

AN APPROACH PAPER TOWARDS LEGISLATIVE IMPERATIVES FOR A SUSTAINABLE KERALA

May Mathew

Town Planner, Greater Cochin Development Authority

INTRODUCTION

After the 73rd and 74th Constitution Amendment Act of 1992, Government of Kerala delegated the urban planning function to the Urban Local Bodies through the Municipalities Act of 1994. But Town Planning Act is not modified to suit the new situation and is under the active consideration of the Government of Kerala. In this back ground it is appropriate to microscopically examine the sustainability issues of Kerala State vis-à-vis the urbanization characteristics to suggest, possible remedial measures and legislative tools, to improve the situation.

SOCIO-ECONOMIC CLIMATE OF KERALA

The tiny state in the south west corner of the Indian Peninsula, Kerala is having an area of 38863 sq. km with a population of 31.8 million in the year 2001. The density of population in 1991 was 749 persons per sqkm while in the year 2001 it has increased to 819 persons per sq. km . The two states having density higher than Kerala are Bihar (880) and West Bengal (904) .

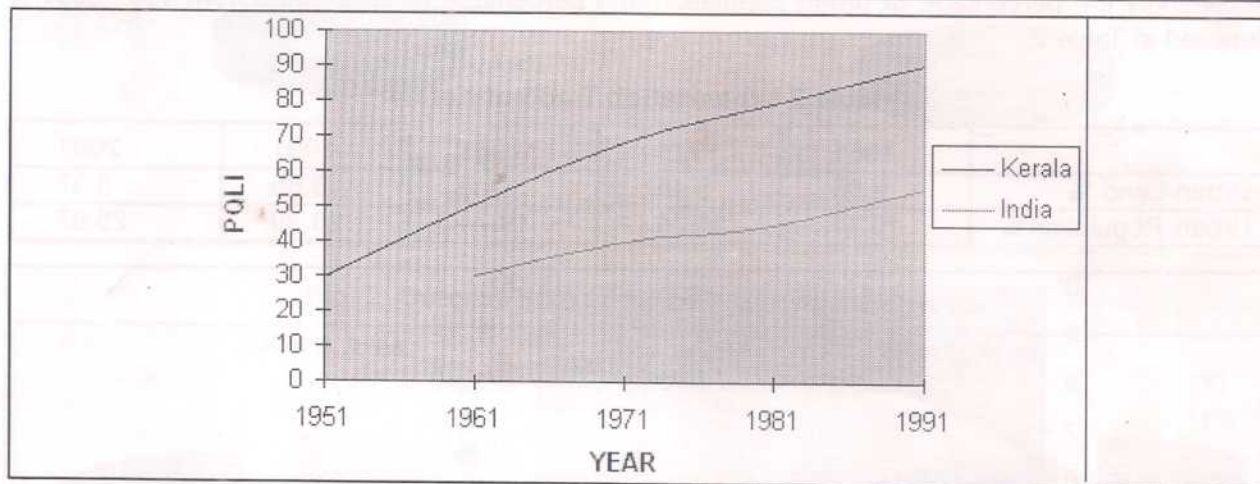
The state of Kerala received world wide acclamation due to its unique settlement pattern versus the achievements in the socio-economic sectors without economic growth. For Richard Franke and Barbara Chasin (1990) Kerala's experience is an example for 'development without growth'. Kerala state attained highest physical quality of life while enjoying the lowest per capita income of the states of India. (Tewari and Joshi, 1988). The physical quality of life index (PQLI), is a composite index formed by Overseas Development Council of United States in their report "United States and World Development, Agenda for 1977", to measure the economic and social welfare of the people by taking three components namely life expectancy, infant mortality and literacy.. Following this methodology Tewari and Joshi have worked out PQLI for Indian States and India. The PQLI trend of Kerala and India from 1961 onwards are as per the chart below (Pillai P.P, 1994). The per capita income is not taken in the PQLI calculations. (Refer Table 1).

United Nations Development Program (UNDP) later formulated the concept of Human Development Index (HDI) as a measure of socio-economic welfare of the people. In HDI calculations health and educational attainment along with per capita income is considered. Human Development Index of Kerala is found to be low compared to developed countries which enjoy the same physical quality life. This is due to the low per capita income of Keralite. However HDI is found to be greater than all India average due to the health and educational attainments by Kerala. HDI of India is estimated as 0.41 in 1990 while Kerala's HDI is estimated as 0.651 in 1987 (Siva Kumar, 1991).

The highly impressive performance of Kerala among the states of India is due to the welfare oriented strategy of developments adopted by the 'Native Kings' of Kerala and followed by the successive state governments. During the past five decades, Kerala gave great emphasis to education, health and infrastructure coupled with several radical redistributive policies like distribution of land holdings.

Table 1 Physical Quality of Life Index (PQLI)

	1951	1961	1971	1981	1991
Kerala	29.64	50.47	68.14	79.2	90.52
India	NA	30	40	45	55.45



Some critics have considered Kerala's development experience as naïve romanticism and some other have underlined 'limits to Kerala Model'. They have argued that the deteriorating finance of the State Government, due to stagnancy in economic growth, limit the government expenditure on social welfare measures and thus the sustenance of achievements already made²

Kerala has started tasting the bitterness of 'Kerala Model'. Now it has been facing a serious crisis due to low growth, high cost, low productivity, low investment and low employment in the states economy (Jeromi P.D, 2002). ²Kerala stood to suffer in the growth and development of primary and secondary segments of the economy. Agriculture is badly affected due to the high cost of cultivation, poor productivity, unviable smaller holdings, and unremunerative price of products. Families depended on agricultural activities borrowed funds to launch agriculture, fall victims to debt traps, leading to suicides. The state has invested lions share of the economy for human resource development not resulting in activities contributing to the states primary and secondary sectors of economy. The salaries and pensions in Kerala constitute a very high percentage of the state's revenue. ²A vicious circle of deficit, debt, debt service charges prevails in Kerala.

The high standard of living enjoyed by Keralite is often supported by external remittances from Non-Resident Keralites (NRKs) who work outside Kerala and outside India. The result is the aging of the resident population of Kerala as educated and energetic working class, work outside Kerala, leaving alone their old parents in palatial bungalows constructed with their remittances. The extreme consumerism converted Kerala a destination for marketing consumer goods and luxury items. In this back ground it is appropriate to have an overview of the urbanization scenario of Kerala State.

URBANISATION SCENARIO OF KERALA STATE

Urbanization of a state is expressed by the percentage of people living in an urban area. Apart from all urban designated areas Census of India has formulated three fold criteria to declare an area as 'urban'. They are as per the following

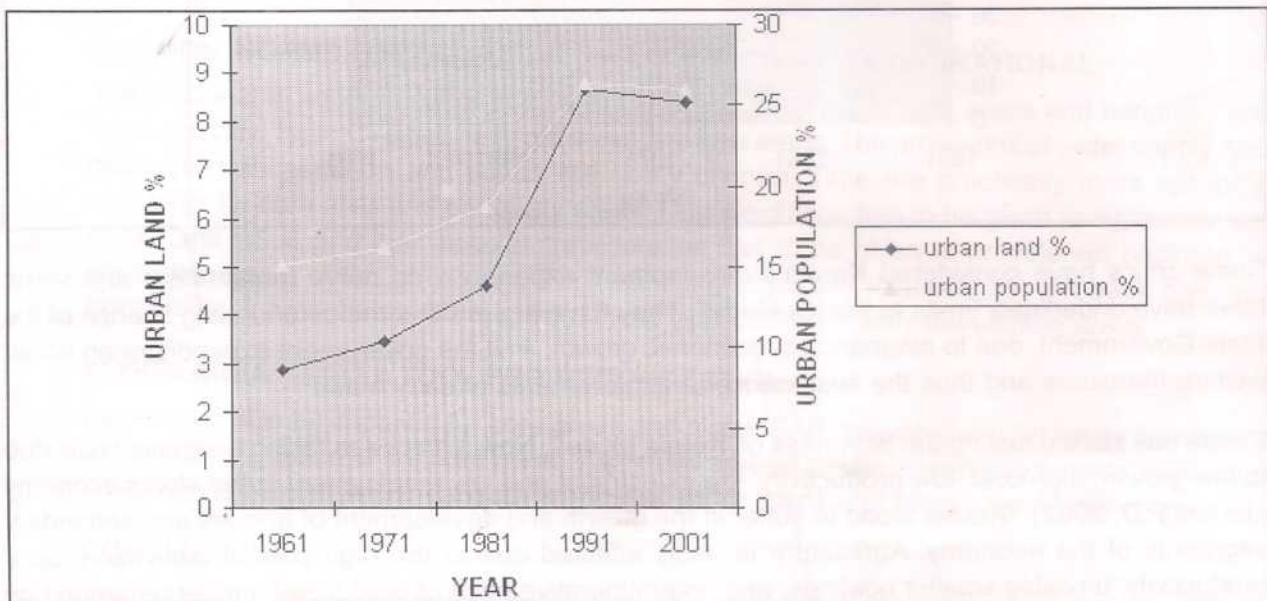
- Population concentration criteria (not less than a population of 5000);

- Density criteria (not less than 400 persons per sqkm); and
- Productivity criteria (more than 75% of the male working population engaged non-agricultural activities).

Accordingly the percentage of urban population and percentage of urban land from 1961-2001 is depicted in Table 2.

Table 2 Urbanisation Trend of Kerala

	1961	1971	1981	1991	2001
Urban Land %	2.88	3.45	4.6	8.65	8.37
Urban Population%	15.11	16.24	18.74	26.39	25.97



It is seen that during the period 1981-1991, urban land has increased disproportionate to the urban population which indicates the existence of urban sprawl. Urban sprawl is unplanned urban spread with non-optimal density of population to support urban infrastructure. The after effect of urban sprawl is experienced in the next decade 1991-2001, with a substantial decrease of urban population. Many of the areas declared as Census Towns (CTs) in 1991 are declassified as Urban Out Growths (OGs). As per the Census of India definition, OGs are urban spreads which do not fulfill the three fold urban criteria, to be treated as independent CTs, but at the same has all the other urban characteristics and infrastructural facilities.

As per the 2001 census, 17 nos of Kerala Urban Agglomerations (UA) has 33 numbers of urban outgrowths (OG) which are lying at the periphery. Urban OGs are not 'true urban' as per the three fold criteria of census of India. Kerala is the state having highest number of UAs even though it lacks a million plus city. As per the 2001 census, 17 numbers of UAs in the state spread in an area of 57 % of the urban Kerala, carrying 72 % of the urban population. Comparing the Kerala UA with Delhi UA, Kerala UA carries only 46% of the population of Delhi UA as per the 2001 census while its area is 2.2 times area of Delhi UA. In effect Delhi UA carries a residential density of 3.2 times Kerala UA residential density. 20 % of UA area comprises OGs and 14% of the UA population is from OGs. (Refer Fig. 1 and 2).

Fig. 1 Area and Population UA, Kerala

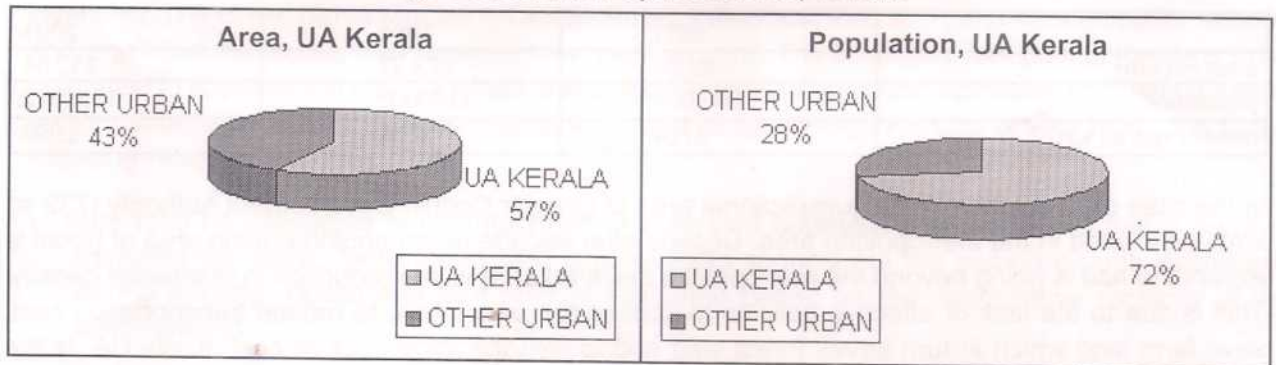
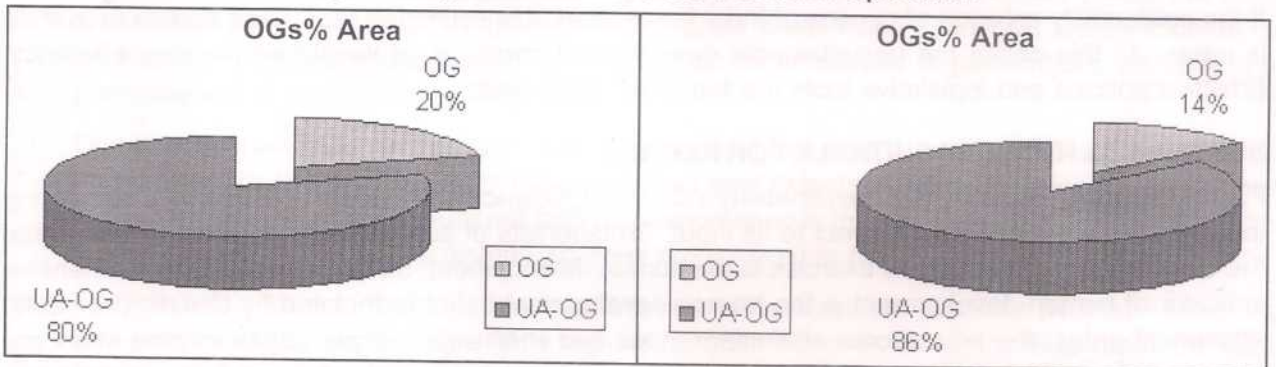


Fig. 2 Outgrowth in terms of Area and Population



If microscopically examined the Urban OGs of Kerala, it is seen that all the criteria of Census of India other than the productivity criteria are satisfied. At the same time these areas are having all the urban infrastructure. This phenomenon is prevalent throughout the state of Kerala. even though no such classification has been made by the Census of India in areas other than UA. Kerala's rural resident has access to road, electricity, cooking gas, telephone, and internet along with educational and health facilities. Only thing they lack is higher order shopping facilities. This may be the reason behind high revenue expenditure with less revenue receipts prevalent in Kerala.

Government in the name of welfare policies continues investing in infrastructure for unviable population concentration. When serviced land with ample spare capacity is idling in the city, people go further from the rural area invading agricultural and forest land and pester government for infrastructure. Apart from unviable infrastructure cost, the productivity of the agricultural and forest land is also depleted due to non-conforming and heterogeneous land utilization pattern. The settlement pattern is further scattered leading to more fossil fuel consumption to reach the human development prone centers which is spend mostly by government and some times by the individuals. This again contributes negatively towards the economy of the state.

METROPOLITAN AREAS IN KERALA

Until 1991 census there was no area in Kerala having a million plus population. As per 1991 census of India, Kochi is included as a 'million plus' city considering the population of Kochi Urban Agglomeration which spreads over an area of 373.30 sq. kms (Refer Table 3). Subsequent to this, Government of Kerala declared Thiruvananthapuram, Kochi and Kozhikode as metropolitan areas in 1995, even though Kochi only is having a million plus population that too for the Urban Agglomeration. While other million plus UAs of the nation is having a substantial core population, Kochi UA graph has a small hump at the core area and is flat towards the periphery.

Table 3 Area, Population and Density of Kochi UA

	1981	1991	2001
area (sq km)	182.24	373.27	452.64
population	686,000	1140605	1355972
density (pp sq km)	3764	3056	2996

In the case of Kochi the original jurisdictional area of Greater Cochin Development Authority (732 sq km), is included in the metropolitan area. Decade after decade urban agglomeration area of Kochi is expanding and is going beyond the metropolitan declared area with a reduction in residential density. This is due to the lack of effective policies to contain the population, to reduce transportation cost, save farm land which in turn saves forest land and to limit the infrastructure cost. Kochi UA is the bread winner of the state as major share of the states revenue is collected from Kochi UA.

If the productivity criterion of census of India is set apart, it is estimated that major portion of Kerala is urban. All this depict the unsustainable development paradigm of Kerala which lacks efficiency. Effective policies and legislative tools are the need of the hour.

SUSTAINABILITY INDEX SUITABLE FOR KERALA

For any system, efficiency is a sustainability indicator. Efficiency of a system is determined comparing the output of a system with respect to its input. Protagonists of sustainability equivocally agree that the output of any development exercise is the human development. Simple and most comprehensive indicator of human development is the human development Index formulated by UNDP. The health attainment index, the educational attainment index and PPP adjusted per capita income index are given equal weightage. Life expectancy at birth is considered for health while adult literacy rate and gross enrolment ratio is considered for the educational attainment index.

But human development should not be seen in isolation, more so for a state like Kerala which is synonymous for the high consumption standards. This leads to State Input Analysis. Major inputs of a nation, state of a metropolitan area are land, food and energy and the assimilative capacity of the system(waste absorbing capacity).But how are all the inputs to be summarized, as the components are having different units?

United Nations World Wildlife Fund for nature (WWF) has adopted the concept of ecological foot print which evaluates the combined effect of energy, natural resources and the assimilative capacity of the environment.

Ecological Foot Print (EFP), The Comprehensive Input Indicator

EFP analysis was invented, by Dr William Rees and Maths Wackernagel(1992) at the University of British Columbia. EFP compares the natural resources and energy consumption with the nature's biologically productive and assimilative capacity. EFP of a region, nation, state or metropolitan area is the total area required to produce everything that area consumes. EFP is measured in global hectares. A global hectare is one hectare of biologically productive space with world's average productivity. EFP of an average person at the global level in 1999 is 2.3 hectares while the global biocapacity was only 1.9 hectares. This means that mankind as a whole is using renewable natural resources and energy at a level, which is 20% above the earth's bio-capacity leading to 'ecological deficit' or 'overshoot'. If everyone on earth lives like an average North American it would require at least three earths to provide all the material and energy he uses. Also it is reported that 75% of the world consumption is by 20% of the people who are affluent in developed countries⁴.

Comprehensive consumption indicator, EFP can be applied at the state, metropolitan area or city level also. The city of Santa Monica in United States, calculated their EFP, and through policy reforms and legislative measures, they reduced their 'city foot print'. The ecological foot print of Kerala is to be quantified to appraise the policy makers, the unsustainable consumption standards enjoyed by Kerala without substantial output. The ecological foot print of an average Keralite is very high due to the following reasons.

- The food he consumes is manufactured or cultivated outside Kerala and fossil fuel is burnt to transport the same. More forest land is required to sequester the carbon dioxide discharged during burning. (fossil fuel foot print is evaluated based on the assimilative capacity of the environment)
- As the settlement pattern is scattered huge energy is wasted on transportation to reach the human development prone centers, again leading to more fossil fuel consumption, which is either shouldered by individual or by government. 'Kerala State Road Transport Corporation' is not profitable in Kerala and the reason may be the unviable number of passengers, as there is no phenomenon of population concentration.
- Due to scattered settlement pattern built up area / land foot print is very high as scattering of built up area reduce the productivity of the intermittent land (which remains under performing or non-performing as neither agriculture nor built up phenomenon is there). The high electrical distribution losses prevails in Kerala as distribution lines are covered in non-performing areas also.
- The economic base of Kerala is the remittances of Non Resident Keralites (NRKs). The energy foot print of a non-resident Keralite is high as he often depends on air travel to reach the home land burning huge amount of fossil fuel.

From all the above the EFP of a Keralite is very high which can be a comparable figure to the EFP of developed countries while enjoying less comfort than the people in developed countries. This illustrates the importance of finding the human development achievements with respect to the ecological foot print leading to HD/EFP Index¹¹

As per the procedure adopted by the WWF, in the Living Planet Report, biocapacity of Kerala can also be derived which will be a diminishing figure as the productivity of agriculture and forest land is less. HD/EFP is the key index of sustainability for the Kerala situation to evaluate the seriousness of the dangerous path in which we are moving.

HD / EFP the sustainability indicator

UNDP has been publishing Human Development Index of nations across the world in Annual World Development Reports³. WWF of United Nations is publishing the Ecological Foot Print of nations across the world in the Living Planet Reports⁴ published by them. HD / EFP calculations reveals that nations which are in the top list of human development Index are going much below in the list when HD / EFP is calculated and some are tabulated as shown in Table 4.

From all the above it is clear that any sincere effort to improve Kerala situation is to concentrate on the sustainability indicator HD / EFP and to formulate policies,

programs and legal tools to improve the same. Also it is true that there is no magic wand to improve the Kerala situation other than long term measures. Through reforms in urban planning and applying energy efficient technology HD / EFP of Kerala can be improved in a phased manner. Encouraging

Table 4 HD / EFP of Some Countries, 2000

	HDI	EFP	HD/EFP
Canada	0.96	8.84	0.11
USA	0.943	9.7	0.10
Albania	0.656	0.96	0.68
Bolivia	0.593	0.96	0.62
Armania	0.674	0.88	0.77
Georgia	0.633	0.91	0.70
Kuwait	0.848	7.75	0.11
UAE	0.855	10.13	0.08
India	0.451	0.77	0.59

Human Development Index(HDI)³

Ecological Foot Print (EFP)⁴

planned, compact, high density development with compatible mixed land use around human development prone centers along with the energy conservation technologies can go a long way to improve HD / EFP of Kerala.

Among the international community 'compact high density development with compatible mixed land use' is known as 'Smart Growth.' Increased fossil fuel consumption, loss of open space, high infrastructure cost, a desire for varieties and choices, social insecurities all have made 'Smart Growth' an increasingly powerful strategy for building and revitalizing communities. Smart growth increases the human development due to high accessibility and reduces the ecological foot print due to compactness and less fossil fuel consumption. Smart Growth policies can invariably improve Kerala economic crisis as it improves the HD/EFP, the sustainability index suitable for Kerala

The following are some of the great advantages of smart growth¹⁰

- Smart Growth creates great places to live by creating walk able communities;
- Smart Growth increases housing choices and affordability;
- Reduces the infrastructure cost;
- Increases the transportation and consumer choices;
- Protects valuable agricultural land and forest land;
- Smart growth with 'transferable development right' can save ecologically sensitive areas(coastal zone, flood zone, etc);
- Reduces the fossil fuel consumption leading to less ecological foot print;
- Smart growth improves security as there will be an 'eye on the street';
- Strengthen the tax base of the local body and reduces the tax load of the residents;
- Revenue receipts can be increased while reducing the revenue expenditure; and
- Smart growth with 'transferable development right' and land use zoning can ensure cheap land supply for productive use like agriculture and industry and for infrastructure which contribute to human development

EXISTING LEGISLATIVE SET UP IN KERALA

Town Planning Act(Act IV of 1108) and Madras Town Planning Act of 1920 are in force in Kerala even though it is out dated. In line with 73rd and 74th Constitution Act of 1992 the new Municipalities Act of

1994 came in to effect in Kerala. 'Urban Planning' which is included in the 12th schedule of the 74th Constitution Amendment Act is delegated to urban local bodies and it is included as an obligatory function of the respective urban local bodies although it is the discretionary power of the state government.. Neither the formation of a Planning Department nor redeployment of town planning staff in urban local bodies is effected till date. Urban local bodies of Kerala are devoid of any qualified Urban Planner. Through a government order in 1999, building application and development controls are also delegated to local bodies irrespective of whether it is Municipality or *Panchayat*. But neither the 11th schedule of 73rd Constitution Amendment Act nor the New *Panchayat Raj* Act of Kerala does contain the spatial planning function, to be delegated to the *panchayats*. The recruitment rules of town planning department of Government of Kerala and development authorities are also diluted. Town Planning qualification is not obligatory for promotions.. Kerala does not have a School of Planning also.

LEGISLATIVE IMPERATIVES'

It is understood that reforms in town planning legislation are under scrutiny by state government and is included in the Modernization of Government Program (MGP).The following are the legislative imperatives for a sustainable Kerala.

- Kerala State should give due thrust to planned development ensuring the services of the qualified town planner as he has been trained to think in multi-dimension, taking inputs from multi-disciplines;
- The new town planning legislation should invariably contain provisions for urban renewal through redevelopment of dilapidated economic growth centers and infill development of spare capacity areas. Any new development should be of 'smart growth' as all the above contributes towards a better HD / EFP index;
- Through GIS techniques, taxation can be made more rational, using the HD / EFP concept as the existing taxation methods are highly irrational and it aggravates the present crisis in Kerala;
- High rise zones should be identified and high rise buildings should be encouraged as it contributes towards HD / EFP concept. Unfortunately Kerala State does not have a workable 'apartment ownership act' as necessary amendments are not incorporated in the Registration Act;
- 'The Transferable Development Right' is not fully operational in Kerala even though it is practiced in a crude form through necessary provisions in building rules. TDR should be included in the new Town Planning Act along with necessary amendments in the Registration Act to be fully operational and fool proof;
- The existing legislation does not have provisions for 'State Perspective Plan' or 'Metropolitan Area Perspective Plan'. Without a top-to-bottom policy document, bottom-to-top plan making will not be consistent. A metropolitan Planning Committee is the need of the hour assisted with qualified town planners who will finalise the Metropolitan Area Perspective Plan. West Bengal has already enacted the MPC Act for giving provisions for Metropolitan Area Perspective Plan. Kerala should have a viable metropolitan area which would contribute to the HD/EFP of the entire state;
- As Kerala State has a unique settlement pattern, the state invariably needs a spatial planning research organization in lines of National Institute of Urban Affairs (NIUA), which is headed by an academician who would advice the Government as and when it is required; and
- It is true that there is an acute shortage of qualified town planners in India and hence Government of Kerala should take all possible initiatives to start a School of Planning to ensure adequate supply of Spatial Planners for the future Kerala.

CONCLUSIONS

Economic Growth Centers leads to high density development, as profitability is more. It can happen vice-versa also. Planned High Density Development can inculcate economic growth , more so in a tertiary economy, as HD/EFP is more and losses are less, leading to more profitability. But the challenging factor is to ensure the planned development. If energy efficient technology is also used, great results can be achieved and hence legislative tools are to be formulated to implement the concept.

REFERENCES

- Census of India 2001, Series 33, Kerala
- Pay Revision Report 2006, Government of Kerala
- World Development Report, 2000, UNDP
- Living Planet Report, 2002, WWF
- Pillai P.P (1994), Kerala's Economy, Four Decades of Development, Institute of Planning and Applied Economic Research, John Mathai Foundation, Thrissur
- Tewari R.T and Joshi (1988), 'Development and Change in India', Ashish Publishing House, New Delhi
- Sivakumar A.K (1991) 'UNDP's Human Development Index, a Computation For Indian States, Economic and Political Weekly
- Jeromi P.D(2002), What ails Kerala's economy, A Sectoral Exploration, Economic and Political Weekly
- Richard Franke and Barbare Chasin(1990), "Development Without Growth, Kerala Experience" Technology Review
- Local Government Commission and US Environmental Protection Agency (2003), 'Creating Great Neighbourhood, Density in your community'
- May Mathew (2005) 'Towards More Liveable Cities, Through Smart Growth Initiatives', National Conference of Civil Engineers, IEI, Kochi.