FINANCE COMMISSION AND THE SOUTHERN STATES: OVERVIEW OF ISSUES

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Abstract

This paper examines some of the relevant issues of resource sharing in the Indian federation, particularly in the context of the on-going deliberations of the 13th Finance Commission. While the focus is on the southern states, in matters of fiscal transfers, a segmented view cannot be taken as the design of transfers has to take into account competing claims of different states on a limited pool of sharable resources. The main transfer–related issues discussed here relate to the vertical and horizontal dimensions of fiscal transfers.

INTRODUCTION

The four southern states of India are Andhra Pradesh, Karnataka, Tamil Nadu, and Kerala. All the four states are classified as general category middle income states. Taken together, these four states contribute more than a quarter of output in India. Their share in the sum of GSDPs of all the states has also been large and growing. Even while their tax bases have been increasing and correspondingly their contribution to the base for the central taxes has also been growing, their share in the tax devolution and in the grants given by the central government has been coming down. This has significantly affected their capacity to provide services at an adequate level in terms of quantity and quality, particularly in relation to public goods like law and order and justice, and merit goods like health and education. These states also show considerable intra-state inequalities in terms of economic activities as well as provision of essential services including health and education.

In this paper, we examine some of the relevant issues of resource sharing in the Indian federation, particularly in the context of the on-going deliberations of the 13th Finance Commission. While the focus is on the southern states, in matters of fiscal transfers, a segmented view cannot be taken as the design of transfers has to take into account competing claims of different states on a limited pool of sharable resources. The following are some of the key issues:

Transfer Related Issues
Vertical: Is the pool of resources available for sharing among the states too small in relation to the assigned responsibilities of the state governments? If so, has the central government got more than its due share in relation to its responsibilities?
Horizontal: Whether the southern states have lost unduly in the Finance Commission awards? If so, who has got more than their due share?

Local Bodies: There are considerable deficiencies in the services provided by the local bodies. In particular, there are large intra-state imbalances in the level of public provision of public goods like law and order and justice, and merit goods like health and education. The issue is whether the southern states are getting a fair deal in the grants earmarked for the urban and rural local bodies.

Other Contextual Issues

GST: In moving from VAT to GST, there will be a convergence of tax rates. The southern states have typically a high revenue-neutral rate (RNR). The state component of the GST rate is likely at best to be revenue neutral with respect to all states. But the southern states have a higher RNR and may lose out in relative terms at least in the short run. If the country does embark on to GST in 2010, all the estimates prepared by the Finance Commission will have to take the differential revenue impact of the GST into account and traditional methodologies of estimation of own tax revenues will not work.

Special Problems: The Southern states, taken together, have a large share of India's coastal areas. These require special attention and resources. While forest areas have deserved additional grants from the Finance Commission, coastal areas have not been brought on board. Is it time to do so?

Ecological Protection: Related to the coastal areas is the issue of rich ecology in term of seaweeds and marine life that requires special attention. The Thirteenth Finance Commission has a specific term of reference in the context of ecology and environment.

State Specific Problems

Each of the southern states has a distinct special problem that requires the attention of the Finance Commission. For example, Tamil Nadu is

characterized by a serious shortage of water giving rise to tensions with the neighboring states.

This paper has seven sections. Section 2 discusses three basic features of the southern states: share of their GSDP in all-state GSDP, share of the population in all-state population, and their average per capita GSDP relative to the all-state average per capita GSDP. Section 3 discusses issues of vertical and horizontal transfers highlighting how over the long rune, the share of the southern states in the transfers has eroded. Section 4 discusses issues arising from the implementation of GST, particularly for the southern states. Section 5 highlights the problems of intra-state imbalances focusing on Tamil Nadu. Section 6 looks at some special problems of the southern states, particularly those arising from the large coastal areas that they need to manage.

Some Basic Features of the Southern States
Before analyzing the issue of fiscal transfers, it is useful to look at three basic features of the four southern states, viz., their contribution in the economic activities of the country, their share of population, and their relative position in terms of per capita incomes.

Taken together, the four southern states contribute a little more than one-fourth of the all-state GSDP. As shown in Table 1, the share of the southern states in the all-state GSDP has increased over time, but only marginally. Since 1993-94, when their share was a little more than 25 percent of the all-state GSDP at current prices, it has increased by a margin of 1.8 percent age points by 2005-06.

Table 1: Share of GSDP of the Southern States in All State-GSDP

(percent)

	Andhra Pradesh	Karnataka	Tamil Nadu	Kerala	Total Southern States
1993-94	7.88	5.49	8.06	3.81	25.24
1994-95	8.00	5.45	8.19	3.93	25.56
1995-96	8.05	5.55	8.10	4.15	25.85
1996-97	7.89	5.59	8.02	4.13	25.63
1997-98	7.55	5.65	8.39	4.14	25.74
1998-99	7.96	5.97	8.42	4.13	26.48
1999-00	7.92	5.89	8.21	4.20	26.21
2000-01	8.28	5.88	8.38	4.12	26.66
2001-02	8.50	5.84	8.07	4.19	26.60
2002-03	8.41	5.87	7.92	4.31	26.51
2003-04	8.45	5.69	7.79	4.25	26.18
2004-05	8.37	5.91	7.98	4.26	26.52
2005-06	8.45	6.11	8.00	4.26	26.82

Source (Basic Data): Central Statistical Office.

Within the group of the four states, the share of Tamil Nadu and Andhra Pradesh are the relatively larger shares as shown Table 1. Andhra Pradesh and Tamil Nadu account for about 8 percent of the all-state GSDP while Karnataka and Kerala have respectively shares of 6.1 and 4.3 percent. Chart 1 shows the change over time in the profile of shares of individual states in the southern group.

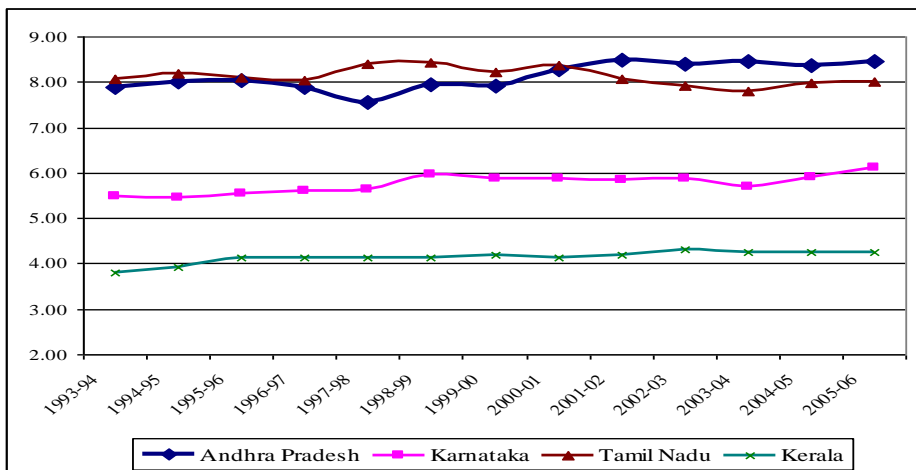**Chart 1: Share of the Southern States in All-State GSDP**

Table 2: Share of the Southern States in All-State Population

(percent)

	Andhra Pradesh	Karnataka	Kerala	Tamil Nadu	Southern States
1992-93	7.96	5.37	3.46	6.60	23.39
1993-94	7.92	5.37	3.40	6.56	23.24
1994-95	7.89	5.36	3.36	6.51	23.12
1995-96	7.85	5.35	3.32	6.45	22.98
1996-97	7.81	5.34	3.29	6.40	22.84
1997-98	7.76	5.32	3.26	6.35	22.68
1998-99	7.70	5.29	3.23	6.29	22.51
1999-00	7.65	5.24	3.19	6.24	22.32
2000-01	7.57	5.23	3.16	6.19	22.14
2001-02	7.48	5.21	3.12	6.13	21.95
2002-03	7.48	5.19	3.11	6.09	21.88
2003-04	7.45	5.18	3.10	6.05	21.77
2004-05	7.41	5.16	3.08	6.01	21.66
2005-06	7.47	5.21	3.11	6.04	21.83

Source: As in Table 1.

Table 2 shows the share of the southern states in all-state population. Compared to the rising trend in the all-state GSDP, their aggregate share in population has come down. Taken together, the four southern states account for a little less than 22 percent of the all-state population. In fact, their share in population has come down over the years. Thus, in 2005-06, their share in all-GSDP was nearly 5 percentage points higher than their share in all-state population. The changes in the relative shares in GSDP and population are reflected in the per capita GSDP of these states compared to the all-state average per capita GSDP.

Table 3: Per Capita GSDP of Southern States Relative to All States
(Current Prices, 1999-00 base series)

	Average (Southern States) (Rs.)	Average (All-states) (Rs.)	PCGSDP(Southern)/PC GSDP(All states) (percent)
1993-94	9367	8608	108.8
1994-95	10984	9914	110.8
1995-96	12614	11194	112.7
1996-97	14228	12656	112.4
1997-98	15670	13784	113.7
1998-99	18157	15409	117.8
1999-00	19458	16569	117.4
2000-01	20996	17437	120.4
2001-02	21888	18067	121.2
2002-03	23322	19250	121.2
2003-04	25726	21394	120.2
2004-05	28703	23445	122.4
2005-06	31923	25982	122.9

Source: As in Table 1.
Note: PCGSDP- per capita gross state domestic product

As shown in Table 3, in 1993-94, the per capita GSDP of the southern states was only about 9 percent higher than the all-state average per capita GSDP. By 2005-06, the per capita GSDP has increased to become nearly 23 percent higher than the all-state per capita GSDP.

Resource Sharing: Vertical and Horizontal Issues

The issues of fiscal transfers relate to their vertical and horizontal dimensions. The vertical dimensions relates to the relative shares of resources between the centre and the states taken as a group. The horizontal dimension relates to the *inter se* distribution of the resources among the states. We consider the horizontal dimension first.

Horizontal Issues

There are four competing groups of states: southern states (largely middle income states), high income states, low income states, and the special category states. Chart 2 and Table 4 show the share of the southern states in total transfers. Comparing the changes between the Third and Twelfth Finance Commissions, for the southern states, there has been a loss of about 9.5 percentage points in their share taken together as compared to the other categories of states from nearly 28 percent to just above 18 percent of total transfers. The major gainers have been the low income states and the special category states who gained respectively 10.6 and 7.8 percentage points. Because of the changes in the organization of states, it may be better to make a comparison between the Twelfth and Fifth Finance Commissions. In this case, the erosion of the relative share in total transfers of the southern states is 5.4 percentage points and the gain for the low income states (7.1 percentage points) and the special category states is 4.2 percentage points.

Table 4: Share in Total transfers for Different Groups of States

(percent)

Average for Finance Commission Periods	Southern States	High Income States	Lower Income states	Special Category States
Third	27.86	20.01	45.87	6.25
Fourth	29.33	16.52	44.73	9.42
Fifth	23.77	17.02	49.37	9.84
Sixth	22.90	14.81	49.17	13.13
Seventh	23.19	16.47	51.08	9.26
Eighth	21.46	13.35	51.60	13.59
Ninth(1)	20.43	13.53	50.08	15.97
Ninth(2)	19.99	12.69	52.62	14.70
Tenth	21.89	13.05	49.77	15.29
Eleventh	19.17	9.60	56.65	14.58
Twelfth	18.36	11.17	56.43	14.04
Twelfth-Third	-9.50	-8.84	10.55	7.79
Twelfth-Fifth	-5.41	-5.85	7.06	4.20

Source (Basic Data): Vithal and Sastry (2001) and Reports of the Finance Commission.

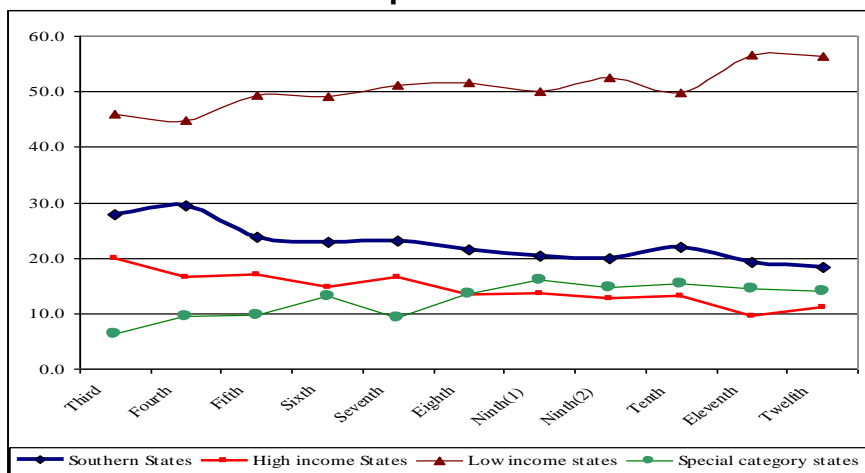**Chart 2: Share of Groups of States in Total Transfers**

Table 5: Share of Different Categories of States in Tax Devolution

(percent)

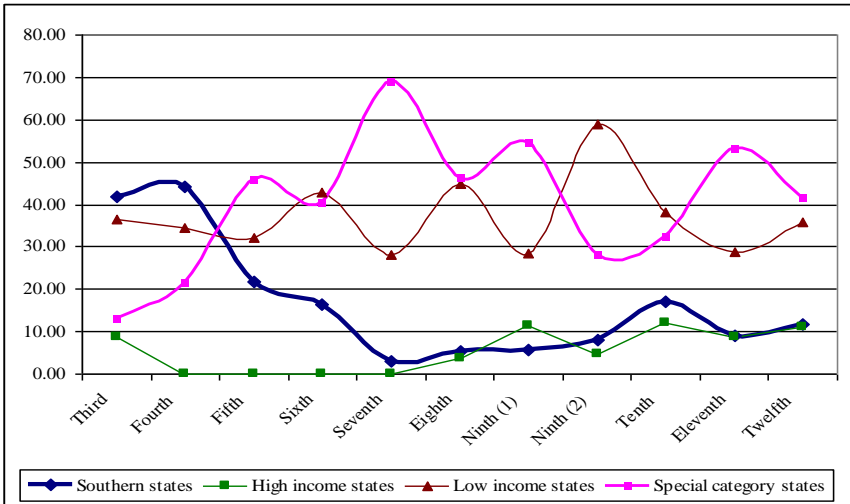| Average for Finance Commission Periods	Southern States	High Income States	Low Income States	Special Category States
Third	24.52	22.75	48.13	4.60
Fourth	24.47	21.96	48.11	5.46
Fifth	24.06	19.68	52.05	4.21
Sixth	24.84	19.30	51.08	4.79
Seventh	24.70	17.71	52.81	4.78
Eighth	22.90	14.22	52.21	10.68
Ninth(1)	22.51	13.82	53.16	10.51
Ninth(2)	22.15	14.13	51.46	12.27
Tenth	22.39	13.14	51.01	13.46
Eleventh	21.07	9.75	61.88	7.30
Twelfth	19.79	11.20	60.85	8.17
Twelfth-Third	-4.73	-11.55	12.71	3.57
Twelfth-Fifth	-4.28	-8.48	8.80	3.96

Source: As in Table 4

Total transfers consist of tax devolution and grants. Tables 5 and 6 show changes in the shares of the different groups of states in respect of tax devolution and Finance commission grants. It may be noted that the loss of share of the southern states in tax devolution has been about 5 percentage points from 24.5 percent to below 20 percent comparing the Twelfth and the Third Finance Commissions. Chart 3 highlights the large shift in favour of the special category states in the case of the eighth Finance Commission and a large shift in favour of the low income group of states in the case of the Eleventh Finance Commission.

Chart 3: Share of Different Groups of States in Tax Devolution
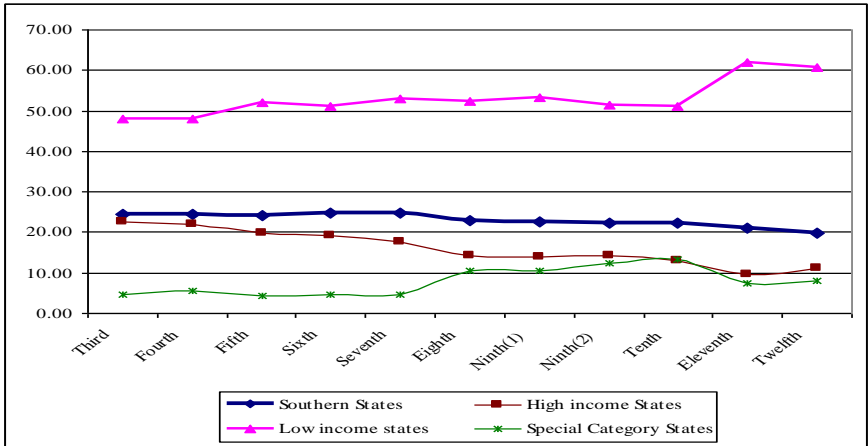
In the case of grants by the Finance Commission, the erosion in the share of the states has been more pronounced (Chart 4).

Chart 4: Share in Finance Commission Grants of Different Groups of States

At its peak, the share of the southern states was nearly 44 percent. It has now fallen to about 12 percent of total grants, a fall of nearly 30 percentage points. But as far as the gainers are concerned, the pattern is different form that in the case of sharing in central taxes.

Table 6: Share in Finance Commission Grants

(percent)

Average for Finance Commission Periods	Southern States	High Income States	Low Income States	Special Category States
Third	41.80	8.61	36.48	13.11
Fourth	44.09	0.00	34.44	21.47
Fifth	21.87	0.00	32.18	45.95
Sixth	16.53	0.00	42.85	40.62
Seventh	3.11	0.00	28.06	68.83
Eighth	5.52	3.61	44.81	46.06
Ninth (1)	5.74	11.48	28.37	54.41
Ninth (2)	8.17	4.83	58.98	28.02
Tenth	17.17	12.19	38.17	32.47
Eleventh	9.08	8.79	28.91	53.21
Twelfth	11.68	11.03	35.68	41.61
Twelfth-Third	-30.12	2.42	-0.80	28.50
Twelfth-Fifth	-10.19	11.03	3.50	-4.34

Source: As in Table 4

In the case of grants, the relative gain for the low income states has been small whereas the gainers are the high income states who started getting some share in grants mainly from the Eighth Commission onwards.

Vertical Transfers

We now consider the vertical dimension of transfers, that is, the sharing of resources in relation to responsibilities. We look at the profile of the respective shares of centre and the states in the combined pool of revenues as well as expenditures.

Table 7: Transfers Relative to Percent of Centre's Gross Revenue Receipts

Average for Finance Commission Periods	Transfers as percent of	
	CGRR Share	GDPmp Share
First	23.9	1.2
Second	30.7	2.0
Third	25.1	2.3
Fourth	31.1	2.6
Fifth	34.7	3.3
Sixth	31.8	3.5
Seventh	38.2	4.4
Eighth	38.1	4.8
Ninth	39.1	4.8
Tenth	35.6	4.1
Eleventh	35.9	4.2
Twelfth*	40.8	5.2

Source (Basic Data): Indian Public Finance Statistics and CSO.
Note: * average of 3 years (2005-08).

Leaving the three years of the Twelfth Finance Commission, the pattern (Table 7) indicates that the share of states in the total transfers as percentage of revenue receipts peaked in the period of the Ninth Finance Commission at slightly above 39 percent of the centre's gross revenue receipts. In fact, it was close to above 38 percent for the 15 years covered by the recommendation periods of Seventh, Eighth, and the Ninth Finance Commission. A similar pattern is reflected in terms of transfers as percentage of GDP. In the case of the Twelfth Finance Commission, the total transfers have gone up again crossing 40 percent but need to wait to see what will the impact of the on-going slowdown on centre's resources.

In spite of the fall from the peak in the level of transfers, states have got a progressively increasing share in the combined revenue receipts of the centre and the states.

Table 8 shows the share of the centre and the states in the combined revenue receipts before and after transfers. In this case also, the long-term trend indicates a progressive increase until the share of states seems to stabilize around 64 percent in the time of the Ninth Finance Commission with a small fall in subsequent years.

Table 8: Share of Centre and States in Revenue Receipts: Before and After Transfers

(percent)

Average for Finance Commission Periods	Before Transfers		After Transfers	
	Centre	States	Centre	States
First	58.1	41.9	44.2	55.8
Second	62.4	37.6	42.8	57.2
Third	66.3	33.7	48.1	51.9
Fourth	65.0	35.0	43.3	56.7
Fifth	65.6	34.4	41.2	58.8
Sixth	65.6	34.4	43.6	56.4
Seventh	64.2	35.8	38.5	61.5
Eighth	64.8	35.2	38.5	61.5
Ninth	62.5	37.5	35.9	64.1
Tenth	61.3	38.7	37.0	63.0
Eleventh	60.9	39.1	36.7	63.3
Twelfth*	62.8	37.2	36.5	63.5

Source: As in Table 7.

The corresponding share of the states in the combined revenue and total expenditures do not show a similar increasing pattern. Instead, there is a much greater stability reflected there. Table 9 gives the relative shares of the centre and the states in revenue and total expenditures. There has been a remarkable stability in regard to these shares particularly for revenue expenditures throughout the periods covered from the First to the Twelfth Finance Commissions.

Table 9: Relative Shares of Centre and States in Revenue and Total Expenditures

(percent)

| Average for Finance Commission Periods	Relative Shares			
	Total Expenditure		Revenue Expenditure	
	Centre	States	Centre	States
First	43.83	56.17	40.77	59.2
Second	49.47	50.53	41.83	58.2
Third	50.51	49.49	46.10	53.9
Fourth	47.69	52.31	41.77	58.2
Fifth	43.14	56.86	40.00	60.0
Sixth	47.35	52.65	44.19	55.8
Seventh	44.79	55.21	41.98	58.0
Eighth	47.86	52.14	44.22	55.8
Ninth	45.58	54.42	43.45	56.5
Tenth	43.35	56.65	43.18	56.8
Eleventh	43.77	56.23	44.03	56.0
Twelfth*	43.18	56.82	43.52	56.5
All-period Average	45.88	54.12	42.90	57.1

Source: As in Table 7.

The share in the revenue expenditure has oscillated around the all-period average of 43 percent through out the award periods covered by the First to Twelfth Finance Commissions. At the highest, it was 46 percent in the Third Finance Commission period and at the lowest it was 40 percent in the period of the Fifth Finance Commission. Correspondingly, the share of states in the combined revenue expenditures has been around 57 percent. At the highest, it was at 60 percent and at the lowest, it was 56 percent. As far as total expenditures are concerned, the share of the centre has been slightly higher at around the average of 46 percent and correspondingly that for states has been around the average of 54 percent. For the periods covered by the Tenth to Twelfth Finance Commissions both revenue and total expenditures seem to be remaining closely around the averages of 43 and 57 percent respectively for the centre and the states.

Chart 5 shows the year-wise figures over period from 1950-51 to 2007-08. The vertical problems are more qualitative in nature. Several issues are critical. First, the centre spends an inordinately large amount on subjects that according to the constitutional scheme of assignment are in the state list.

Secondly, the central government has continued with large amount of cesses and surcharges that are not sharable with the state governments under the provisions of article 270. Even when the central government passes on some amounts to spent by the states, the distribution of that amount among the states is arbitrarily done by the concerned ministries and often not transparent.

Chart 5: Share of States in Combined Revenue and Total Expenditures
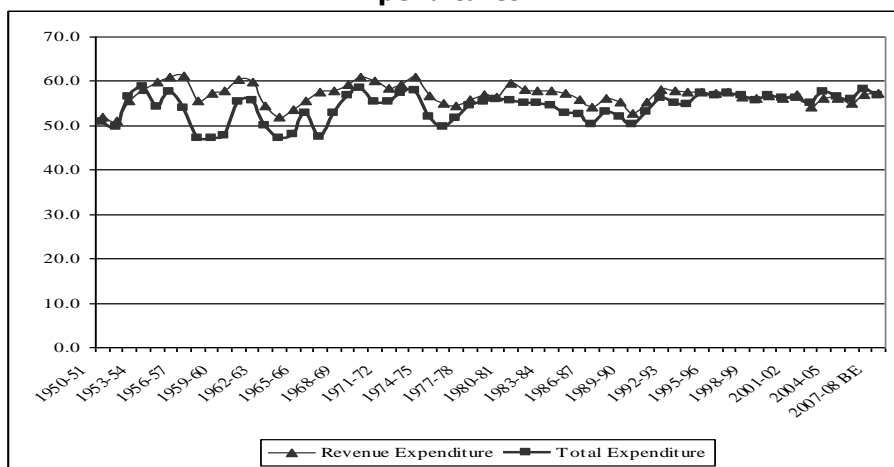
Thirdly, the centre has continued to insist on implementation of a plethora of centrally sponsored schemes, imposing its own priorities and preferences. This may be understandable for one or two areas. But centre finds ways of proliferating the number of areas and schemes without any rationale. Further, states have to bear a substantial part of

the expenditure from their own resources as part of states' share of expenditure on the centrally sponsored schemes and the states have to follow numerous guidelines preempting a lot of administrative resources for this purpose. In a recent submission to the Thirteenth Finance Commission, the Empowered Committee of the State Finance Ministers argued that of the projected total central assistance for the 11th plan period of about Rs. 3,25,000 crore nearly $2/3^{rd}$ will on the centrally sponsored schemes and in order to make sure that such a large space remains for the CSS, the Thirteenth Finance Commission has been asked to take into account the gross budgetary support to the plan that is supposed to comprise primarily of such centrally sponsored schemes. Fourth, in many cases, the centre bypasses the state governments and incurs expenditure in state jurisdictions through ad hoc local bodies.

Moving from VAT to GST: Implications for the Southern States
From VAT to GST
For implementing a comprehensive Goods and Services tax both at the centre and the states, several options are being considered ranging from a completely centralized levy of GST to a system of extensive State GSTs. However, a consensus that seems to be emerging is likely to favour a dual system consisting of a GST with two components: a central GST (CGST) and a system of state GSTs (SGST). The Empowered Committee of the State Finance Minsters has worked on a variant of the Goods and Services tax that is currently being discussed. The main features of the proposed GST are summarized below:

There is a concerted move both by the central government and the Empowered Committee of State Finance Ministers to move towards a National Goods and Services Tax by April 1, 2010. The main components of the scheme being suggested by the Empowered Committee may be summarized as follows:
(a) For Centre, the following taxes would be subsumed under the GST are: Central Excise duties (extended up to the retail level), Additional

Excise duties, Additional Duty of Customs or CVD, CST and Service Tax including all cesses and surcharges. Except for essential services such as primary public health and primary public education, all services should be comprehensively covered under the GST. The Additional Duty of Customs (known as CVD) which is essentially an excise imports would be subsumed under GST and would be made up of the same two components viz. the Central GST and the State GST.

(b) The major State taxes to be subsumed under GST are: VAT or Sales Tax; Entertainment; Tax; Luxury Tax; Octroi or Entry Tax and Taxes on Lotteries, Betting and Gambling, and Purchase Tax, and electricity duty, and any cesses and surcharges levied by the state governments.

(c) The Centre shaIl levy one component (Central GST or CGST) and the states / Union Territories shall levy the other (State GST of SGST). Both CGST and SGST should be applicable, to all transactions of goods and services.

(d) HSN classification for goods should be used both for Central GST and State GST.

(e) A classification for services should be evolved by examining international practice, while keeping in view the particular characteristics of India's services sector

(f) Separate accounts should be maintained for the central and the state GST. While input tax credit (ITC) should be permitted within each of the taxes, cross flow between Central and State GST should not be permitted.

(g) Both CGST and SGST should ideally be at single rates. However, certain categories of goods may need to be taxed at a rate lower than the standard- rate, both for CGST and SGST.

(h) Exports should be fully zero-rated i.e. exports should be relieved of the burden of all embedded taxes and levies, both Central and states.

(i) Demerit goods such as alcoholic beverages and tobacco should be brought under GST with ITC. However, Excise duties (without ITC) should be levied over and above the GST by both the centre and states.

(j) Since crude and petroleum products are non-renewable resources, a similar model, as recommended for· alcoholic beverages and tobacco, could be adopted. An alternative would be to, keep crude, motor spirit, and high speed diesel out of the purview of the GST. This would reflect current practice in India that does not allow ITC of petrol and diesel to downstream users.

(k) The annual turnover threshold should be uniform for the Centre and the states.

(l) Every taxpayer, to be assigned a common taxpayer identification number and should be required to submit one periodical return (i.e. same document) with one copy to the Central GST authority and the other to the concerned State GST authority.

(m) Inter-state sales should be governed by the *destination* principle.

(n) For operationalizing this, banks are to be used as an intermediary. It would require that the seller in the exporting State collects GST from the purchasing dealer in the importing State and deposits it in the designated bank to the credit of the importing State/Centre. The seller also provides details of all transactions, including details of purchasing dealer to the bank. The bank uploads the information on the GST Portal, through which the information becomes available to both the central as well as State Authorities. The purchasing dealer claims ITC on the basis of a digitally signed challan sent by the seller's bank. The importing State/Centre grants ITC on the basis of the credit received by them from the bank in the exporting State.

(o) Under the GST exemptions should be minimized. The dual GST structure at the Central and the State levels should have a common list of exemptions. Specific provisions to provide limited flexibility to the states within a set of prescribed criteria may be incorporated in order to accommodate exemption of goods of local importance.

(p) CST would be eliminated.

Union and State taxes on petroleum and related products contribute about 40 percent of the revenue from Central Excise duty as also significant shares of states tax revenues. At present, neither the Union government nor the State Governments allow ITC on major petroleum products. The Empowered Committee has suggested two alternatives. In the first model, all petroleum products should be subjected to GST (with ITC). Over and above GST, both the Centre and the States can levy additional excise duty (without ITC) at different rates subject to a floor. Alternatively, out of the basket of petroleum products, Crude, Motor Spirit (including ATF) and HSD could be kept outside GST, reflecting administrative considerations, as is the prevailing practice in India. Taxation of the remaining products would be with ITC with the provision additional duty without ITC.

These proposal have significant revenue implications although no doubt overall efficiency in production and sales as well compliance costs will go down. Much will depend on the level at which the overall GST rate is fixed and its components for the central and the state GSTs. The southern states have typically a high revenue-neutral rate (RNR). The state component of the GST rate is likely at best to be revenue neutral with respect of all-state revenue. But the southern states have a higher RNR and may lose out in relative terms at least in the short run. If the country does embark on to GST in 2010, all the estimates prepared by the Finance Commission will have to take the differential revenue impact of the GST into account and traditional methodologies of estimation of own tax revenues will not work.

Integrating Eco Taxes and the GST

Another contextual issues, also specifically refereed to the Thirteenth finance Commission relates to the ecology and environment. This has special relevance in the context of the proposed GST.

Proponents of eco-taxes have argued for a 'green shift' in taxation of goods and services, which implies that the overall tax burden does not increase on the system so that inefficiency costs of excess taxation such as deadweight losses, compliance, costs, and administrative costs do not increase. In undertaking reforms of the taxation of goods and services one needs to ensure that the ecological tax reforms are an integral part of the overall tax reforms. It should be recognized that in a value added tax regime, input taxes are to be fully rebated. As such, taxation of polluting inputs will be ineffective as the tax paid on the inputs will be fully rebated, unless a non-rebatable cess is levied on the inputs. The more appropriate method would be to tax outputs and introduce ecological considerations by taxing at a higher rate, outputs that are either polluting or use highly polluting inputs. Eco-taxes should be designed in an integrated way for taxation at the central, state and local levels. These should complement each other and should not be at cross purposes. Global sources of pollution or pollution where state boundaries are generally crossed should be taxed at the national level, regional sources at the state level, and pollution with strong local characteristics should be taxed at the local level. There should be inter-state coordination so that as result of taxation of polluting inputs and outputs, industries do not attempt to relocate in other states where eco-taxes are less stringent.

The 13th Finance Commission should ensure that inter-state coordination takes place at the level of the states and they do not suffer any revenue loss if industries relocate themselves. Further, special provisions have to be made in the case of the Special Economic Zones and Export Oriented Units who are given inputs including polluting inputs on a zero-rated basis. While their products may be exported or treated as imports if sold in the domestic economy, much of the pollution that they generate is affecting the geographical area in which they are located. Polluting inputs in their case should not be zero-rated. They should also

be subject to all other applicable regulatory measures for pollution control.

Intra-State Inequalities

There are issues both of inter-state and intra-state imbalance. Here, we look at some dimensions of inter-district imbalances in the case of Tamil Nadu. Similar problems are there for the other southern states. Tamil Nadu has thirty districts. In about 2/3rd of the districts, the per capita income is below the per capita income of the state. The Worker Participation Rates are also unevenly distributed across the districts of Tamil Nadu. The low income districts have relatively lower index values in the Human Development Index (HDI), and income deficiency accounts for a larger weight in explaining the shortfall in HDI from the benchmarks, whereas education and health attainments are spatially better distributed.

Table 10 summarises the relative position of the thirty districts of Tamil Nadu in respect of the four components of the Human Development Index. As far as district level economic activities are concerned, as proxied by the per capita District Gross Domestic Product (PCDGDP), Chennai is the leading district and Villupuram is the poorest district.

Table 10: District Level Indicators: Human Development Index

S. N.	Districts	Life Expectancy at Birth (LEB) 2006	Literacy Rate (LR) (2004-05)	Gross Enrolment Ratio (GER) 2006	Real Per Capita DGDP (2002-03) PPP$	Human Development Index (HDI)
1	Chennai	84.80	86.35	85.36	5496.88	0.842
2	Kanchipuram	76.50	83.63	86.78	4326.55	0.778
3	Thiruvallur	75.50	82.47	86.01	4178.20	0.767
4	Cuddallore	71.80	77.42	88.41	2478.36	0.709
5	Villupuram	72.20	69.88	79.65	1801.20	0.667
6	Vellore	71.40	78.73	82.17	2854.90	0.710
7	Thiruvannamalai	71.60	73.51	79.48	2034.94	0.678
8	Salem	74.00	70.81	88.32	3034.49	0.717
9	Namakkal	69.80	72.90	96.32	3453.60	0.715
10	Dharmapuri	69.80	63.82	82.88	2244.85	0.656
11	Erode	73.10	70.59	86.38	3689.20	0.721
12	Coimbatore	73.80	82.91	94.27	4741.27	0.775
13	The Nilgiris	73.10	87.75	80.45	3218.70	0.745
14	Tiruchirapalli	76.60	74.07	87.65	2919.00	0.737
15	Karur	76.60	74.07	87.65	2919.00	0.737
16	Perambalur	71.70	70.35	85.14	2890.54	0.697
17	Thanjavur	71.90	81.97	84.17	2454.29	0.714
18	Thiruvarur	72.70	82.86	85.09	2341.36	0.719
19	Nagapattinam	74.70	82.85	87.19	2576.49	0.738
20	Pudukkottai	72.00	77.21	85.62	2408.24	0.705
21	Madurai	73.40	84.75	93.77	3467.72	0.759
22	Theni	69.30	77.59	92.01	3991.90	0.726
23	Dindigul	69.40	75.24	87.03	3300.16	0.705
24	Ramanathapuram	69.60	78.71	84.38	2853.97	0.703
25	Virudhunagar	69.40	79.98	88.46	4689.66	0.737
26	Sivagangai	69.80	78.29	86.85	2616.29	0.701
27	Thirunelveli	71.50	82.94	91.18	3383.02	0.740
28	Thoothukudi	78.20	88.31	85.07	3928.26	0.791
29	Kanniyakumari	72.60	94.94	90.31	2905.58	0.763
30	Krishnagiri	71.90	63.82	80.74	2244.85	0.665
	Tamil Nadu	72.80	79.16	88.82	3363.11	0.736

Source: Eleventh Five Year Plan: Tamil Nadu, State Planning Commission, 2008.
Notes: LEB- computed by SPC using the data of VES 2006, FW dept., LR – computed by SPC using NSS 61st round and Census 2001 data. GER – computed by SPC using the data on school enrolment 2006-07 of school education department. Projected population 2006 by DOES. Age wise population as proportion of 2001 census. Real PCGDDP – computed by SPC using the data on district wise per capita income 2002-03 and PPP$ value from Global HDR 2004.

In terms of purchasing power parity, the real per capita DGDP for Tamil Nadu on an average is estimated to be 3363.11 (PPP$), based on the estimates prepared by the State Planning Commission. With

reference to the other three determinants of the Human Development Index, i.e., life expectancy at birth (LEB), literacy rate, and gross enrolment ratio (GER), the spread around the mean values is not as large as in the case of district income.

Table 11: Index of Deficiency: HDI Components: Ten Most Deficient Districts

LEB at Birth (2006)		Literacy Rate (2004-05)	
Theni	21.29	Dharmapuri	39.31
Dindigul	21.15	Krishnagiri	39.31
Virudhunagar	21.15	Villupuram	31.66
Ramanathapuram	20.88	Perambalur	31.06
Namakkal	20.60	Erode	30.76
Dharmapuri	20.60	Salem	30.48
Sivagangai	20.60	Namakkal	27.84
Vellore	18.41	Thiruvannamalai	27.07
Thirunelveli	18.27	Tiruchirapalli	26.36
Thiruvannamalai	18.13	Karur	26.36

GER		Real Per Capita GDDP (2002-03) PPP$	
Thiruvannamalai	18.96	Villupuram	109.89
Villupuram	18.77	Thiruvannamalai	102.94
The Nilgiris	17.87	Dharmapuri	96.70
Krishnagiri	17.54	Krishnagiri	96.70
Vellore	15.93	Thiruvarur	93.83
Dharmapuri	15.13	Pudukkottai	91.84
Thanjavur	13.68	Thanjavur	90.47
Ramanathapuram	13.44	Cuddallore	89.75
Thoothukudi	12.67	Nagapatinam	86.84
Thiruvarur	12.64	Sivagangai	85.65

Source: Based on Table 10.

In order to focus on the deficient districts in respect of critical indicators of achievement, we need to focus on relative deficiencies. For this purpose, an index of relative deficiency can be used to highlight the spatial dimensions of imbalance. Table 11 converts the data of 10

districts in terms of an index of deficiency for highlighting those districts which are the lowest in terms of the selected indicator as well as the extent by which they fall below the average value of the concerned indicator. This index is defined as follows:

Index of Deficiency = (maximum - actual for a district)/average for Tamil Nadu

Thus, for any indicator, I, the index is given by $(I_{max} - I_i) / I_a$

Where,

I_{max} = maximum index value among all districts,

I_i = is the index value of the concerned district, and

I_a = average value for all districts.

An index of deficiency is useful for augmenting allocation efficiency in various expenditures under different programmes where district-wise allocation is in the hands of the state government. It is expected that for efficiency gains, inter-district allocation of resources should bear a high positive correlation with the index of deficiency. The higher the deficiency the higher the index of deficiency for a district, the higher should be its allocation. Two general points are: efficiency gains are larger, if the spread in an index of deficiency around the average is larger when allocation of expenditures are aligned to the index of inter-district deficiency for specific indicators, and two, higher efficiency gains will result when different programmes addressing different needs (in respect of education, health, income, and gender) use specific indices of deficiency rather than using composite indices which have been weighted in some arbitrary manner. This is so because the order of districts with different indicators of deficiencies varies considerably across indicators.

These indices are prepared for four indicators, life expectancy at birth (LEB), literacy rate, gross enrolment ratio (GER), and real Per Capita Gross District Domestic Product (PCGDDP). Table 11 gives the ten most deficient districts in respect of each of the four indicators. It can be observed that the range of variation relative to the average for the selected indicators is quite different. For example, in the case of PCGDDP

the range varies from 0-110. In the case of GER, the range varies from 0-19. As such, the inter-district differences relative to the average are lowest for GER, LEB, followed by literacy rate. This indicates that while the government has been successful in spreading education and health services better across districts, wide difference remain in economic activities as reflected by the PCGDDP relative to the average.

We also consider the district profile in terms of the Gender Development Index (GDI). Table 12 gives the inter-district profile of life expectancy at birth, literacy rate, GER, and per capita income separately for the male and female population. Based on this, the gender development index (GDI) is derived. The districts are arranged in ascending order of GDI such that the lowest ranked state is listed first and the highest ranked state is listed at the end. Here also the worse off districts are Dharmapuri, Villupuram, Krishnagiri and Thiruvannamalai. In regard to the components of gender deficiency, as far as life expectancy at birth in concerned relative to the Tamil Nadu average, the lowest performing districts are Perambalur, Thanjavur, Pudukkottai and Dharmapuri. Perambalur is also the lowest as far as female literacy is concerned. For GER, Dharmapuri, Theni and Ramanathapuram are generally placed at the lower end in gender related indices. In respect of per capita income, female earnings are the lowest in Thoothukudi, Thirunelveli and Sivagangai. In respect of variation relative to the average, variation is least for GER, followed by life expectancy at birth and literacy. Based on this, the gender development index (GDI) is derived. The districts are arranged in ascending order of GDI such that the lowest ranked state is listed first and the highest ranked state is listed at the end. Here also the worst off districts are Dharmapuri, Villupuram, Krishnagiri and Thiruvannamalai.

Table 12: Gender Development Index

District	LEB		Literacy		GER		Per Capita (PPP$)		GDI	Rank
	Male	Female	Male	Female	Male	Female	Male	Female		
Dharmapuri	68.5	71.1	73.6	53.5	85.1	80.4	3297.9	1124.8	0.640	30
Villupuram	69.6	75.6	81.3	58.0	81.3	77.9	2706.4	2706.4	0.651	29
Krishnagiri	68.3	76.6	75.0	53.5	80.8	80.7	3298.3	1124.9	0.654	28
Thiruvannamalai	69.3	74.6	85.6	61.4	80.7	78.2	3075.1	990.5	0.662	27
Perambalur	73.4	70.1	83.1	59.2	85.9	84.4	4391.3	1399.5	0.680	26
Sivagangai	66.2	74.5	89.5	67.7	88.1	85.5	4038.7	1247.0	0.686	25
Ramanathapuram	66.9	72.5	88.7	69.3	86.5	82.2	4401.0	1361.7	0.686	24
Pudukkottai	70.9	73.2	89.0	66.4	86.8	84.4	3676.2	1160.4	0.688	23
Dindigul	66.9	72.5	85.9	64.6	87.7	86.3	4965.5	1613.3	0.691	22
Cuddallore	69.4	74.3	88.5	66.4	88.6	88.2	3727.9	1211.9	0.693	21
Vellore	68.3	75.3	88.4	69.2	83.0	81.3	4319.1	1388.0	0.697	20
Thanjavur	71.2	72.7	91.4	73.0	83.7	84.6	3757.0	1179.4	0.698	19
Namakkal	67.8	72.1	83.4	62.1	97.5	95.0	5143.9	1705.9	0.700	18
Thiruvarur	70.3	75.2	91.5	74.6	84.9	85.2	3571.3	1129.1	0.704	17
Salem	70.2	78.7	80.5	60.6	87.6	89.2	4434.2	1529.4	0.706	16
Erode	71.4	74.9	80.7	60.3	86.9	85.8	5510.0	1817.1	0.706	15
Theni	67.0	71.9	88.2	66.9	94.5	89.3	5982.0	1959.5	0.711	14
Tiruchirapalli	70.2	75.6	93.2	77.6	79.8	79.9	4508.8	1443.3	0.718	13
Karur	74.8	78.9	86.0	62.5	88.6	86.7	4444.2	1410.2	0.721	12
Nagapattinam	72.7	77.0	91.5	74.6	88.8	85.6	3931.6	1241.9	0.723	11
Virudhunagar	66.8	73.0	90.5	69.9	90.1	86.8	7147.9	2263.1	0.724	10
Thirunelveli	69.6	73.6	91.8	74.7	92.4	89.9	5233.0	1609.3	0.724	9
The Nilgiris	68.6	78.3	95.8	80.0	80.9	80.0	4911.4	1551.6	0.731	8
Madurai	69.6	78.4	93.2	76.2	94.1	93.5	5196.1	1702.4	0.747	7
Kanniyakumari	70.8	74.5	97.2	93.1	90.5	90.1	4432.3	1401.0	0.749	6
Thiruvallur	72.4	79.3	90.5	74.3	85.7	86.4	6239.2	2058.4	0.755	5
Coimbatore	70.8	77.5	89.6	76.1	93.7	94.9	7050.6	2345.8	0.764	4
Kanchipuram	74.0	79.4	90.7	76.5	85.3	88.4	6471.4	2127.8	0.765	3
Thoothukudi	75.4	82.2	94.8	82.4	86.7	83.4	6101.2	1861.4	0.779	2
Chennai	82.0	88.6	90.6	82.1	83.4	87.5	8148.7	2728.6	0.832	1
Tamil Nadu	70.4	75.7	88.0	70.4	89.3	88.3	5063.0	1643.2	0.722	

Source: Eleventh Five Year Plan: Tamil Nadu, State Planning Commission, 2008.

Note: Years for various indicators are the same as in Table 10. For details see the Eleventh Five Year Plan Document of the Government of Tamil Nadu.

In order to focus further on the relative position of female population in comparison to the male population, an index of gender deficiency has been arrived at by re-arranging the data of districts focusing on gender deprivation relative to the male population comparing the position of each district relative to the position of the average for Tamil Nadu. This index is defined as follows:

For any indictor like LEB or GER, let the relevant index be written for female as I^f_i and for male as I^m_i for the ith district. Here, superscripts 'm' and 'f' indicate male and female populations respectively. Subscript 'i' indicates the districts. The index is defined as $(I^f_i / I^m_i)/ (I^f_a / I^m_a)*100$, where, subscript 'a' indicates the average for Tamil Nadu.

Table 13: Index of Gender Deficiency: Ten Most Deficient Districts

LEB		Literacy	
Perambalur	88.82	Perambalur	89.05
Thanjavur	94.96	Krishnagiri	89.17
Pudukkottai	96.02	Villupuram	89.18
Dharmapuri	96.53	Thiruvannamalai	89.66
Erode	97.56	Karur	90.84
Kanniyakumari	97.86	Dharmapuri	90.86
Karur	98.10	Namakkal	93.08
Thirunelveli	98.34	Pudukkottai	93.26
Nagapattinam	98.50	Erode	93.40
Namakkal	98.90	Cuddallore	93.79

GER		Per Capita Income	
Dharmapuri	95.55	Thoothukudi	94.01
Theni	95.57	Thirunelveli	94.76
Ramanathapuram	96.11	Sivagangai	95.14
Villupuram	96.90	Ramanathapuram	95.33
Thoothukudi	97.28	Thanjavur	96.72
Virudhunagar	97.43	Pudukkottai	97.26
Nagapattinam	97.49	Nagapattinam	97.33
Thiruvannamalai	98.00	The Nilgiris	97.34
Sivagangai	98.15	Kanniyakumari	97.39
Pudukkottai	98.34	Thiruvarur	97.41

Source: As in Table 10.

Table 13 gives the ten most deficient districts in terms of gender deficiency in respect of the four indicators used in constructing the GDI. The lower the value of gender deficiency, the more deficient is the district. Gender deficiency is measured relative to the average value for Tamil Nadu as a whole. In other words, we can examine gender deficiency in two steps: for Tamil Nadu relative to the norm (=100) and for any specific district relative to the Tamil Nadu average. Relative to the average, for life expectancy at birth, the most deficient districts are Perambalur, followed by Thanjavur and Pudukkottai. In the case of female literacy, the most deficient district is again Perambalur, followed by Krishnagiri and Villupuram. For GER, the female to male ratio, the most deficient districts are Dharmapuri, Theni and Ramanathapuram. In terms of per capita income of female in relation to male population, the worst off districts are Thoothukudi, Thirunalveli and Sivagangai.

It will be seen that in terms of the components of human development as well as gender development, there are considerable differences in the ranking of districts in order of deficiency indicating that spatial focus of policies addressing education and health facilities as well as issues relating to gender development and economic activities in general need to be dovetailed towards the relatively more deficient districts in regard to the different indicators.

Coastline and Special Problems
The Indian coastline is about 7517 km. Of this, about 5423 km are along the mainland and 2094 km are along the Andaman and Nicobar islands. The Indian mainland consists of nearly 43 percent sandy beaches, 11 percent rocky coast with cliffs and 46 percent mud flats and marshy coast. It is estimated (see, Kumar *et al*, 2006) that about 23 percent of shoreline along the Indian mainland is affected by erosion.

Erosion along the beaches near river mouths has been commonly noticed along Karnataka coast where about about 60 km of beach (19

percent of the total length of shoreline) is affected by erosion. The problem is relatively more severe in Dakshina Kannada and Udupi coasts, where about 28 percent of the total stretch is critical. In Uttara Kannada region, about 8 percent of the coast is subjected causing shift in river course or inlet migration. In Kerala, about 360 km long coastline is exposed to erosion.

Along Tamil Nadu coast, erosion is observed at Poompuhar, arangampadi, Nagapattinam, Mandapam, Manapadu, Ovari, Kanyakumari, Pallam, Manavalakurichi and Kolachel. The maximum rate of erosion along Tamil Nadu coast is about 6.6 m/yr near Royapuram, between Chennai and Ennore port. The coast near Ovari is exposed to severe erosion in June, whereas alternate erosion and accretion trend has been noticed in Kanyakumari. The Andhra Pradesh coast has frequently been affected by cyclones and inundated by storm surges

The backwaters along the east coast of Tamil Nadu are very dynamic during the seasonal cycle. The Gulf of Mannar area is rich for sea grass. Numerous seaweeds are found in Gulf Mannar. The total productive area estimated is around 10,000 hectares, with a standing of more than 18,000 tons.

The Twelfth Finance Commission has initiated special grants for forest. Similar special grants need to be considered for coastal areas to protect the ecology around these areas and fully develop their economic potential.

CONCLUSIONS

In this study, we have looked at the issue of designing fiscal transfers keeping the four southern states of India in focus. It is shown that the way fiscal transfers under the recommendation of the Finance Commissions has evolved, the southern states have lost share in overall transfers as result of losing out both in terms of tax devolution and grants. The main gainers have been the low income states and the special category states. There is a need to redesign transfers reflecting principle of equalization so that inefficient performance particularly on account tax effort is not rewarded at the cost of other states who have been consistently doing well in the tax-GSDP ratio even while there overall economies have been growing faster than the average.

There are also some topical issues. As part of the overall tax reforms, the central and state governments are heading towards a GST regime. The transition may be costly for the southern states, mainly because of their high tax-GSDP ratio compared to other states. The Thirteenth Finance Commission has to take this into account in making their assessments apart from the issues of compensation for losses in the initial years. There is need to also take into account their special requirements including their responsibility in maintaining the ecological systems around the large coastline that they have to maintain.

REFERENCES

Central Statistical Organisation, *Gross Domestic Product and State Gross Domestic Product*, various series.

Commonwealth Grants Commission (2004), *Report on State Revenue Sharing Relativities*, 2004 Review, Canberra.

GoI, various years, *Reports of the Finance Commission: First to Twelfth Finance Commission*.

Government of India, *Constitution of India*.

Rangarajan, C. and D.K. Srivastava (2004a), "Fiscal Transfers in Canada: Drawing Comparisons and Lessons", *Economic and Political Weekly*, Vol. 39, No.19, May 8. Also published as NIPFP Working Paper No.18, 2004.

Rangarajan, C. and D.K. Srivastava (2004b), "Fiscal Transfers in Australia: Review and Relevance to India", *Economic and Political Weekly*, Vol. 39, No.33, August 14. Also published as NIPFP Working Paper No.20, 2004.

Rangarajan, C. and D.K. Srivastava (2008), "Reforming India's Fiscal Transfer System: Resolving Vertical and Horizontal Imbalances", *Economic and Political Weekly*, June 7,2008, also published as MSE Working Paper No. 31.

Registrar General of India, *Census 2001*.

Vithal, B.P.R. and M.L.Sastry (2001), *Fiscal Federalism in India*, Oxford University Press, New Delhi.

Sanil Kumar, V., K. C. Pathak, P. Pednekar, N. S. N. Raju and R. Gowthaman (2006), Coastal Processes along the Indian Coastline", *Current Science*, Vol. 91, No. 4, 25 August.

Twelfth Finance Commission (2003), *Fifty Years of Fiscal Federalism: Finance Commissions of India*, April, New Delhi.

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