Regional disparities in Andhra Pradesh, India

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In Perspective: Regional Disparities in Andhra Pradesh, India

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Abstract

India is a federal union of 28 states. The states are further subdivided into districts. Andhra Pradesh is one of the largest states in India. This paper examines how regional disparities in Andhra Pradesh have developed since its formation in 1956. A large urban center (Hyderabad) which acts as a hub for economic activities, has attracted factors of production, and has stimulated income and employment opportunities in the surrounding local economy, but its impact on the peripheral districts is limited. There is a need for policy intervention in these peripheral districts in order to reduce regional disparities.

Keywords: India, Andhra Pradesh, Regional development, Regions, Regional disparities,

Introduction

Regional inequalities are a development challenge in most developing countries, especially those with large geographic areas under their jurisdiction. Following India's market liberalisation in the early 1990s, skilled labor and capital in Andhra Pradesh have been drawn from the peripheral regions to the core regions, mostly attracted by the high-technology service sector. Meanwhile, unskilled workers, women, and the old aged remained in the low productivity and less capital intensive agricultural sector.

This paper examines regional disparities in Andhra Pradesh and highlights the role played by its largest urban conglomeration (Hyderabad). It tries to answer the following questions.

(i) Have the regions and districts show convergence or divergence over the last five decades?
(ii) What is the pattern of change among different sub-sectors of industry, agriculture, and services sectors?
(iii) What policy options would be effective in addressing regional disparities?

District level data on different development indicators are collected for the twenty-three districts of Andhra Pradesh state comprising three regions[1] from the Andhra Pradesh Statistical Abstracts 1956-1958 and 2005-2007. All the prices are converted into 1999/2000 constant prices by using the wholesale price index series to calculate the changes in per capita income over the period. The analysis has been done by comparing averages for triennium ending (TE) 1958 and 2007 for various development indicators. Most of the comparisons are made on per capita terms and ratios which are unit free and comparable over the period and districts. Inter-district inequalities are quantified by a *gini* concentration ratio.

Overview of Andhra Pradesh and its Regions

Specific national, regional, and local conditions with specific cultural, historical, institutional, and political legacies all shape the particular experiences of sub-national territories and their economic and social development (Pike and Tomaney, 2004; Pandey and Reddy, 2012). Andhra Pradesh state is one of the largest states in India with a population of 84.6 million in 23 districts. The state was formed in 1956 by the merging of three regions, namely, Telangana, Coastal Andhra, and Rayalaseema. Telangana region occupies the largest geographical area of the state (42%), followed by Coastal Andhra (34%) and Rayalaseema (25%). Population density is higher in Coastal Andhra (367/sq.km), followed by Telangana (288/sq.km) and Rayalaseema (213/sq.km).

In figure 1, districts are grouped into poor, medium rich and rich, based on average monthly per capita expenditure, with 1.25 USD/capita/day as poor, 1.26 to 2.00 USD/capita/day as medium-rich and above 2.00 USD/capita/day as rich. In 2004/05, more than 10% of the rural population in Telangana lived in poverty in five out of ten districts. In Rayalaseema three out of four districts fell into this category, but in coastal Andhra only two out of nine districts fell into this category. Telangana region has a larger share of scheduled castes and tribes (the most backward sections of society as recognized in the constitution of India), whose socio-economic conditions are far inferior to the upper caste population. Arguably, Telangana's development was held back by the long overhang of feudalism (the *Nizam* of Hyderabad), which meant that both coastal Andhra and

[1] The Telangana distrcits are: Mahbubnagar, Hyderabad (Rangareddy+Hyderabad), Medak, Nizamabad, Adilabad, Karimnagar, Waranagal, Khammam and Nalgonda; the four districts of Rayalaseema are: Chittoor, Kadapa, Anantapur, and Kurnool; the nine districts of Coastal Andhra are: Srikakulam, Visakhapatnam (Visakhapatnam + Vizianagaram), East Godavari, West Godavari, Krishna, Guntur (Guntur + Prakasam), and Nellore

Rayalaseema regions were more socially advanced in comparison, at the time of independence. However, even though human development indicators (see below) are at a higher level in both the Coastal Andhra and Rayalaseema regions, the former, the granary of south India, is prosperous due to its highly productive agricultural sector, while the latter is a drought-prone region with low land productivity, low population density, and low consumer demand (Reddy, 2010).

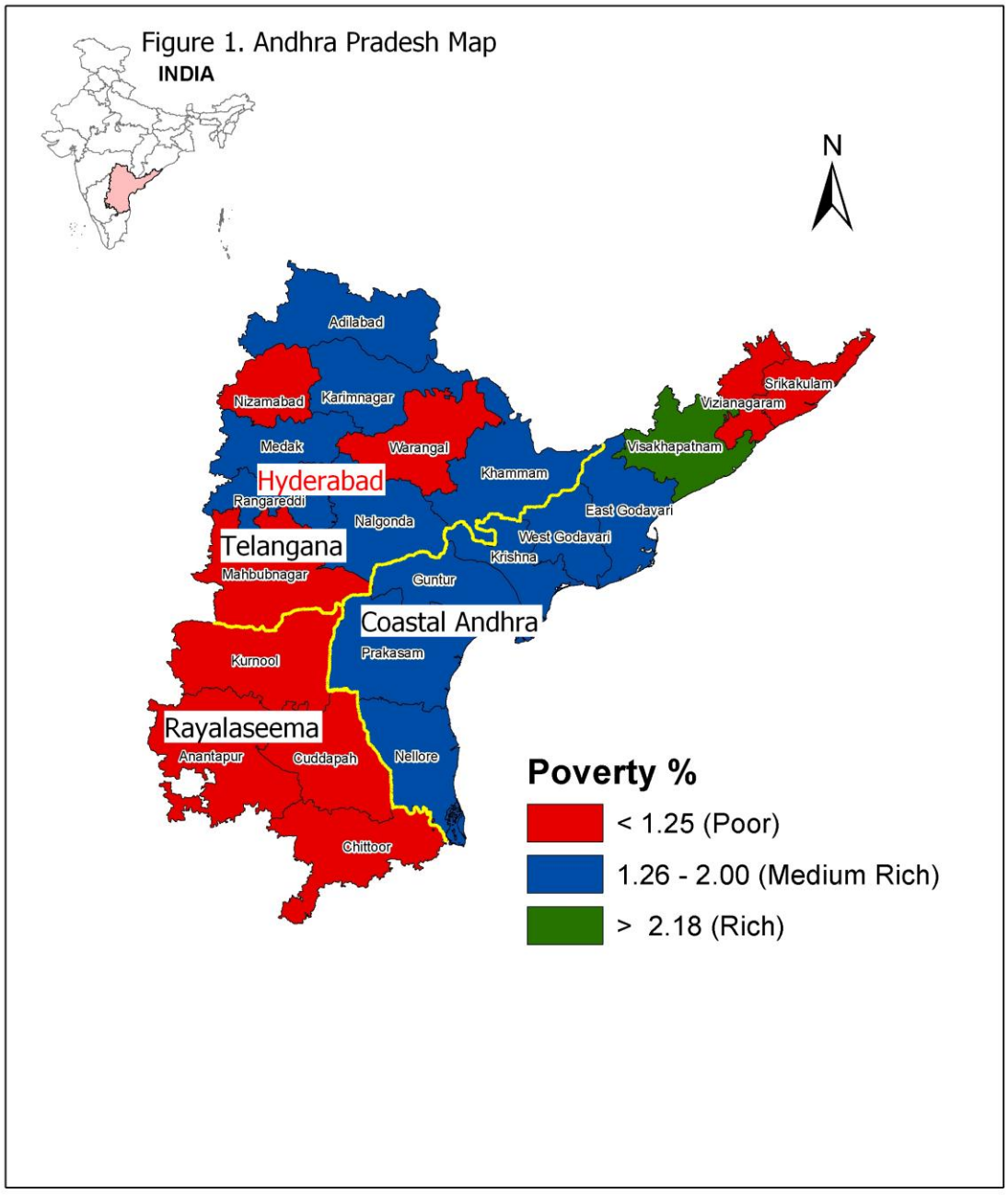


Figure 1. Map of Andhra Pradesh, India depicting district level poverty based on average monthly per capita expenditure (USD/Capita/Day)

Hyderabad is a cosmopolitan urban centre, formed about 500 years ago, and located in the Telangana region. It constitutes 9.15% of the state population; the second largest city is Vishakhapatnam (only 2.04%), followed by Vijayawada (1.76%), both of which are located in Coastal Andhra. In addition to these three cities, about 45 urban centers exist, but with little agglomeration effects. Hence, Hyderabad attracts capital and labor not only from within the state, but also from other states and countries, especially on account of its concentration in IT industry and both public and private service sectors. Hyderabad city also has better public services like primary health centers, roads, and educated and more skilled labor, hence the gulf between Hyderabad and the poorer peripheral districts has widened.

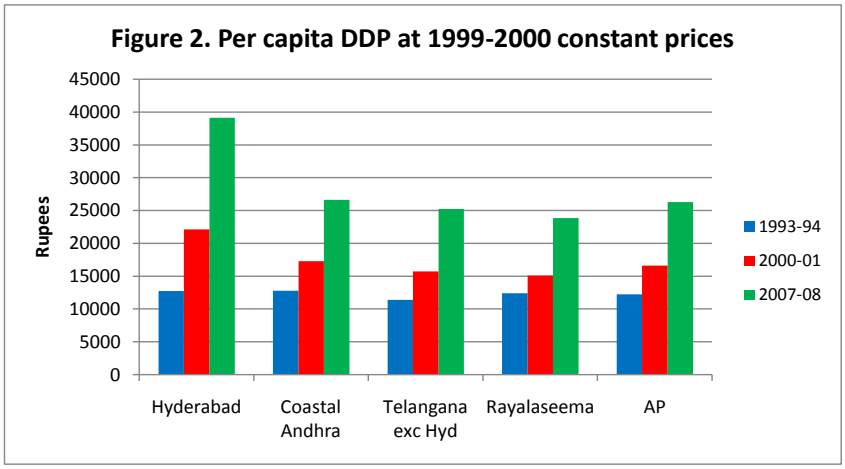
[An agricultural laborer is defined as a person between 15 and 59 years old whose major share of income is from wages earned by working on others' farms, while a cultivator is defined as a person whose major share of yearly income comes from farming their own land].

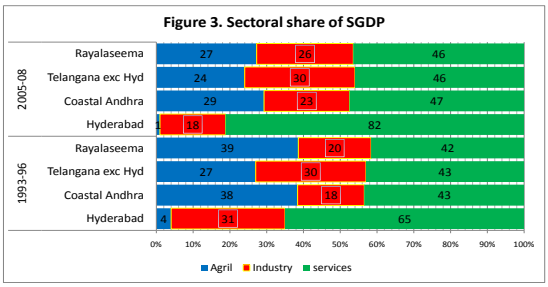
Sectoral composition of income and employment

The development of the state's economy is indicated by the decrease in share of the agricultural sector in Gross State Domestic Product (GSDP) from about 56% in 1970 to about 27% in 2009. However, the share of population dependent on the agricultural sector is stagnant at about 60%, contrary to the experience of developed countries. In triennium ending (TE) 2008, the service sector contributed to about 45% of GSDP in Andhra Pradesh, while its share is 82 % in Hyderabad (Figure 3). Agriculture contributed to about 24% of GDP in Telangana, 29% in Coastal Andhra and 27% in Rayalaseema. The growth rate of GSDP was 5.3% per annum between 1970 and 2010, mainly driven by the service sector in Hyderabad.

Faster growth in the non-agricultural sector compared with the agricultural sector for an extended period and the concentration of the service sector in core cities has resulted in increased regional disparities in income between core (urban centers) and periphery (rural). Urbanization is higher in Telangana (31% of the population lives in urban areas in Telangana including Hyderabad), followed by Coastal Andhra (25%) and Rayalaseema (23%) (Table 1). Districts surrounding the large urban center of Hyderabad in Telangana region are experiencing exponential growth in per capita income from the non-agricultural sector due to a fast-growing urban population, in part stimulated by a 'home market effect' (Reddy, 2011). However, the high growth of Hyderabad (the core region) is not sufficient to increase per capita incomes of the remote peripheral districts, namely Adilabad, Nizamabad and Karimnagar within Telangana. Per capita income in Coastal Andhra is higher than Telangana (excluding Hyderabad), but the Telangana region has shown faster growth since 1999 due to the spread effects of Hyderabad (Figure 2). Rayalaseema region is far behind both the coastal Andhra and Telangana regions. Per capita income is less in Rayalaseema where there is no 'home market effect' due to less population density, lower productivity agriculture and less purchasing power, and no large urban centre to support economic activity.

Per capita income both from the agriculture and non-agriculture sectors is highest in coastal Andhra, which indicates that agricultural income has complemented non-agricultural income in coastal Andhra through backward and forward integration and accumulation of consumption power among the population (Figure 3). Only Coastal Andhra has benefited from productivity enhancing technology in the 'green revolution' period (Paddy) and the commercialization (such as fruits and vegetables, milk, and meat products) of agriculture due to its initial better resource endowment and subsequent public and private investment in the agricultural sector.





Human development indicators

Regional trends in population density, rural literacy, and work participation rates are presented in Table 1. In terms of human development indicators (rural literacy rate), Coastal Andhra and Rayalaseema have been ahead of Telangana since 1956, although the gap between the Coastal Andhra and Telangana regions have reduced over the years. The faster increase in the share of population in Telangana reflects migration from other regions to Hyderabad. Population density is higher in developed Coastal Andhra compared to Telangana and Rayalaseema, in spite of out-migration from Coastal Andhra to Hyderabad, mostly financed by the agricultural surplus generated from the 'green revolution'. The higher population density of Coastal Andhra also helped increase consumption demand, which, in turn, supported non-agricultural activities. In comparison, the low population density and low-productive agriculture of Rayalaseema could not generate enough local demand to sustain non-agricultural employment and incomes. Binswanger *et al.* (1987), while studying developed countries over the period 1900–1984, concluded that in the short term, labor surpluses generated by improvements in agricultural productivity may not find employment in the modern sectors, but in the long term, the migration of labor to more productive non-agricultural sectors or large urban centers appears inevitable. This is reflected in the higher work participation rate (48%) in Rayalaseema (which may be disguised unemployment) compared to both coastal Andhra and Telangana.

Table 1. Trends in population statistics from 1961 to 2007

Indicators	Year	Coastal Andhra	Telangana	Rayalaseema
Total Population (million)	1961	16	12	6
	2007	34	33	14
Population Density/km2	1961	170	102	94
	2007	367	288	213
% of urban population	1971	19	21	16
	2001	25	31	23
Rural literacy rate (%)	1961	24	14	21
	2001	58	49	58
Rural Work Participation Rate (%)	1961	51	54	53
	2001	45	45	48
Infant Mortality Rate (per 1000)	2007	42	42	45

The exorbitant growth of the core urban centre

There is clear evidence that Hyderabad is the region's largest consumption center. Its 'home market effect' makes it the main growth engine for Andhra Pradesh. This is evident from the share of sales tax collection of Hyderabad, which is 75% of total sale tax collection of Andhra Pradesh state (table 2).

Andhra Pradesh state attracted 124 billion rupees of FDI between 1991 and 2010, of which 51% was invested in Telangana, but with a very high concentration in Hyderabad city. Telangana region, excluding Hyderabad has received only 13% compared with 43.2% investments in coastal Andhra. Rayalaseema has received just 5.8% of FDI investments. Notably, Telangana (excluding Hyderabad) received relatively lower amounts of FDI chiefly due to the concentration of investments in Hyderabad city.

Another good indicator of economic prosperity, intensity of business activity and social development, is the number of two-wheeler vehicles per one thousand populations. Vehicle intensity is greatest in Hyderabad. However, Telangana (excluding Hyderabad) and coastal Andhra have uniform intensity, whereas in Rayalaseema there is low intensity of motor vehicles.

Table 2. Consumption and production trends in non-agricultural sectors

	Hyderabad	Coastal Andhra	Telangana excluding Hyderabad	Rayalaseema
Share of sales Tax collection	75	15	7	3

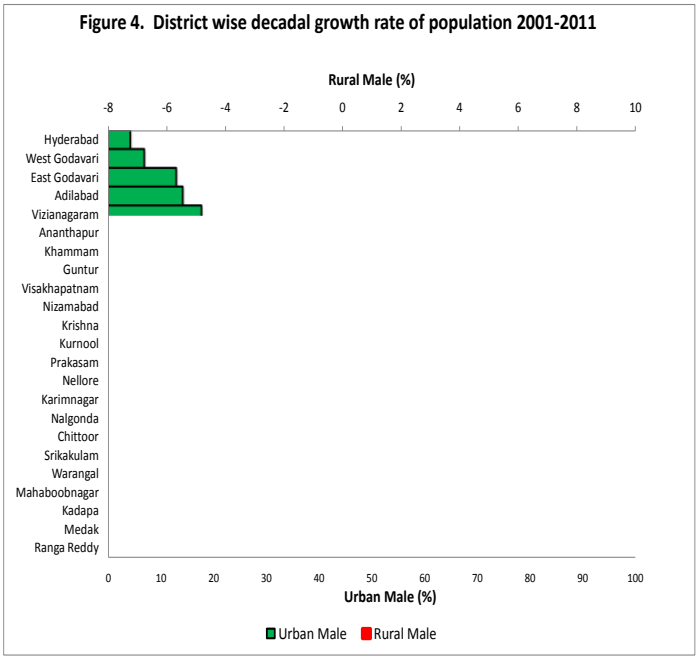
Cross regions TE 2009 (% of the state)				
FDI in AP from 1991 to 2010 (%of AP)	38	43	13	6
Two wheelers vehicles per 1000 population in 2009	252	72	71	54
Share of non-agricultural workers in total workforce (%)	100	42	38	38
Workers with above matriculation (%)	48	9	9	7
% of above matriculation who are engaged in agriculture	0	13	17	24
Expenditure per student in Govt. degree colleges (average of 2006 to 2010 in rupees)		11558	7614	9192

Source: Srikrishna Committee Report (2011)

The share of non-agricultural workers is higher in coastal Andhra (42%), but less in both Telangana and Rayalaseema – 38% each in 2007–2008 (NSSO, 2010) – while in Hyderabad 100% of workers depend on the non-agricultural sector. Rayalaseema has a much larger share of farmers than agricultural labourers, which is due to the low productive land and relatively poorer households that also own such land for subsistence survival. The opposite is true for Coastal Andhra (Reddy 2011; Reddy, 2010a).

About 47.9% of workers are educated above matriculation in Hyderabad, while this ranges between 7% and 9% in all three regions. Even though the share of highly educated (above matriculation) engaged in agriculture is low, there is significant regional variation ranging from 13% in coastal Andhra to 24% in Rayalaseema, with the lowest reported in Hyderabad (Srikrishna Committee Report, 2011). This indicates the lower employment opportunities in non-agricultural occupations for highly educated in Rayalaseema region. It is interesting to note that the expenditure per student is higher in coastal Andhra followed by Rayalaseema and Telangana, which possibly indicates the perceived higher returns to education and therefore greater investment in human capital in the developed region, thereby reinforcing regional disparities.

Figure 4 presents the district wise decadal population growth in Andhra Pradesh from 2001 to 2011(Population census, 2011). In general, the male population in urban areas increased much faster than the rural population. The districts near Hyderabad city (which actually fall under Hyderabad Metropolitan Developmental Authority), that is Ranga Reddy, Medak, Mahboobnagar, and Nalgonda, showed higher increase in decadal growth rate of the male urban population. It is also interesting that some of the most prosperous districts, east Godavari and west Godavari districts, showed much less increase in the urban-male population along with remote districts like Adilabad, Vijayanagaram, and Anantapur.



Most of the high-growth industries generate employment particularly in large urban centers and mostly among males – the majority of the rural workers migrated to urban centers to acquire the necessary skills. Construction, followed by textiles, IT and ITES, health care, tourism, drugs and pharmaceuticals, banking and insurance, engineering, mines and minerals, food processing, chemicals and fertilizers, and biotech are among the fastest growing industries which absorb large numbers employees mostly in urban and semi-urban areas (Table 3). The largest growth is expected from IT and ITES, biotech, healthcare, textiles, engineering, and pharmaceuticals.

Table 3. Human resource requirements span out in Andhra Pradesh for High growth industries

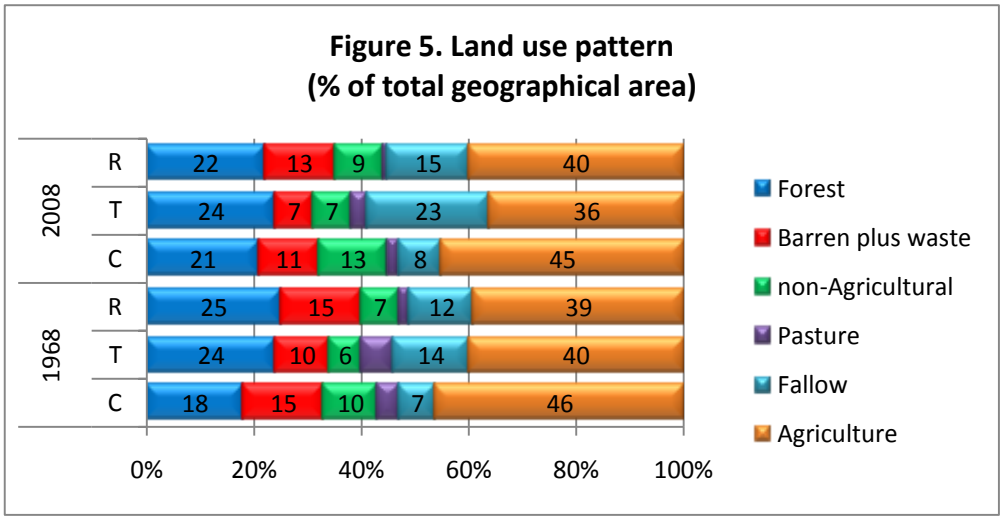
key industries	Employment in 2011 (in 000)	Projected employment by 2015 (in 000)	Incremental growth (%) in Human Resources

			Requirement till 2015
Construction	2200	4210	48
Textiles	745	1826	59
IT and ITES	152	893	83
Healthcare	290	850	66
Tourism	851	1366	38
Drugs and Pharmaceuticals	230	478	52
Banking and Insurance	135	268	50
Engineering	99	215	54
Mines and Minerals	114	225	49
Food Processing	198	280	29
Chemicals and Fertilizers	87	131	34
Biotech	5	24	79
Paper	21	33	36

Source: Government of Andhra Pradesh (2011)

Land use pattern, geographical advantage, and agricultural growth

Palmer-Jones and Sen (2003) have stressed the importance of initial conditions in determining the rate of agricultural growth in rural India. In Telangana, only 40% of the total geographical area is used for agriculture and a large portion (23% of total geographical area) is fallow land (cultivable, but not cultivated in the reporting year). This large area of fallow land in Telangana is a sign of the neglect of the agricultural sector and a lack of investments in land development measures over the last five decades (Figure 5). Agricultural development of a region is dependent on the investments in development of irrigation facilities. The higher irrigated area in Coastal Andhra can be attributed to higher public investments in irrigation, which is facilitated by its lower gradient and higher rainfall.



The change in land productivity from 1958 to 2007 at constant prices of 1999/2000 is given in Table 4. The total value of agriculture (crop plus livestock/ha) increased from Rs.16265 to Rs.

49668 in Coastal Andhra, from Rs.8647 to Rs.23087 in Rayalaseema, and from Rs.5846 to 32328 in Telangana. Coastal Andhra supports a large number of agricultural laborers per thousand hectares of net cropped area (517), which is almost double that of Rayalaseema region (267). This again indicates the higher employment generation capacity of the farm sector in the agriculturally advanced region despite of significant mechanization, compared with the low productivity regions. The per capita district domestic product (DDP) is also much higher in coastal Andhra than Telangana and Rayalaseema. It is interesting to note that the gap in DDP between the regions and its largest city is much higher in Telangana, but almost negligible in Rayalaseema, where there is no big city to attract skilled labour and capital. The productivity of three major crops (paddy, groundnut, and cotton) is higher in coastal Andhra, while Rayalaseema and Telangana regions showed mixed trends.

Table 4. Trends in agricultural production (1958-2007)

Indicator	**Year**	**Coastal Andhra**	**Telangana**	**Rayalaseema**
value of agricultural production (Rs/ha)	TE 1958	16265	5846	8647
	TE 2007	49668	32328	23087
Number of agricultural labourer/1000 ha	TE 1958	234	134	134
	TE 2007	517	292	267
Number of cultivators /1000 ha	TE 1958	250	184	175
	TE 2007	234	259	200
Mechanization (number of tractors/1000 ha)	TE 1958	0.39	0.26	0.10
	TE 2007	9.20	7.21	5.19
Per capita District domestic product (Rs.)	TE 2007	26356	23715	18671
Per capita DDP (Rs.) of largest city in the region	TE 2007	33980	35776	19179
Net Cropped Area (NCA) (1000 ha)	TE 1958	3072	3932	2427
	TE 2007	3944	4181	2800
Net Irrigated Area (%)	TE 1958	58	19	18
	TE 2007	56	40	22
Electricity consumption (Kwh/capita)	TE 1973	59	31	48
	TE 2007	478	779	572
Fertilizer consumption (kg/ha)	TE 1958	17	7	7
	TE 2007	294	211	119
Rice (kg/ha)	TE 1958	1004	778	1292
	TE 2007	3219	2980	3040
Groundnut (kg/ha)	TE 1958	959	581	971
	TE 2007	1383	1293	763
Cotton (kg/ha)	TE 1958	922	339	168
	TE 2007	3045	2057	1234

Note: Agricultural labourer refers to persons whose main income is derived by working on others' land; cultivator refers to persons whose main income is derived from farming their own land

A set of *gini concentration ratios (GCRs)*, calculated from district level data on agricultural production for two crop groups (paddy and legume), and Gross Irrigated Area (GIA) are presented in Table 5. The *Gini ratio* increased for both paddy and legume crops, while for total

crop production (in value terms) it decreased. However, the *gini ratio* increased for GIA showing that the benefits from land improvement/irrigation are increasingly concentrated in a few districts. This shows that districts were increasingly specialized in growing crops based on their comparative advantage, although to some extent it helped in the convergence of districts in their agricultural production(Reddy, 2009). However, GCRs decreased in sectoral district domestic production for all three sectors (namely agriculture, industry, and services).

Table 5. Trends in *gini* concentration ratio of districts

Item	TE 1958	TE 2007	Sector	1999-2000	2007-2008
Crop production	0.301	0.202	Agriculture	0.103	0.076
Paddy area	0.177	0.238	Industry	0.037	0.017
Legumes area	0.286	0.379	Services	0.031	0.024
Gross Irrigated Area (GIA)	0.043	0.079	GDDP	0.036	0.035

Note: GCR near to 1 indicate higher inequality, near to zero indicates equality

Regional policies and public and private sector investment

Regional-wide disaggregation of revenue and expenditures is given in table 6**.** The share of the largest urban center (Hyderabad) in state revenue is nearly 50%, followed by Telangana and coastal Andhra and Rayalaseema. It shows that the urban center and its surrounding districts are contributing a larger chunk of state revenues, while the agricultural-based regions' share is negligible. However, when it comes to state expenditure, distribution is more egalitarian. This signifies the state and public policy role in funding under developed regions.

Table6. Regional share in Revenue from Important Taxes & Non-Taxes and expenditure on important services (%)

	Revenue from 4 sources					Expenditure on 8 services				
Year	Hyderabad	C	T	R	AP	Hyderabad	C	T	R	AP
2004	34	20	41	5	100(139.0)	3	33	44	20	100(65.4)
2005	47	20	28	5	100 (170.6)	2	29	48	21	100(84.1)
2006	47	18	30	5	100(199.4)	1	30	49	20	100(126.2)
2007	46	18	31	5	100(197.3)	1	27	48	24	100(109.0)

Sources: Andhra Jyothi Online, Hyderabad March 23,2007, Vaartha, April 15,2008 and Socio-Economic Survey of AP 2007-8.

Notes 1: The four Income Sources of revenue are: Sales Tax, State Excise, Stamps & Registration, and Transport.

2: The 8 important expenditure services are: Agriculture, Rural Development, Irrigation, Education, Medical &Health, Water Supply & Sanitation, Housing, & Welfare (SC, ST, and BC & Minorities).

3. Figures in brackets are Rs.Billion .

4. Column 7 shows sum of column 4 and 41% of column 4 as share of Telangana.

Table 7 summarises the regional dispersion of investments in health and electricity. It shows that total per capita connected load for Telangana region was the highest, owing to demand for electricity in Telangana region being higher compared with other regions which the electricity department is meeting. In Telangana region, agricultural power consumption in KWH (MUs) per capita is the higher compared with Rayalaseema and coastal Andhra regions. The electricity

supply for the agricultural sector is provided at highly subsidized rates in the state. The higher power consumption in Telangana is attributed to dominance of tube-well irrigation which requires electricity to pump water from deeper soils (through private investment), unlike canal irrigation (which flows through gravitation and does not require electricity) in coastal Andhra. Again, public spending in health and electricity indicates that public investment is more egalitarian, and in many cases helped to reduce regional disparities.

Table 7. Region wise public sector investment in health and electricity consumption

Region	No. Of Primary Health Centres (PHCs) per million rural population		Total Connected Load (Watt/capita)		Agricultural Power Consumption in KWH/capita	
	1999	2009	1972	2009	1972	2009
Coastal Andhra	27.5	25.1	58.5	436.9	11.1	82.3
Telangana	29.4	25.3	48.7	463.0	9.7	256.5
Rayalaseema	33	26.9	69.1	344.6	22.6	237.7

Tractors, electric pump sets and irrigated area are three important inputs in the agrarian economy. There was a shift of many districts in their relative position between 1956 and 2007 from low-to-high in electric pumps and fertilizer in Telangana region compared with Coastal Andhra, but although this increased the irrigated area and productivity, it also raised the cost of production. In the use of farm machinery and other inputs Telangana districts have also caught up, but Rayalaseema districts have lagged behind.
Rayalaseema has the highest density of bank accounts with 127 accounts per thousand rural populations, followed by the coastal areas at 110 and Telangana at 85 mainly due to pro-active initiative of public sector banks to open bank accounts in backward areas, but credit flow through formal credit institutions is higher in Coastal Andhra region (Srikrishna Committee Report, 2011; Reddy, 2006), which exacerbates the already existing regional disparities in capital investments.

Overall, land productivity, per capita income, and irrigated area as a percent of GCA have been higher in coastal Andhra, followed by Telangana and Rayalaseema. Coastal Andhra is prosperous agriculturally due to its natural advantage and also due to favorable government policies during the last five decades (Reddy, 2010; Reddy, 2011a; Reddy and Kumar, 2006). Overall, the gap between Coastal Andhra and Telangana is still high in many developmental indicators and needs to be reduced, while Rayalaseema has lagged behind in the development process.

Rayalaseema region which ranked next to the Coastal region in the beginning of the period has slipped to the third position, being overtaken by the Telangana region which now ranks next to Coastal region. The reasons for shift in ranking of these two regions are the poor resource endowments of Rayalaseema and considerable underutilization of resources in the relatively better endowed Telangana under the feudal set up earlier, and the release of productive forces consequent to the abolition of the princely state, its merger with the rest of the country after independence and development of large urban centre within Telangana region.

Conclusion and Discussion: Policies for balanced development

Regional growth patterns in Andhra Pradesh do not conform to assumptions regarding adjustments in wages or returns to capital which would eventually lead to regional economic convergence, at least in the time period studied here. In contrast, a process of cumulative causation, is apparent, in which agglomeration has stimulated innovation and productivity growth, further accelerating the attraction of factors to the leading, or core, region. Early versions of cumulative growth (or growth pole theory) can be found in the writings of Myrdal (1957), with

later elaborations by Kaldor (1970), Hirschman (1958) and Krugman (1991,1998), all of which suggest a deepening, in the absence of intervention, in core-periphery disparities, especially in the context of greater market liberalisation.

The question remains what type of intervention would help reduce regional imbalances in Andhra Pradesh. As Scott argues "successful development programs must inevitably be judicious combinations of general principles and localized compromises, reflecting the actual geography and history of each individual region" (Scott 2000: 116). Among the specific polices that would be beneficial to balanced regional growth in Andhra Pradesh are the development of better communications between the core-urban center and remote rural peripheries in order to encourage agricultural productivity and lower transaction costs for enterprises in the periphery, and innovative financial instruments for financing public-private partnership infrastructure projects in under-developed regions. Some policy options for the development of backward areas are not controversial, for example investment in education and skilled development including quality education and health facilities, better transparency and governance and the expansion of financial services. However, the success of the 'green revolution' technology hastened by irrigation facilities in Coastal Andhra cannot be replicated in regions that are not geographically similarly advantaged. The poorer districts of Rayalaseema and Telangana require quite different policy interventions, for example, encouraging less water-intensive rain-fed crops, livestock, and non-agricultural employment. Social support programmes for women and the elderly need to be encouraged (Reddy and Kumar, 2011). Development policies must focus on the peripheral regions with more autonomy to local planning and decision-making bodies. Local elected bodies are better positioned to identify and exploit local opportunities and to plan effective strategies, but lagging regions like Rayalaseema could benefit from empowered regional development councils.

Future research should concentrate on these questions: first, how is the relative importance of agriculture as the engine of rural development versus the non-farm activities changing in each region? Second, what should be the strategy of small farmers in the face of relative decline in incomes from the agricultural sector? And, finally, what will be the governance and implementation challenges of public programmes?

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