruvananthapuram. Holding a Ph.D. in Development Studies from the Institute for Social and Economic Change (ISEC), Bangalore, her research focuses on Education Financing, the Economics of Education, Macroeconomics, and Applied Econometrics. Her work has been published in prestigious journals like Structural Change and Economic Dynamics, International Journal of Educational Development, Indian Economic Review, and Economic and Political Weekly. She is also a contributor of opinion articles to national dailies and has presented her research at esteemed national and international conferences. Prior to her current role, she served as an Economist-Manager at Canara Bank, Bangalore, and held academic positions at Cochin University of Science and Technology and Christ University, Bangalore.

Dr Meenu Mohan

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D.Publications

1. Kerala Tax Reporter (KTR)

September , October and November 2023 issues of KTR published Online and offline.

https://www.gift.res.in/ktr

2.Innovation and Development

A Routledge journal from GIFT, Volume 13, No. 3 (2023) published, Editor in Chief, K J Joseph.

For details, please visit https://www.tandfonline.com/toc/riad20/current

3. Weekly update on Finance, Taxation and the Indian Economy

This is an attempt by the Young Scholar' Forum in GIFT, led by Dr. Shency Mathew to update on important developments on Finance, Taxation and the Indian economy. Twelve issues of Weekly updates published during October to December 2023 which are available in GIFT Website. Latest issue: 23-29 December 2023.

For details, please visit https://www.gift.res.in/index.php/publish/publish_list/14/Weekly-Updates-on-Finance

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